



CONTENTS

ABBREVIATIONS & ACRONYMS	III
GLOSSARY	IV
FORWARD BY MINISTER FOR COMMERCE AND INDUSTRY	VII
REMARKS BY SECRETARY FOR COMMERCE AND INDUSTRY	VIII
EXECUTIVE SUMMARY	IX
SECTION 1: BACKGROUND	1
1.1. INTRODUCTION.....	1
1.2. POLICY RATIONALE	2
1.3. INTENT OF THE POLICY.....	3
1.4. AUDIENCE.....	5
1.5. HISTORICAL CONTEXT	5
1.6. POLICY DEVELOPMENT PROCESS.....	6
SECTION 2: POLICY CONTEXT AND DIRECTIONS	7
2.1. PRIMARY GOAL	7
2.2. POLICY OBJECTIVES	7
2.3. GUIDING PRINCIPLES.....	7
2.4. ALIGNMENT WITH CORE GOVERNMENT POLICIES & LEGISLATIONS	8
2.4.1 National Goals and Directive Principles	8
2.4.2 National Development Plans.....	9
2.4.3 Alignment of Applicable Policies.....	10
2.4.4 Core Government Legislations.....	11
SECTION 3: TARGET ECONOMIC SECTORS	18
3.1 PRIMARY SECTOR	18
3.1.1 Agriculture and Livestock Sector.....	18
3.1.2 Forestry Sector.....	18
3.1.3 Fisheries and Marine Sector	19
3.1.4 Mining Sector.....	19
3.1.5 Oil & Gas Sector.....	20
3.2 SECONDARY SECTOR	20
3.2.1 Construction Sector.....	20
3.2.2 Manufacturing and Technological Inventions Sector	20
3.2.3 Small Medium Industries Sector	21
3.2.4 Green Technology	21
3.3 TERTIARY SECTOR.....	21
3.3.1 Social Sector.....	21
3.3.2 Services Sector.....	22
SECTION 4: MANUFACTURING POLICIES AND STRATEGIES.....	23
4.1 POLICY FOCUS AREA 1 COMPREHENSIVE REGULATORY FRAMEWORK.....	23
4.1.1 Regulation of the Manufacturing Sector.....	23
4.1.2 Regulatory Framework for Plant Construction and Operation	24
4.1.3 Regulatory Framework for Manufacturing Products.....	26
4.1.4 Quality, Standards and Conformity.....	29
4.2 POLICY FOCUS AREA 2 ADEQUATE SUPPLY OF RAW RESOURCE INPUTS TO INDUSTRIAL PLANTS	30
4.3 POLICY FOCUS AREA 3 ESTABLISHMENT OF VALUE CHAINS IN THE PRIMARY INDUSTRIES	33
4.4 POLICY FOCUS AREA 4 SMALL MEDIUM INDUSTRIES.....	37
4.5 POLICY FOCUS AREA 5 SPECIAL ECONOMIC ZONES.....	39
4.6 POLICY FOCUS AREA 6 DEVELOPMENT OF CLUSTER INDUSTRIES IN DISTRICTS.....	44
4.7 POLICY FOCUS AREA 7 ASSEMBLING ACTIVITIES.....	46
4.8 POLICY FOCUS AREA 8 DEVELOPING INDUSTRIES FROM INDUSTRIAL WASTES	47
4.9 POLICY FOCUS AREA 9 INDUSTRIAL DEVELOPMENT INCENTIVES.....	48
4.10 POLICY FOCUS AREA 10 SUPPORT SERVICES FOR MANUFACTURING ACTIVITIES	52

4.11 POLICY FOCUS AREA 11	DEVELOPMENT OF HUMAN CAPITAL	54
4.12 POLICY FOCUS AREA 12	INDUSTRIAL PROJECT BENEFITS.....	57
4.13 POLICY FOCUS AREA 13	INDUSTRY LIAISING AND POLICY INTERVENTION.....	59
SECTION 5: POLICY COORDINATION & REPORTING		
		 WHOLE OF GOVERNMENT APPROACH....62
SECTION 6: POLICY IMPLEMENTATION.....		66
6.1 IMPLEMENTATION OF INDUSTRIALIZATION STRATEGY		66
6.2 BROAD STRATEGY ON INDUSTRIALIZATION.....		66
6.3 POLICY IMPLEMENTATION SCHEDULE.....		67
SECTION 7: MONITORING AND EVALUATION.....		68
7.1 MANUFACTURING POLICY MONITORING FRAMEWORK.....		68
7.2 MANUFACTURING POLICY EVALUATION FRAMEWORK		69
SECTION 8: RISK MANAGEMENT		70
8.1 DUPLICATION OF DCI POLICY MANDATE		70
8.2 LACK OF INFRASTRUCTURE AND UTILITIES		70
8.3 LACK OF FUNDING FOR MONITORING & EVALUATION		70
8.4 LACK OF GOVERNMENT INVESTMENT IN INDUSTRIAL PROJECTS		70
8.5 LACK OF LAND AVAILABILITY		71
8.6 COUNTERFEIT AND FAKE PRODUCTS.....		71
8.7 POLITICAL INTERFERENCE		71
8.8 NATURAL DISASTERS/PANDEMIC.....		71
8.9 INDUSTRIAL ISSUES / DISAGREEMENTS (CONSULTATION)		71
8.10 SUPPLY RISK.....		72
8.11 FOREIGN EXCHANGE		72
8.12 GLOBAL ECONOMIC SHOCKS.....		72
8.13 LAW & ORDER		72

List of Tables

Table 1. Other relevant acts and legislations.....	14
Table 2. Key organizations and their responsibilities.....	62
Table 3. Policy Implementation & Growth Schedule.....	67
Table 4. Manufacturing Policy Monitoring Framework.....	68
Table 5. Manufacturing Policy Evaluation Framework.....	69

List of Figures

Figure 1. Employment by sectors	1
Figure 2. Exports by sectors.....	2
Figure 3. GDP contribution by sectors.....	3
Figure 4. GDP projection by sectors.....	4
Figure 5. Relationships between core Government Legislations and Policies	8

ABBREVIATIONS & ACRONYMS

APEC	Asia Pacific Economic Cooperation
AS	Australian Standard
CCDA	Climate Change Development Authority
CEPA	Conservation and Environmental Protection Authority
CIC	Coffee Industry Corporation
CSR	Corporate Social Responsibility
DDI	Development Dimensions International
DoT	Department of Transport
DoF	Department of Finance
DMPGM	Department of Mineral Policy and Geohazards Management
DSIP	District Support Improvement Program
EU	European Union
FDI	Foreign Direct Investment
FTA	Free Trade Agreement
GDP	Gross Domestic Product
GES	Global Economic Shock
GoPNG	Government of Papua New Guinea
ICCC	Independent Consumer & Competition Commission
ILG	Incorporated Land Group
IPA	Investment Promotion Authority
ISO	International Standards Organization
KCH	Kumul Consolidated Holdings
KIK	Kokonas Indastri Koporesen
LPG	Liquefied Petroleum Gas
MTDP	Medium Term Development Plan
MoU	Memorandum of Understanding
MRA	Mineral Resources Authority
MSG	Melanesian Spearhead Group
MTA	Make to Assemble
NADP	National Agriculture Development Plan
NMA	National Manufacturing Authority
NCP	National Content Plan
NEC	National Executive Council
NEZA	National Economic Zone Authority
NFA	National Fisheries Authority
NGBP	National Gold Bullion Policy
NISIT	National Institute of Standards & Industrial Technology
OPIC	Oil Palm Industry Corporation
PIA	Project Impact Area
PIP	Public Investment Program
PMIZ	Pacific Marine Industrial Zone
PNGFA	Papua New Guinea Forest Authority
PNGMP	Papua New Guinea Manufacturing Policy
PNGNTP	Papua New Guinea National Trade Policy
POPs	Persistent Organic Pollutants
PSIP	Provincial Support Improvement Program
R&D	Research & Development
SEZ	Special Economic Zone
SIPs	Support Improvement Program
SME	Small Medium Enterprises
SMI	Small Medium Industries
SPA	State Project Agreement
UN	United Nations
UNSDGs	United Nations Sustainable Development Goals
WTO	World Trade Organization

GLOSSARY

The following are key definitions provided for the purposes of this Policy.

Agri-manufacturing industries	Manufacturing establishments using plant and animal-based agricultural output as their raw material for producing marketable and usable products.
Authentic Products	Genuine products that are sold by brand owners, distributors, or other authorized parties.
Backward Linkage	Relationships that companies established with their suppliers, to share knowledge, information, and finances.
By-products	Refers to secondary or incidental products resulting from the production of a primary product, be it intended or unintended, or may have value in their rights or be considered wastes.
Cottage Industries	Refers to small-scale and decentralized manufacturing businesses often operated out of a home rather than a purpose-built facility. Cottage Industries are defined by the amount of investment required to start, as well as the number of people employed.
Counterfeit Products	Refers to imitations of genuine or authentic products that are manufactured without authorization from the brand owner.
Critical Infrastructure	Includes the vast network of highways, bridges, air and seaports, utilities, and facilities necessary to maintain normalcy in daily life and keep economic activities operational.
Downstream Processing	Processes that involve converting harvested raw resources into finished or semi-finished products. It is a series of unit operations used to isolate, purify, and concentrate a product.
Enabling Infrastructure	Refers to the technology, processes, and people practices that enable greater productivity. This includes tools that promote greater agility, better connections, and stronger results. Enabling Infrastructure (public utilities, public works, transportation, and research facilities) is essential for manufacturing development.
Equity Investment	An investment made in a company by purchasing shares of that particular company for an ownership interest.
Extractive Industries	Involve processes with different activities that lead to the extraction of raw materials from the earth (such as oil, metals, minerals and aggregates) for processing and utilization by consumers.
Foreign Investment	Direct An investment in the form of controlling ownership in a business, in real estate, or productive assets such as factories in one country by an entity based in another country.
Forward Linkages	Activities that take place between businesses in the same industry involve the sale of goods and services from one business to another.
Green Technology (Green-Tech)	Type of technology that is considered environmentally friendly based on clean energy production, the use of alternate fuels other than fossil fuels, and technologies that are less harmful to the environment. Also known as Environmental Technology (Envirotech) or Clean Technology (cleantech).
Gross Domestic Product	Gross Domestic Product (GDP) is a monetary measure of the market value of all the final goods and services produced and sold in a specific period by a country. Most often used to measure the economic health of a country.
Harmless Product	Manufactured or finished good that does not pose adverse effects or risks on human beings and other living things and the environment.
Heavy Industries	Industries that involve one or more characteristics such as large and heavy products; large and heavy equipment and facilities (such as heavy equipment, large machine tools, huge buildings, and large-scale infrastructure); or complex and numerous processes.
High Technology Industries	Industries with the cutting-edge or highest form of technology advancement that can be defined as either the most complex or the newest technology on the market. Also known as advanced technology (advancedtech) or terotechnology. High Technology industries include aircraft, computers, and pharmaceuticals.
Industrial Parks	An area planned and designed for industrial development and serviced with dedicated industrial load electricity supply, roads, piped water system, and ICT networks, and other utilities. Industrial Parks enable the timely set-up of factories and industries.
Industrialization	The development of industries in a country or region on a wide scale. Industrialization is the process by which an economy is transformed from a

National Manufacturing Policy 2024

	primarily agricultural one to one based on the manufacturing of goods. Individual manual labor is often replaced by mechanized mass production, and craftsmen are replaced by assembly lines.
Industrialized Country	A developed country (or industrialized country, high-income country, more economically developed country (MEDC), advanced country) is a sovereign state that has a high quality of life, developed economy, and advanced technological infrastructure relative to other less industrialized nations.
Industry	A set of all production units engaged primarily in the same or similar kinds of productive activity.
Industry Database	Set of data for industry providing information on different drivers of economic activity usually used by stakeholders and investors for industry analysis.
Legitimate Products	Products in the market that are processed following established rules, principles, or standards and are worth the value.
Light Industries	Light Industries are manufacturing activities that use moderate amounts of partially processed materials to produce items of relatively high value. Usually, they are less capital-intensive than heavy industries and are more consumer-oriented than business-oriented, as they typically produce smaller consumer goods.
Make-to-Assemble	A manufacturing production strategy wherein a manufacturer creates or obtains basic components of its products but does not assemble them until a customer place an order.
Manufacturing	Manufacturing is the physical or chemical transformation of materials or components into new products. It occurs when anything changes from its original form or shape and value is added using human labor, tools, machinery, or chemical processes.
Manufacturing Activities	The making, altering, blending, embroidering, finishing or otherwise treating or adapting any article or substance with a view to its use, sale, delivery, or disposal and includes the assembly of parts but shall not include any activity normally associated with retail or wholesale trade.
Manufacturing Industry	The branch of manufacturing and trade based on the fabrication, processing, or preparation of products from raw materials and commodities. This includes all foods, chemicals, textiles, machines, and equipment.
Manufacturing Policy	A set of guidelines, principles, and strategies that Government uses to promote the growth and competitiveness of the manufacturing sector in the country.
Manufacturing Sector	Sector comprising establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products. Establishments in the Manufacturing sector are often described as plants, factories, or mills and characteristically use power-driven machines and materials-handling equipment.
Mining & Petroleum Sector	The Mining, Quarrying, and Oil and Gas extraction sector is part of the natural resources and mining super sector. The Mining sector comprises establishments that extract naturally occurring mineral solids, such as coal and ores; liquid minerals, such as crude petroleum; and gases, such as natural gas.
National Content	Refers to the values or indirect benefits that a resource project generates along the project value chain that contributes to the national economy, beyond the direct benefits and resource revenues. National Content has now become a policy tool that the government requires to ensure an investing company develops a budgeted national content plan and implements it accordingly. An investing company sets out its national content plan to utilize national/local resources and encourage greater national participation in the projects.
Non-Renewable Resources	Natural resources that cannot be readily replaced by natural means at a pace quick enough to keep up with extraction. The four major types of non-renewable resources are oil, natural gas, minerals, and nuclear energy. (Oil, natural gas, and coal are collectively called fossil fuels).
Nucleus estate	Is a concept that promotes the SMI/SME where small block holders use simple and appropriate technology to produce intermediate products at the production peripheries and sell to major industries for further production.
Project Agreement	A legal document outlining the terms and conditions between two parties as they enter into an agreement focusing on a particular project
Project Impact Areas	Areas of direct impact by manufacturing or industrial project activity
Quality	Fit for purpose, refer to a degree to which an inherent characteristic of an entity fulfils certain acceptable standard requirements.
Renewable Resources	Natural resources that will replenish or replace the portion depleted by usage and consumption either through natural reproduction or other recurring processes in a finite amount of time. Renewable resources include biomass

	energy (such as ethanol), hydropower, geothermal power, wind energy, and solar energy). Renewable resources are a part of Earth's natural environment and the largest components of its ecosystem.
Research and Development	Research and Development is a set of innovative activities undertaken by Governments or Corporations in developing new services or products and improve existing ones. Research and development constitute the first stage of development of a potential new service or production process.
Semi-Processed Products	Products converted from their natural state of raw materials through manufacturing into a state of readiness for use or assembly into final products.
Small and Medium Industries (SMI)	Essentially small and medium scaled enterprises that manufacture goods or services using relatively simple and appropriate technologies at the household level.
Small-Scale Industries	Concentrate mainly on producing goods such as beer, soap, concrete products, clothing, paper products, matches, ice cream, canned meat, fruit juices, furniture, plywood, paint, biscuits, and most recently dairy products.
Special Economic Zones (SEZs)	Geographically delimited areas within a country's national borders administered by a single body. The business and trade laws in these areas are different from the rest of the country, offering certain incentives to businesses that are physically located within the zone so that it can produce and trade goods at a lower price, aimed at being globally competitive. The aims of SEZs include increasing trade balance, employment, increased investment, job creation and effective administration. The creation of special economic zones by the host country may be motivated by the desire to attract foreign direct investment (FDI).
Standard	An authoritative principle or rule that usually implies a model or pattern for guidance, by comparison with which the quantity, excellence, correctness, et cetera, of other things, may be determined.
State Negotiating Team	Team established by the Government of PNG to negotiate and conclude industrial Project Agreements that will operationalize and support the Government's aspirations.
Stock-Feed Industry or Feed Industry	Refers to the production of feeds and feedstuff for consumption by animals, whether production, companion or managed wild and exotic species. The Feed Industry is also responsible to produce feedstuff for use in aquaculture.
Upstream Processing	The upstream stage of the production process involves searching for and extracting raw materials. The upstream part of the production process does not do anything with the material itself, such as processing the material. This part of the process simply finds and extracts the raw material.
Value Chain	Refers to the combination of activities including designing, material sourcing, production, distribution, marketing, consumption, customer support, and disposal/recycling a business undertakes to move a product or service along its life cycle.
Waste Management Plan	Guides proper storage and the means of disposal of the waste manufacturing plants and facilities generate; how large amounts of waste created by the plants and facilities will be managed and dealt with, including estimates of waste type, volume, and management method.



**FORWARD
BY MINISTER FOR COMMERCE AND INDUSTRY**

Papua New Guinea is a country with immense potential for economic growth and development. As the Minister, I am committed to ensure that we capitalize on our natural resources to create a K200 billion economy by 2030 as envisioned by Marape-Rosso Government. One sector that holds tremendous potential to propel PNG's economy towards realizing this development aspiration is the manufacturing sector. With appropriate policies and legislations, we can fully industrialize our economy to generate 300,000 additional jobs for our people and create income-earning opportunities for our people to participate in spin-off business activities, and in the process optimize direct and indirect socioeconomic benefits.

Manufacturing has been identified as a key driver of economic growth in many countries around the world. It is a sector that generates revenue for the government and, creates employment and income-earning opportunities for the citizens. With its abundant natural resources, Papua New Guinea has a comparative advantage in the fisheries, forestry, mining, oil & gas, and agriculture sectors that it can do downstream processing onshore and add value to its natural resources. With this unique advantage, our nation therefore has an immense potential to become a regional manufacturing hub of the Pacific Island Countries which can serve the domestic, regional, and international markets. This however must be done in a sustainable manner to conserve and preserve our natural environment and its unique biodiversity.

To harness this sector of our economy, PNG needs a comprehensive manufacturing policy that will guide our endeavors in maximizing the intrinsic value of our natural resources to deliver economic independence for PNG. This policy will therefore create an enabling environment for the manufacturing sector to thrive, promote local manufacturing, attract foreign investment, support Research & Development, encourage innovation and technology transfer, and set the foundation for industrialization.

As a government, we are responsible for ensuring that our manufacturing sector is given the policy support needed to make PNG products competitive, whilst at the same time ensuring that appropriate safeguards are put in place to protect local industries from unfair market competition. We are also committed to creating a conducive business environment for all investments, both foreign and local, and offer leverage for firms to thrive and grow in the manufacturing sector.

Since independence, PNG has been exporting raw materials and relying heavily on imports for our consumable goods. It is now time for us to start industrializing the economy so we can produce value-added goods and services to meet our growing domestic demand, and at the same time export surplus for purposes of maximizing our potentials in trade, commerce & Industry.

I commend the Secretary and the hardworking staff of the Department of Commerce and Industry for developing this first ever National Manufacturing Policy for the country.

With that, God Bless Papua New Guinea.



HON. WIN BAKRI DAKI, MP



REMARKS BY SECRETARY FOR COMMERCE AND INDUSTRY

As Secretary for the Department of Commerce and Industry, it is my pleasure to deliver PNG's first-ever National Manufacturing Policy. This policy will operationalize the Marape-Rosso's vision to fully industrialize the economy, in which all natural resources harvested or extracted in PNG will be downstream processed into value-added products for trade, commerce and industry.

The manufacturing sector is a key driver of growth in any economy and it is through value-added activities that economic growth is realized. By industrializing the economy, the manufacturing sector will create jobs for our young graduates, provide income-earning opportunities for our SMEs, and also generate tax revenue for our government. Papua New Guinea is an *'island of gold floating on the sea of oil'* and has a greater comparative advantage over other countries due to its abundant natural resources. To realize this potential, we have developed this comprehensive Manufacturing Policy that will guide our efforts to industrialize the economy by downstream processing and adding value to our natural resources.

This policy sets clear directives and identifies thirteen key policy focus areas with specific strategies to address industrial issues in the manufacturing sector. Hence, by proactively addressing the manufacturing issues, we are confident to deliver the policy objectives and achieve the primary goal of raising the GDP contribution of the manufacturing sector by 10% in 2030.

The Department of Commerce and Industry, as the lead government agency in the economic sector, will coordinate and monitor the implementation of this policy. The proposed National Manufacturing Authority will regulate manufacturing industry.

We have made every effort to fully align the PNG Manufacturing Policy (PNGMP) with other sectoral and national development policies and plans with the ultimate goal of getting this policy fully supported thus contributing to the Government's development aspirations.

With the right policies to attract investments, we can build a vibrant manufacturing sector that serves both domestic and international markets and enhances general effort of developing PNG. I am confident that the PNGMP fairly resonates the government's vision of how the manufacturing sector should be prioritized and supported to diversify the economy. The Department will provide the required leadership essential to realize that vision.

For this policy to deliver on its intent, it requires concerted effort from all stakeholders, hence I invite all government agencies to consult and collaborate with my Department in implementing this policy.

On this note, I thank my officers for developing this policy and also recognize the contributions made by individuals and key stakeholders.

DAVID GANAI

EXECUTIVE SUMMARY

The Department of Commerce & Industry (DCI) is the mandated government agency responsible for creating a conducive environment in PNG for Commerce and Industry. Due to limited attention, resources and without a clear policy framework, the manufacturing sector has been stagnant for the last 49 years. The stagnancy is prevalence in the sector as it has been on average contributing a mere 2% to PNG's Gross Domestic Product (GDP).

Recognizing the key role manufacturing plays in creating and retaining value in the economy, the DCI has formulated the Manufacturing Policy with the intent of raising the manufacturing sector's GDP contribution from the current 2% to 10% in 2030.

To achieve the above ambition, this policy underscores several downstream processing and manufacturing strategies, which are policy interventions intended to raise value-added production and spur growth in the manufacturing sector.

Policy Focus Area 3 is one of the manufacturing and downstream processing strategies that gives policy directions on adding value to our natural resources. This entails establishing value chains in the economic resource sectors through harvesting/extraction, downstream processing and exports of value-added products.

To raise the GDP contribution in the manufacturing sector, Policy Focus Area 4 emphasizes on the use of simple and appropriate technologies by households in the small medium industries. The development of small and medium industries is fundamental as it will encourage local participation and promote downstream processing activities at the household level.

Policy Focus Areas 7 and 8 propose interventions to raise production in the manufacturing sector. In the former, the policy encourages the assembling of components into value-added products for trade, commerce and industry, whilst in the later the policy stresses on internalizing environmental impacts by encouraging further processing of industrial waste from industrial activities.

Through this policy and the strategies outlined, the Department recognizes downstream processing and value-addition activities as the impetus to economic growth, and is committed to addressing the challenges that may impede the growth of the manufacturing sector in PNG.

Policy Focus Area 5 thus recognizes Special Economic Zones (SEZ) as an economic tool for luring investment, and as a strategy to develop manufacturing hubs in PNG. This Policy Focus Area also provides policy directions on creating an enabling environment for investment and proposes incentives to encourage value-added activities in the country.

Policy Focus Area 6 is intended for districts and rural areas, and the policy directions place emphasis on equipping districts and rural areas with the necessary infrastructure and utilities that will establish the enabling environment for industrial development in the districts and rural areas.

In an endeavor to promote a sound manufacturing sector, this Policy also recommends for strategies to address investment constraints while protecting PNG's local industries from the production and commercialization of illegitimate products.

Policy Focus Area 1 underlines the Government's core responsibility of providing oversight and enforcing regulatory measures to ensure compliance in the development of manufacturing plants, production of value-added products and the standard and quality of manufacturing plants and their products.

Policy Focus Area 2 provides directions on ensuring resource inputs are sustained in the long run and encourages consistent supply of resource inputs from the economic resource sectors into the manufacturing plants for value-added activities.

To promote local manufacturing, this policy also acknowledges the importance of incentives such as tax breaks, grants, and low-interest loans to local manufacturers. The policy also appreciates the importance of attracting foreign direct investment and suggests simplifying the investment process, providing incentives, and ensuring that investors have access to the resources needed to set up and operate businesses in PNG.

Policy Focus Area 9 outlines the Government's fundamental roles in availing investment incentives to encourage the establishment of manufacturing plants and relieve firms' costs in the initial years of operations. Further to the investment incentives, Policy Focus Area 10 also provides policy directions in developing infrastructure for support services that are crucial to the operations and growth of the Manufacturing sector.

Policy Focus Area 11 addresses the disconnect between educational institutions and the industries in PNG, in which it particularly proposes for the development of human capital through a vibrant industrial skill upgrading and retooling program.

Finally, through effective execution of this policy, the Manufacturing sector's potential to create jobs, open up business opportunities and generate income-earning opportunities, raise tax revenue for the Government, increase export earnings and ultimately improve the living standards of our citizens will be realized. The strategies to achieve these benefits are outlined in Policy Focus Area 12.

The Department of Commerce & Industry is the mandated lead government agency in the implementation and monitoring of the Manufacturing Policy. The Department will coordinate, monitor, regulate, and provide administrative oversight on all activities pertaining to downstream processing and manufacturing in PNG. Other Government agencies who have interest in downstream processing and manufacturing activities, including the resource sector agencies, will consult the Department of Commerce & Industry as the lead government agency in their endeavors to promote downstream processing and manufacturing activities in PNG.

SECTION 1: BACKGROUND

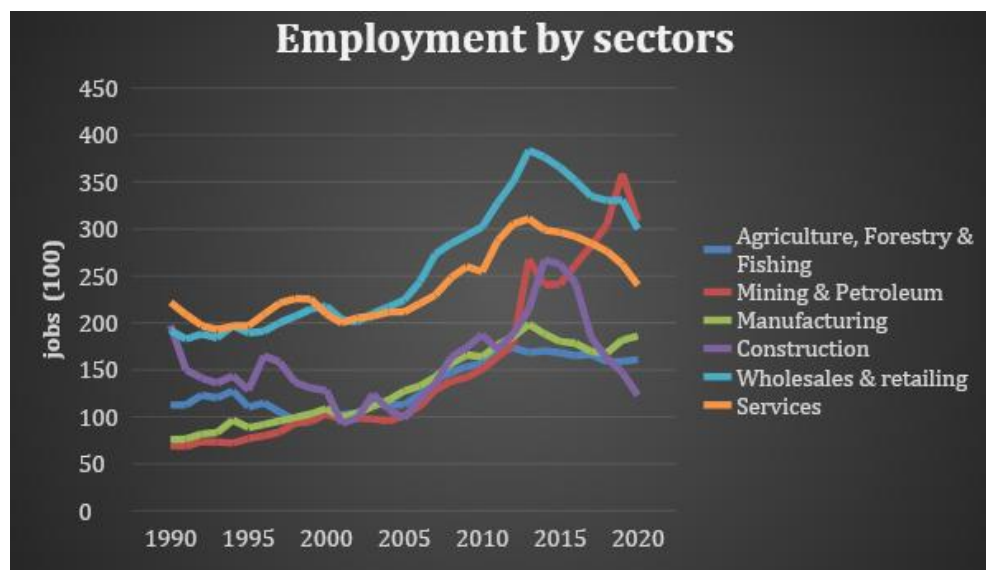
1.1. Introduction

Broadening and diversifying PNG's economy has been a fundamental development agenda for successive Governments in PNG since 1975. Those Governments have recognized the importance of the manufacturing sector in the mainstream development to broaden and diversify PNG's economic base. However, in the absence of a Manufacturing Policy, broadening of the economy and diversification has not been feasible. This is evident in greater upstream processing activities occurring in the resource sectors with less downstream processing activities.

As PNG approaches the golden jubilee of its independence, the government is also faced with the challenges of providing employment opportunities for graduates to secure paid jobs, creating opportunities for Papua New Guineans to venture into businesses and generating adequate revenue to provide goods and services to its citizens. To overcome these challenges, PNG must take advantage of its comparative advantage in the natural resource inputs and champion the course of downstream processing activities in all its resource sectors. By adding value to its natural resources, PNG will be able to create and retain value in the form of employment and income-earning opportunities, optimizing export earnings and generating tax revenue for the government.

PNG's economy generally can be categorized into subsistence and monetary economies. Although the economy is dominated by smallholder cash-cropping of coffee, cocoa, and copra, about 85% of the population depend entirely on subsistence livelihood and informal businesses. As depicted by the graph below, employment by agriculture could be much higher if subsistence farming was also featured in the agriculture data.

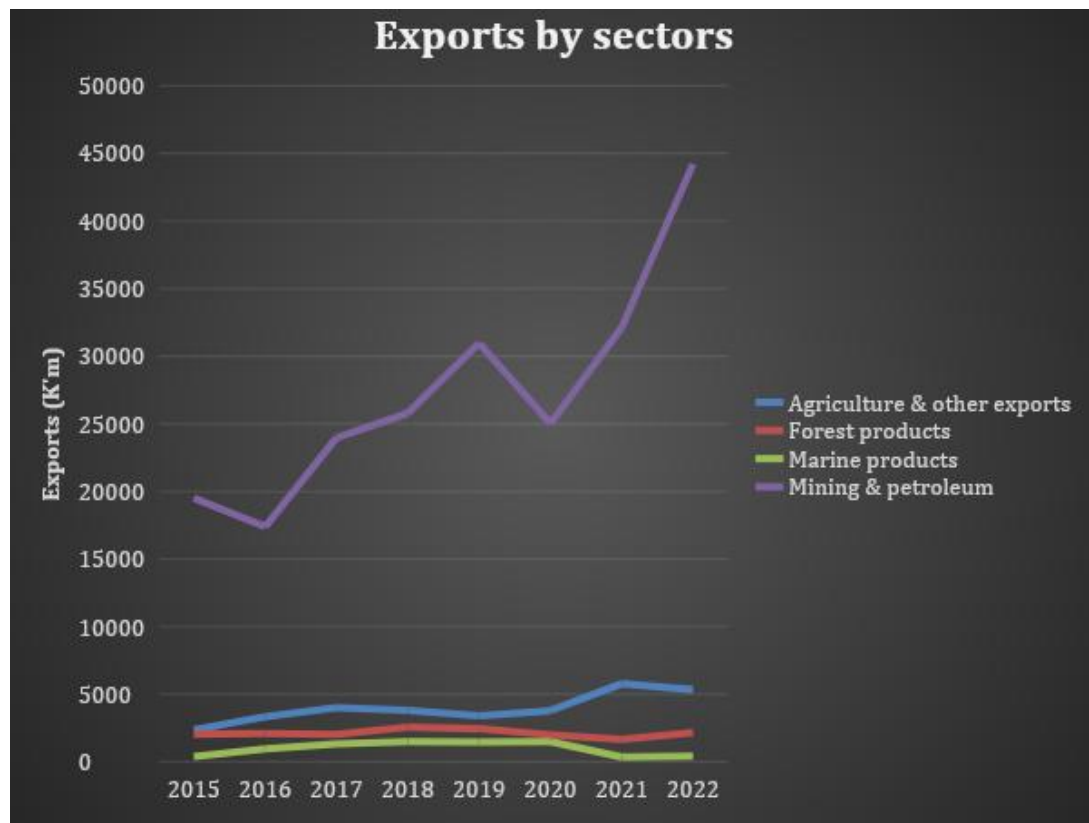
Figure 1. Employment by sectors



Data source: NSO data from BPNG website

In general, PNG's major economic sectors consist of agriculture & livestock, forestry, mining & petroleum, tourism & hospitality, fisheries & marine, manufacturing, retailing & wholesaling, building & construction, transport & telecommunication, finance & banking, and trade. In the mining, oil & gas, forestry, and fisheries sectors, there is a huge presence of foreign investment in upstream production, particularly in the extraction and harvesting activities. However, there is less foreign direct investment in the downstream processing segment of the value chain which is also evident in less downstream processing activities currently occurring in the resource sectors. As indicated by the graph below, about 90% of raw resources harvested or extracted in PNG are exported with less retained in the country for onshore processing and value-addition activities.

Figure 2. Exports by sectors



Data source: BPNG website

Although PNG's domestic market is large, constraints such as lack of economic infrastructure and utilities, relatively high-income tax, high transport costs, and high-security costs are some of the significant impediments to our ambition of industrial development and growth in PNG. Further to these impediments, PNG manufacturing sector is highly and partially dependent on capital goods and intermediate products for manufacturing activities in country that negates industrialization.

Small-scale industries mainly concentrate on producing goods such as beverages, soap, concrete products, clothing, paper products, matches, ice cream, canned meat, fruit juices, furniture, plywood, paint, biscuits, and most recently dairy products. However, these industries are not growing.

PNG's potential to grow its manufacturing sector is yet to be harnessed. However, it requires cooperation and a concerted effort of all the policymakers in the economic resource sectors to collaborate on policy strategies that will divert raw resource inputs away from export, and into the manufacturing plants for downstream processing.

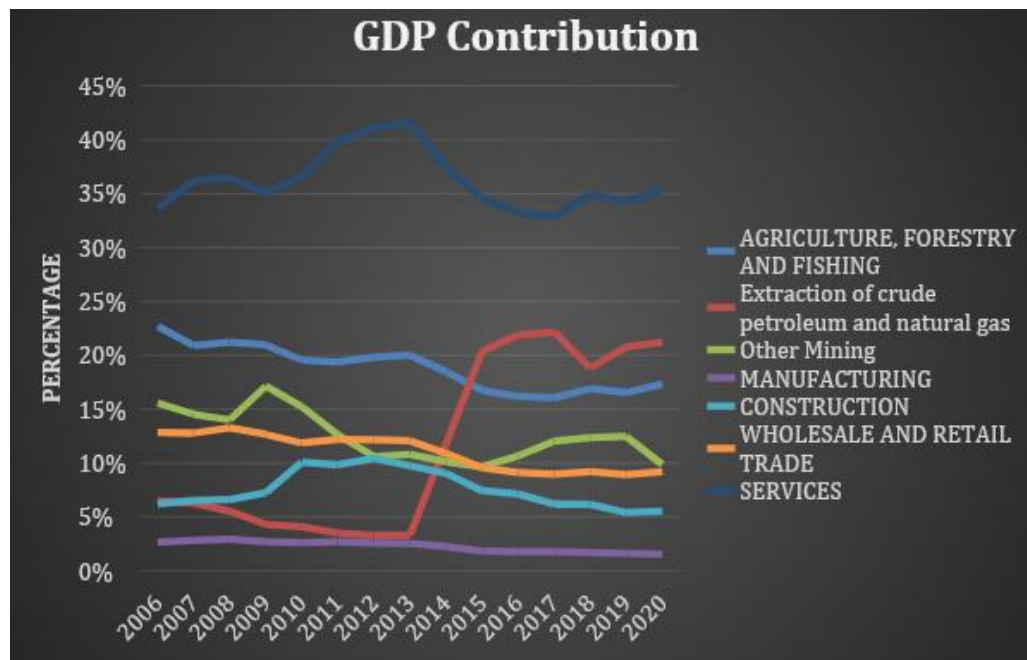
This policy sets the strategic directions towards PNG realizing the status of industrialized economy. Downstream processing of natural resources therefore will create a structural shift in the economy through processing of natural resources and exporting of high value-added products.

1.2. Policy Rationale

The manufacturing sector in Papua New Guinea is very small and has been stagnant since independence. There has been lack of major capital inflow into the sector, hence minimum manufacturing activities in the country. Although we have the opportunities to grow the manufacturing sector, lack of policies and legislations have been our key challenges.

The graph on the next page (Figure 3) shows that the PNG manufacturing sector contributed on average only 2% to the Gross Domestic Product (GDP) from years 2006 to 2019 compared to other sectors in the same period.

Figure 3. GDP contribution by sectors



Data source: BPNG website

Even though manufacturing has been a major part of the development aspirations of the Government of Papua New Guinea, the contribution of the manufacturing sector to the annual GDP growth rate has been extremely low compared to other sectors since independence.

The trend observed in the last decade is not encouraging hence it raises the need for a paradigm shift from import dependence to towards self-sustaining economy that is supported by a strong and vibrant manufacturing industry.

Papua New Guinea is at the crossroads in its ambition for industrialization. With vast natural resources and multi-billion-kina resource development projects in mining, petroleum, fisheries, forestry and agriculture, these resource sectors form the backward synergies that the manufacturing sector can take advantage of to source cheap raw resource inputs into manufacturing plants for onshore processing and further value addition activities in the economy.

This policy encourages Small and Medium Enterprises (SMEs) to develop and grow the cottage industries at the household level. The policy supports luring of Foreign Direct Investment (FDI) into the resource sectors, and also supports the development of cluster industries within Special Economic Zones (SEZ's).

With its growing middle-class, growing cities and population, it demonstrates that PNG's economy is growing and the demand for domestic consumption is also growing. PNG is also a member of the World Trade Organization (WTO), Asia Pacific Economic Corporation (APEC), Melanesian Spearhead Groups (MSG) and other regional and bilateral trade agreements and/or arrangements that provide foreign market opportunities for export-oriented manufacturing industries to exploit from.

A strong manufacturing sector is crucial for developing PNG's economy and stimulating broad-based economic growth. Thus, the Government of PNG will ensure that investment climate is conducive and there is enable environment for investments in downstream processing and manufacturing activities.

1.3. Intent of the Policy

The primary intent of this policy therefore is to:

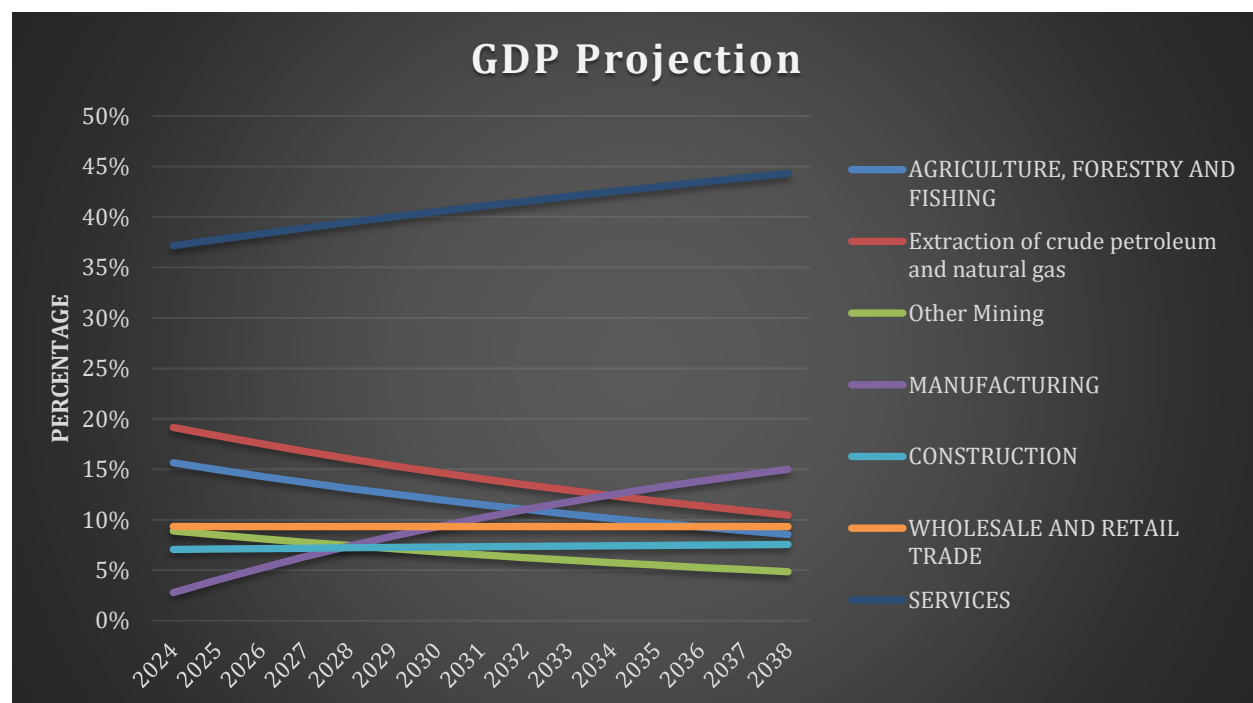
1. **raise the GDP contribution of the manufacturing sector from 2% in 2023 to a minimum of 10% in 2030;**

2. **create more job opportunities for our people;**
3. **generate income-earning opportunities for households and small medium enterprises;**
4. **optimize export earnings from value-added products; and**
5. **maximize tax revenue for the government.**

By curtailing exports of raw materials in the resource sectors commencing 2025, and redirecting 3% of raw materials in ensuing years from all resource sectors into the manufacturing plants. It is envisaged that the potential GDP contribution from the manufacturing sector will see a rise from current 2% in 2025 onwards. This shall culminate in the manufacturing sector contributing about 10% to the National GDP by the year 2030.

The above projection depicted in the graph below is made on the assumption that upstream production will peak in 2025 and remain constant in the next five (5) years, and the sustainable harvesting or extraction rates in the resource sectors will be observed from 2025 onwards. The projection hinges on the value-addition production in the resource sectors in which only the value-added of the final or manufactured product is reflected in the projected GDP contribution from the manufacturing sector.

Figure 4. GDP projection by sectors



Data source: DCI Potential GDP Projection

To fully industrialize the economy commencing 2025 as illustrated in the above graph, 3% of the natural resources harvested or extracted will be apportioned in succession to downstream processing activities which will see a steady decline in raw resources harvested or extracted for export, and a gradual rise in value-added products produced in PNG. As per the new policy initiatives in the Medium-Term Development Plan IV, this should coincide with the Domestic Market Obligation of firms in the upstream production to supply the domestic market 30% of the natural resources harvested/extracted in PNG by 2030.

The above projection necessitates for immediate Government intervention to resuscitate the manufacturing sector; hence this Manufacturing Policy aims to create a conducive environment for private sector-led growth in the manufacturing sector.

Successful implementation of this policy through the promotion of value-addition activities in the economic resource sectors will establish a vibrant and resilient manufacturing sector that will lay the foundations for sustained growth in the next five (5) years. Appropriate policy interventions and strategies such as industrial incentives and policy support from Government will foster, promote and support private sector investments in the manufacturing sector to diversify the economy through

value addition activities, which will eventually raise the manufacturing sector's contribution to the total annual GDP of PNG.

Expected outcomes anticipated in the implementation of this policy include the generation of sustainable wealth, the creation of income-earning and employment opportunities, and growth in the economy which is attainable through the increase in domestic production of goods and services (GDP).

1.4. Audience

This Policy recognizes the important stakeholders in the manufacturing sector of PNG and encourages the following to be partners in its implementation:

1. The State Government Departments, Provincial and Local Level Governments;
2. Specific Resource Sector Regulating Agencies;
3. Private Sector Peak Bodies and members in general including the Manufacturers Council of PNG, the Business Council of PNG, PNG Chamber of Resources and Energy, PNG Chamber of Commerce & Industry, and Rural Industries Council;
4. Foreign Trading Partners;
5. Existing & Potential Investors in the Manufacturing Sector;
6. Foreign Development Partners;
7. Small Medium Enterprises & Cooperative Societies;
8. Citizens of Papua New Guinea; and
9. Other Concerned Stakeholders.

1.5. Historical Context

The Department of Commerce and Industry (the then Department of Industrial Development) was established in January 1983 to coordinate the industrial development in the country to drive industrialization and achieve economic diversification. To date, the Department remains relevant and proactively promoting downstream processing activities in the primary industries and encouraging value-added activities in the manufacturing sector.

In its endeavors to promote and facilitate industrial development in PNG, the Department of Commerce & Industry since its establishment has taken the following initiatives to promote industrial development and growth in the country:

1. Industry Assistance Board Act 1985
2. Beyond the Minerals Boom Policy 1993
3. Industrial Development (Incentives to Pioneer Industries) Act 1998
4. National Investment Policy I 1998
5. National Investment Policy II 1999

The Industry Assistance Board (IAB) Act 1985 was enacted as a form of investment incentive intended to lure in investments for the purpose of developing and growing the PNG manufacturing sector. The Act established an Industry Assistance Board and made provision for its functions, powers and duties, and for related purposes, primarily to avail protection to the development and growth of industries in PNG. This IAB Board is no longer in existence, however, the IAB Act 1985 is still active as it has not been repealed or amended to date.

Another policy drive worth acknowledging is Beyond the Minerals Boom Policy 1993 (BMBP 1993) that also contributed to enhancing DCI's effort in promoting manufacturing and industrial development in PNG. This policy was developed to address manufacturing and industrial development challenges of the 1990s in the land, capital, markets, technology, labor and policy support. The BMBP 1993 basically addressed two issues: to maintain the status quo of the economic strategy that focused on minerals and energy development, or to diversify the economy through the development of other industries.

In augmenting its effort to grow the manufacturing sector, DCI through the Industrial Development (Incentives to Pioneer Industries) Act 1998 championed the development of pioneer (new and

unique) industries or manufacturing activities in which the Department facilitated downstream processing activities in both fisheries and petroleum sectors. The department also developed other service industries through this Act that boosted growth in the service sector.

With the repeal of the Industrial Development (Incentives to Pioneer Industries) Act 1998, DCI formulated and implemented National Investment Policy I & II to further spur industrial development in PNG. The implementation of the National Investment Policy I & II empowered DCI and other government stakeholders to administer tax incentives and other concessions to lure foreign direct investments to encourage growth of manufacturing in PNG. These investment incentives are implemented through the State Project Agreements that are executed by the Head of State.

1.6. Policy Development Process

Since independence PNG has had a low level of manufacturing activities, which was promoted by DCI through its obligations and responsibilities under the industrial development policy mandate. However, observations made by DCI during monitoring of industrial projects suggested that the manufacturing sector is stagnant, its total product output falling, and the sector is at a point of gradual regression.

The stagnancy situation in the manufacturing sector will inevitably undermine the Vision 2050's projection of the manufacturing sector contributing 20% production to PNG's GDP by 2050. With further project evaluations to verify the claim of stagnancy in the manufacturing sector, a Manufacturing Policy was recommended among other remedies to address investment constraints, compliance issues, capacity constraints and the stagnancy in the manufacturing sector.

The Manufacturing Policy is also further championed by the Medium-Term Development Plan III & IV which significantly emphasize on the development of a Manufacturing Policy to set policy directions on downstream processing activities to occur in the PNG agriculture and economic resource sectors.

Taking a cue from MTDP III 2018-2022, the Industry Division of DCI began initial work on this Manufacturing Policy in 2021 as an effort to put together the concept and a well-structured and informed working policy draft for DCI to progress.

From the 27th of March – the 3rd of April 2023, the Department undertook an intensive in-house lock-up workshop on the initial draft prepared by the Industry Division. The draft from this initial lock-up is referred to as the Tuhava Draft or DCI Draft and was developed for the external consultation.

The final draft of this Policy is the outcome of the consultations that DCI undertook with firstly Ministerial Agencies of Commerce & Industry, Resource Sector Agencies, National Government Departments and Agencies, Provincial and Local Level Governments and National Departments and Agencies' Offices located in the provinces, private sector players in both the upstream and downstream sectors and stakeholders in the spectrum of trade, commerce and industry.

SECTION 2: POLICY CONTEXT AND DIRECTIONS

2.1. Primary Goal

The primary goal of this Manufacturing Policy is **to create value chains of international standards in the economic resource sectors**, to enable raw resource inputs harvested or extracted in PNG to be downstream processed onshore into finished or intermediary products for commerce, trade, and industry.

2.2. Policy Objectives

The Manufacturing Policy will strive to achieve the following policy objectives which will be implemented and coordinated by the Department of Commerce & Industry:

1. To provide oversight on the manufacturing activities in PNG;
2. To ensure consistent supply of raw resource inputs to manufacturing plants;
3. To encourage downstream processing and value addition of PNG's natural resources;
4. To promote manufacturing activities at the household level;
5. To develop Special Economic Zones for downstream processing in PNG;
6. To promote downstream processing activities at the district level;
7. To assemble components into products for commerce, trade and industry;
8. To encourage further value addition to industrial wastes;
9. To create a conducive environment for industrial development and growth in PNG;
10. To harness growth in the service sector;
11. To develop human capital for industrial development and growth;
12. To maximize the net benefits of industrial projects accruing to the economy; and
13. To formulate policy support to assist existing industries.

2.3. Guiding Principles

The following are principles that promote integrity in the manufacturing processes and regulatory oversights, and are considered important to guide the implementation of this policy:

- 1. Promote honesty to uphold integrity in the compliance and enforcement process**
The players in the manufacturing industry to persistently observe the manufacturing regulations including standards, and the government to uncompromisingly enforce compliance and conformity in the sector.
- 2. Ensuring sustainability in the use of natural resources**
The government to vigilantly ensure that natural resources are harvested or extracted at sustainable rates, and to obligate industry players to implement replenishment programs and apply sound environment management principles to replenish the resource stock levels.
- 3. Government policy support**
The Government to avail necessary support to the manufacturing industry to grow the sector. This includes government investing in government programs and projects intended to develop and grow the PNG industrial base.
- 4. The Government to aspire for economic efficiency**
In the government's endeavor to use natural resources to address the country's developmental issues, it will ensure that the cost imposed on the economy by resource projects will not outweigh the benefits accruing from these projects.

5. Encourage research and development

Government to encourage research and development in the manufacturing sector to identify and develop appropriate technologies and advanced technologies for downstream processing and manufacturing activities.

6. Comply with relevant international obligations where it applies to manufacturing

The government will strive to comply with international obligations that PNG is a party to in terms of trade and investment agreements/arrangements, the International Labor Organizations Conventions, the United Nations Sustainable Development Goals, and the United Nations Law on E-Commerce on financial transaction and sales of contract arbitration.

2.4. Alignment with Core Government Policies & Legislations

Figure 5. Relationships between core Government Legislations and Policies

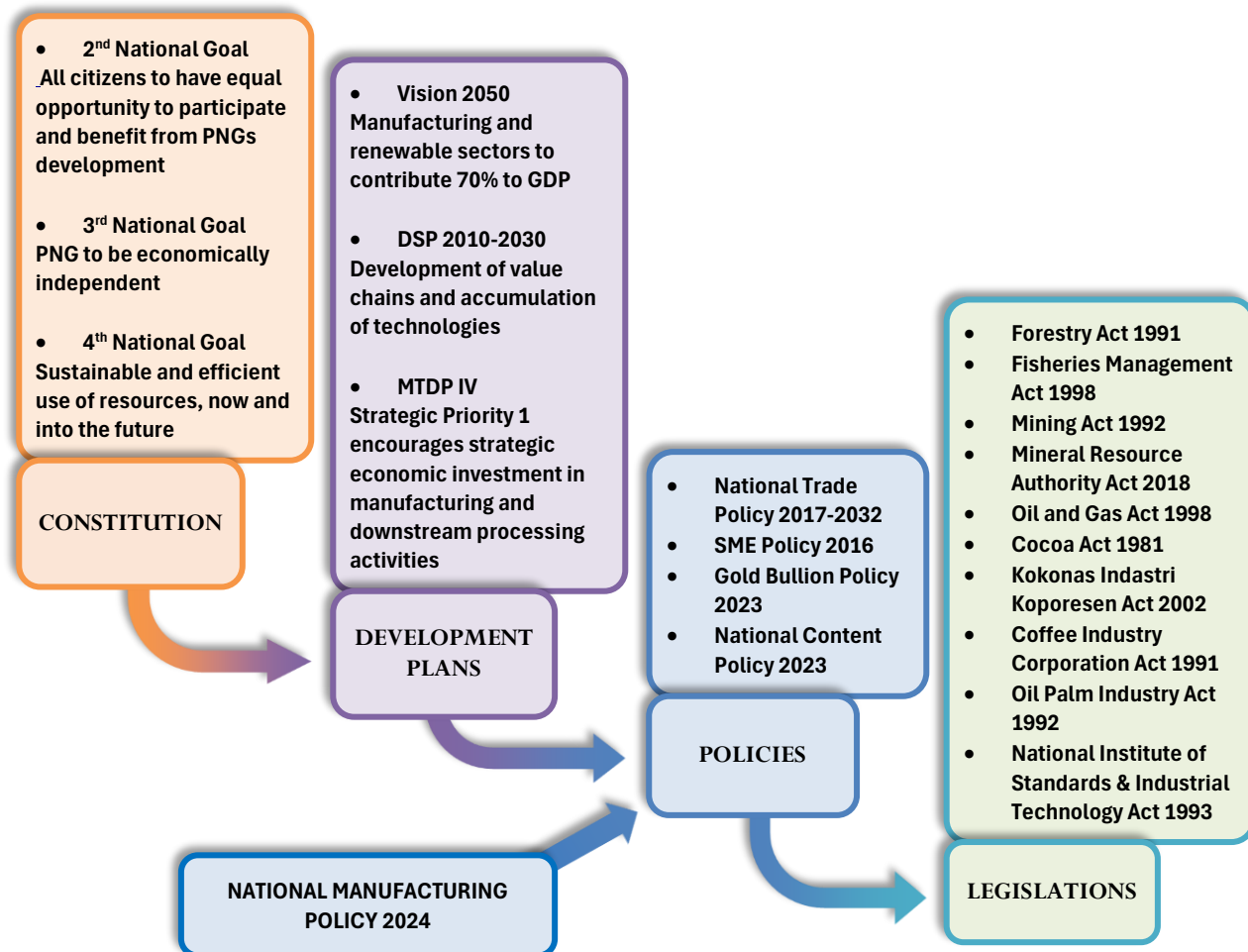


Figure 5 above illustrates the hierarchical relationship between the Constitution, Development Goals, Policies, and Legislations. The legislations are sought for in the policies and are created by the Constitution. They are essentially enacted to regulate the implementation of development plans and to ensure compliance with the regulations.

2.4.1 National Goals and Directive Principles

The Second Goal of the National Goals and Directive Principles provides for all citizens to have equal opportunity to participate in and to benefit from the development of this country. This goal therefore encourages leaders and bureaucrats to spread development opportunities across the country which will allow people to participate in development and benefit from outcomes generated by this development.

The Third Goal of the National Goals and Directive Principles provides for PNG to be economically independent, and to be self-reliant in managing its affairs. For PNG to be economically independent, the current generation must be willing to make trade-offs between today's consumption and investment spending for future returns. This calls for cutting down on unnecessary spending and redirecting spending to investments in economic infrastructure, utilities and accumulation of capital and technologies for industrial development.

The Fourth Goal of the National Goals and Directive Principles provides for natural resources and the environment to be conserved and used for the collective benefit of people and should be replenished for the future generations. This goal explicitly reminds us of the concept of sustainability. This generation is therefore obliged to exploit natural resources at a sustainable rate such that the resource stock levels can be sustained over generations.

2.4.2 National Development Plans

PNG Vision 2050 – Wealth Creation

Under wealth creation, Vision 2050 provides for Papua New Guinea to develop its manufacturing, agriculture, forestry, fisheries, and tourism sectors to contribute 70% of production towards the Gross Domestic Product.

The development of these sectors through downstream processing will ensure PNG has a dynamic and competitive economy by 2050.

Papua New Guinea Development Strategic Plan 2010 – 2030 – Value Chains

The PNG Development Strategic Plan 2010 – 30 advocates for the development of value chains and the accumulation of technologies to make the manufacturing sector competitive and generate employment opportunities and higher incomes for Papua New Guineans.

Medium-Term Development Plan IV – Downstream Processing & Manufacturing

The Strategic Priority One of the Medium-Term Plan (MTDP) IV recognizes manufacturing (value addition and downstream processing activities) as strategic economic interventions to deliver on the government's aspiration of realizing a K200 billion economy by 2030.

To achieve this target, the MTDP IV identifies manufacturing (DIP 1.9) and downstream processing (DIP 1.11) activities as Deliberate Intervention Programs that will add value to our natural resources, broaden our economic base and make our economy less dependent on imports.

The National Manufacturing Policy is anchored on Deliberate Intervention Programs 1.9 (Manufacturing) and 1.11 (Downstream Processing) and is strategic on operationalizing the manufacturing and downstream processing programs.

PNG Agriculture Development Plan, 2007- 2016

The National Agriculture Development Plan is the vehicle through which the Government intends to refine and implement its sector strategies as articulated in the MTDS. It will devise strategies and plans that complement the Government's overall reform program in the public sector financial management, budget execution and related areas. It also addresses the widely recognized failures in markets and governance that have become so obvious in the corporatization in the agriculture sector, most notably in extension and information services to farmers.

With regards to agriculture, the sector policy objective is to promote a vibrant and competitive integrated agriculture and food sector that is able to compete evenly against imports to promote food security, rural development, and poverty alleviation.

Some of the policy measures to promote a vibrant and competitive integrated agriculture and food sector include establishing Special Economic Zones to promote the development of the agri-manufacturing industries; supporting and growing the local stock-feed industry to supply the poultry

and livestock industries; and supporting Department of Treasury, PNG Customs, National Agriculture Quarantine & Inspection Authority and other relevant agencies to establish clear criteria and guidelines to use safeguards, anti-dumping and counter-surveillance measures to protect PNG agri-food industries against unfair trade practices such as dumping and subsidies, and import surges.

In the agriculture sector, the emphasis is to increase downstream processing activities and the establishment of Special Economic Zones for agriculture which are priority areas to increase value added agricultural production in the country.

2.4.3 Alignment of Applicable Policies

National Investment Policy Volumes 1 [1998] and Volume 2 [1999]

The National Investment Policy (NIP) I of 1998 was formulated to address fundamental requirements that investors seek when investing in PNG. The objectives of NIP I were to; create a conducive environment for private sector investment, develop infrastructure and human capital, avail greater clarity and transparency in investment incentives, eliminate regulatory and procedural obstacles to investment, promote the development and growth of Small and Medium Enterprises (SME's), encourage the development of backward linkages and to support domestic value addition activities, provide greater consistency in policy measures, and create a necessary institutional framework for ensuring strong implementation of that investment policy.

The National Investment Policy (NIP) II of 1999 examined the incentives and constraints that were affecting investment in PNG and provided various specific incentives in NIP II which are being administrated today in promoting manufacturing and industrialization. The investment incentives were formulated on lessons drawn from the following:

1. The investment regime must be seen as stable;
2. Tax incentives should be properly targeted;
3. Incentives should take into account limitations in administrative capabilities;
4. Tax holidays do not necessarily encourage investment; and
5. The investment regime should have a few distortions.

The bulk of the policy document is the examination of existing incentives and those recommended are listed in the policy document [NIP II] which are aligned to the implementation of this policy.

National Trade Policy 2017 - 2032

The Papua New Guinea's National Trade Policy (PNGNTP), 2017-2032, is the government's overarching policy framework aimed at promoting sustainable economic growth of PNG through more improved development of import substitution and export diversification. The PNGNTP's main objectives are centered on legal and training framework, macro-economic policy environment, investment and competition policy, good governance, trade-related infrastructure, infrastructure services and trade logistics services. The PNGNTP also aims to advocate to the global community trade opportunities in-country that can be promoted through fair trade agreements while simultaneously creating a conducive environment for trade activities that are beneficial to PNG and its trading partners.

Small Medium Enterprise Policy 2016

The Small Medium Enterprise (SME) Policy's fundamental aim is to promote and drive inclusive economic growth through employment and wealth creation. The overall vision of the Policy is that the SME sector would be a major contributor towards PNG becoming a middle-income country by 2030 and a high-income country by 2050.

This includes the Government's focus on SME development which is considered as a pathway to diversify and increase the growth and development of trade and industry. These Government interventions are geared towards increasing Foreign Direct Investment (FDI) in the country based on best trade practices of the WTO guidelines and standards and are aligned to the interest of PNG.

In the manufacturing and services sectors, the Manufacturing Policy is aligned to SME Policy with the intent to:

1. Undertake promotional activities to promote the development and growth of small and medium industries;
2. Promote cooperation amongst small and medium industries;
3. Encourage industrial linkages with large industries; and
4. Develop human resources in small and medium industries.

National Gold Bullion Policy 2023

The main goal of the PNG Gold Bullion Policy is to become a vibrant and internationally recognized and competitive national bullion program to support the macroeconomic policy operations of the Government of PNG on economic stabilization, growth and national wealth creation and prosperity of Papua New Guinea. One of its main focuses is the development of an internationally competitive and accredited domestic gold refinery for the purpose of downstream processing of State gold into gold bullion to be held by the Central Bank as reserve assets for Papua New Guinea.

PNG National Content Policy 2023

The National Content Policy is a policy framework implemented in harmony with the other existing policies and legislations aimed at optimizing the sustainable economic development goals and strategic plans of PNG. It focuses on promoting greater participation and partnership of Papua New Guineans in resource development projects directly and indirectly.

This Policy encourages utilization of locally available goods and services and competent domestic suppliers' preferences given to landowner companies and other Papua New Guineans before others. It also encourages capacity building for domestic suppliers; employment of skilled and qualified citizens for management and supervisory positions; workforce development & training for graduates from tertiary institutions; ownership and control through equity participation; and coordinated investments into sustainable development for project impacted communities. PNGNCP also establishes a high-level National Content Coordinating and Monitoring Committee (MCCMC) to ensure good governance, coordination and monitoring of all national content programs in the country.

The PNGNCP2023 provides policy strategies to develop a national manufacturing policy to encourage more local production of tailor-made goods to be supplied to the resource development projects in the country such as manufacturing of safety clothing, footwear and bottling of drinking water for mine workers. Hence, PNG could reduce dependence on foreign imports thus strengthens domestic production and demand for locally produced goods.

PNG National Content Policy 2023 in essence intends to give policy directions on what firms are expected to deliver when dispensing their corporate and social responsibilities.

2.4.4 Core Government Legislations

Forestry Act 1991

The main purpose of the Forestry Act is to manage, develop and protect the Nation's Forest resources and environment to conserve and renew them as an asset for the succeeding generations. This enables maximum participation by Papua New Guineans in wise use and development of forest resources as a renewable asset. It also focuses on utilizing the Nation's Forest resources to achieve economic growth, employment creation and increased downstream processing of forest resources.

The forestry sector policy also focuses on downstream processing, particularly of raw logs onshore processing, under fair trade agreements and ceasing the export of raw logs in the foreseeable future.

The National Forestry Act aims to promote the growth of a sustainable forest industry and promote downstream processing activities in the country to create jobs in the sector. The policy measures include increasing linkages with other government agencies, international organizations, private

sector and non-governmental organizations to encourage information linkages and transparency on the international trade of forest and wood products. In the marketing and promotion of wood products, measures should be taken to maximize in-country returns and to minimize transfer pricing in the log export trade. Domestic processing of forest products shall be encouraged wherever it is economically and financially viable.

Fisheries Management Act 1998

The Fisheries Management Act is aimed at promoting the management and sustainable development of fisheries in PNG.

The fisheries sector also focuses on the downstream processing and value adding and establishment of the Pacific Marine Industry Zone (PMIZ) as a major project to increase the growth of the fisheries sector and increase trade of quality and safe products with other trading partners or groups.

As it relates to downstream processing of fisheries, its objective is to support further growth and development of the fisheries industry to maximize the returns on its resource, in terms of job creation and export earnings. Some of the policy measures include the Department of Commerce & Industry taking the lead and in consultation with National Fisheries Authority to develop marine industrial zones, expediting the establishment and operation of the Pacific Marine Industrial Zone (PMIZ) to maintain its competitive position in current and future export markets; maintaining export restrictions to encourage downstream processing and value adding onshore, and identifying and concluding Free Trade Agreements with trading partners to gain competitive advantages for PNG's fish exports.

Mining Act 1992

The main purpose of the Mining Act (1992) is to regulate the upstream production pertaining to valuable minerals of interest and mining activities, and other related purposes in Papua New Guinea to maximize PNG's net benefits.

About downstream processing, the government's objective is to promote downstream processing and value-adding of mineral resources. Some of the policy measures include developing a comprehensive sector-specific policy to promote downstream processing and value-adding activities in the mining sector.

The in-country downstream processing activities in the mining sector are minimal and implies that more can be done to encourage further value-adding and downstream processing onshore to generate jobs in this sector, create income-earning opportunities and maximizing the government tax revenue. The greater emphasis, therefore, is placed on developing gold refineries and minting facilities in PNG to add value to PNG mineral resources.

Mineral Resource Authority Act 2018

The Mineral Resources Authority Act 2018 regulates the mining industry and gives licenses to investors for the exploration or development of mining projects in the country.

This Policy will complement the regulatory operations of the exploration and mining through the downstream processing of minerals recovered or mined in PNG.

Oil & Gas Act 1998

The main purpose of the Act is to govern the exploration and production of petroleum (oil and gas) in Papua New Guinea, including the offshore area and the benefits are paid in grants to traditional landowners, Provincial Governments and Local-level Governments from these projects.

Pertaining to downstream processing, the government's focus is to align downstream processing and value-adding of petroleum resources to the socio-economic development objectives. The sector-specific policy is one of the important policies that must promote downstream processing to deliver on the socio-economic development objectives of the government.

Cocoa Act 1981

The main functions of the Cocoa Act are to control and regulate the growing, processing, marketing and export of cocoa, cocoa beans, and cocoa products.

The Act also promotes the consumption of Papua New Guinea cocoa beans and cocoa products and to establish price stabilization, price equalization and stockholding arrangements within the cocoa industry.

Kokonas Industri Koporesen Act 2002

The purpose of the Act is to control and manage the Coconut Industry. The main function is to control and regulate the production, processing, marketing and export of coconut products; and to promote or engage in downstream processing of coconut products by itself or in cooperation with other persons or bodies for the benefit of the coconut industry with regards to value addition activities.

Coffee Industry Corporation Act 1991

The main purpose of the Act is to control and regulate the production, processing, marketing and export of coffee.

Through this policy, the coffee industry will strive to realize the added value in the concept of coffee bean to cup which can be realized through establishing a vibrant coffee value chain in PNG.

Oil Palm Industry Corporation Act 1992

The main function of the Act is to:

1. Promote and encourage an increase in productivity in the oil palm industry by provision of more efficient extension services to smallholders; and
2. Promote the development of the oil palm industry, and in particular–
 - (i) the implementation of improved husbandry technologies to increase production by smallholders; and
 - (ii) the introduction of techniques for effective control and regulation of oil palm pests and diseases by smallholders; and
 - (iii) the development of representative grower groups amongst smallholders; and
3. Promote the use of improved management techniques for the cultivation harvesting and quality control techniques by smallholders.

National Institute of Standards & Industrial Technology Act 1993

The main purpose of this Act is to provide a platform for a thorough Quality Infrastructure to be developed and made available for the manufacturing industries to utilize and access during the production and processing to comply with the regulatory requirement and the domestic and international market requirements.

The function of the National Institute of Standards and Industrial Technology (NISIT) and this Quality Infrastructure among other things are:

1. To establish and coordinate the National Standardization system for Papua New Guinea;
2. To recognize as testing authorities, bodies and institutions having adequate facilities and capacity to carry out testing functions in relation to standards of measurements and technical standards;
3. To establish a National Certification of Conformity and create under the system various certification and accreditation schemes which shall require a supplier to ensure its customers of quality and sustainable products and services;
4. To assist Papua New Guinea manufacturing industries to produce quality products and services that are more competitive in the world market and thereby increases Papua New Guinea share in the world market;
5. To hold custody of Papua New Guinea National Physical Measurement Standards as it

- considers necessary to enable the verification of means of measurement;
6. To provide for the examination, testing and calibration of instruments, appliances and apparatus in relation to their capacity; and
 7. To make provision for the registration of standard and quality marks and regulate their use.

Other Relevant Acts & Regulations

The PNG Manufacturing Policy, apart from enacting its corresponding legislation to regulate the manufacturing sector in PNG, encourages all other policies and legislations applicable to the manufacturing sector to align to it or vice-versa.

Some of the key policies and acts that are not listed above but equally important in the implementation of this policy, are hereby also acknowledged.

Table 1. Other relevant acts and legislations

Organization	Legislation	Policy
Department of Commerce and Industry	Acts of Parliament, NEC Decisions, and Ministerial Determinations and Directions	*National Investment Policy I, II and III *National Content Plan *Gold Bullion Policy
National Institute of Standard and Industrial Technology (NISIT)	* NISIT ACT 1993 and Regulations * NISIT (Amendment) Act 2018	*Management System Certification Policy *Product Certification Policy *Certification Standards Training & Promotion Policy
Investment Promotion Authority (IPA)	* IPA Act 1992 * IPA (Amendment) Act 2023 * Other relevant Acts and Regulations, including the Reserved Activities List & Restricted Activities List	Administers the above three (3) NISIT policies.
Department of Agriculture and Livestock (DAL)	* Agriculture & Livestock Act * National Agriculture Research Institute Act * National Environment Act * National Disaster Risk Reduction & Management Act * National Land Act	* Agriculture Adjustment (AA) Bill * Agriculture Investment Bill * Incentives for large-scale commercial investment * Incentives for small-holder and family agriculture investment.
Commodity Boards	* Various Acts and Regulations * Kokonas Industri Koporesen Act 2002 * Coffee Industry Corporation (Statutory Functions and Powers) Act 1991 * Cocoa Act 1981 * Oil Palm Industry Corporation Act 1992 * PNG Spice Industry Act 1989 * Rubber Industry Act 1953 (Act Reviewed 2020) And other relevant Acts and regulations.	*Coffee Cherry Trade Policy (2008) *KIK Strategic Plan 2016-2025 *National Oil Palm Policy (2023) – ongoing
Intellectual Property Office (IPO)	* Trade Marks Act 1978 * Copyright and Neighboring Rights Act 2000 * Patents and Industrial Design Act 2000	
Department of Mineral Policy & Geohazard Management	* Mining Act 1992 * Proposed Mining Legislation (Drafted 1996)	* Offshore Minerals Policy (1998) * Mineral Policy (2004)
Department of Petroleum	* Oil and Gas Act 1998 * PNG Oil and Gas Regulations (2002) * Unconventional Hydrocarbons Act (2015)	* National Energy Policy (2017-2027) * PNG Petroleum Policy Handbook
National Fisheries Authority	* NFA Act Fisheries Management Act 1998 and other Fisheries related Acts and Regulations.	

National Manufacturing Policy 2024

Organization	Legislation	Policy
	<ul style="list-style-type: none"> *Fisheries Management (Amendment) Act 2015 *Fisheries Management (Amendment) Regulation 2016 *Fisheries Management Regulation 2000 *Maritime Zones Act 2015 *National Tuna Fishery Management 2014 *National Becher De-Mer Fishery Management Plans 2016 	<ul style="list-style-type: none"> * PNG Fisheries Strategic Plan 2017-2030
PNG National Forest Authority	<ul style="list-style-type: none"> *Forestry Act 1991 and regulations *National Forest Development Guidelines 2009 *Forest Regulations 1996 *Moratorium and Review of Projects 2000 *National Forest Plan 1991 	<ul style="list-style-type: none"> * National Forest Policy 1991
Department of Treasury (DoT) and Internal Revenue Commission (IRC)	<ul style="list-style-type: none"> *Various Acts and Regulations including: *Income Tax Act 1959 *GST Act 2003 *Fiscal Responsibility (Amendment) Act 2020 * IRC Act 2014 * Public Service Management Act *Public Service General Orders * Appropriation Act 	<ul style="list-style-type: none"> * Public Expenditure and Financial Accountability (PEFA) Road Map 2015-2018
Department of National Planning and Monitoring (DNPM)	<ul style="list-style-type: none"> * Planning and Monitoring Responsibility Act 2016 	<ul style="list-style-type: none"> * National Planning Framework *National Service Delivery Framework *Annual Budget Framework Paper (MTDP) * MTDP Monitoring and Evaluation Framework
Department of Lands and Physical Planning (DLPP)	<ul style="list-style-type: none"> * Physical Planning Act 1989 and Regulations *Town Planning Act 1952 * Physical Planning Regulation 1990 *Land Act 1996 * Physical Planning Act 1992 *Survey Act 1969 	<ul style="list-style-type: none"> * National Sustainable Land Use Policy - Land Tenure and Administration - Development Planning and Assessment
Immigration and Citizenship Authority (ICA)	<ul style="list-style-type: none"> * Immigration and Citizenship Service (Amendment) Act 2021 and other regulations * Constitution of PNG 1975 * Citizenship Act 1975 	<ul style="list-style-type: none"> * Visa and Passport Services Policy * Covid 19 Vaccination Policy
Department of Labor and Industrial Relations (DLIR)	<ul style="list-style-type: none"> * Employment Act 1978 * Industrial Relations Act 1962 * Worker's Compensation Act 1978 * ILO Conventions No. 98 (1976) and No. 87 (2000) 	<ul style="list-style-type: none"> * Employment Policies * OH&S Policies * Industrial Relations Policies * Worker's Compensation Policies * Skills Development and Training Policies * Gender Equality and Non-Discrimination Policies
Conservation & Environment Protection Authority (CEPA)	<ul style="list-style-type: none"> * Conservation and Environment Protection Authority Act 2014 	<ul style="list-style-type: none"> * PNG Policy on Protected Areas * Policy on World Heritage, RAMSER * Policy on Biodiversity Conservation Project (JICA) * Protected Areas Policy Implementation Plan (PAPIP) * Policy on Environmental Management Information Systems (EMIS)

National Manufacturing Policy 2024

Organization	Legislation	Policy
		- Strengthening the Management Effectiveness of Protected Areas. (Project by CEPA)
PNG Customs Services	<ul style="list-style-type: none"> * Customs Act 1951 and Regulations * Quarantine Act 1994 * Plant Protection Act 1997 * Animal Health and Production Act 2002 * Food Safety Act 2013 * Trade & Industry Development Act 2015 * Harmonized System (HS 2022) Import & Export Tariff. * Customs Tariff (2013 Budget) (Amendment) Bill 2012 * Excise Tariff (2013 Budget Amendment) Bill 2012 	<ul style="list-style-type: none"> * PNGCS Service Plan 2018-2022 * MOU with PNG ICA & PNGCS. * Border Security (Functional Roles)
Provincial Administrations	Regulated by: <ul style="list-style-type: none"> * National Constitution * Organic Law on Provincial Government & Local Level Government * Level of Governments * National Parliament * Provincial Legislatures * Local-Level Government Laws 	<ul style="list-style-type: none"> * Development Policies * Resource Management Policies * Cultural Preservation Policies * Governance & Accountability Policies * Gender & Social Inclusion Policies * Disaster Preparedness & Response Policies
Department of Health	<ul style="list-style-type: none"> * Public Health Act 1973 * Public Health Amendment Act 2020 * Food and Sanitation Act 1991 	<ul style="list-style-type: none"> * National Health Plan (2011 – 2020) * Health Promotion Policy * National Cancer Control Policy * National Drug Policy * National Medicines Policy * National Sexual Reproductive Policy * National Health Plan (2021 – 2030)
Provincial Governments	<ul style="list-style-type: none"> * Constitutional provisions of the Organic Law on Provincial Government and Local-Level Government empowered by: <ul style="list-style-type: none"> - Section 41 National Parliament - Section 42 Provincial Legislatures - Section 44 Local Level Government Act - Various Acts, Regulations & Policies. 	<ul style="list-style-type: none"> * The Constitution and the Organic Law on Provincial Government and Local Level Government
National Government	<ul style="list-style-type: none"> * Relevant Acts, Regulations and Policies * Constitution of the Independent State of Papua New Guinea * Organic Law on Provincial Governments and Local Level Governments 	<ul style="list-style-type: none"> * MTDP IV * Vision 2050 * Economic Policy * National Health Policy * National Education Policy And other relevant policies and regulations
Department of Works and Highways	<ul style="list-style-type: none"> * Road (Management and Fund) Act 2020 Relevant Plans, Policies and Strategies	<ul style="list-style-type: none"> * PNG Government Road Sector Institutional Reform Program: <ul style="list-style-type: none"> - Sustainable Highlands Highway Investment Program (SHHIP) - PNG Resilient Transport Project (PNGRTP) – National Road Network Strategy & Connect PNG Program
PNG Ports Corporation Limited	<ul style="list-style-type: none"> * Harbours Board Act 1963 * Port Infrastructure Development Plan 2021-2051 	<ul style="list-style-type: none"> * Port Security Policy * Environmental Policy * Health & Safety Policy * Quality Management Policy

National Manufacturing Policy 2024

Organization	Legislation	Policy
		<ul style="list-style-type: none"> * Tariff Policy * Infrastructure Development Policy * Customer Service Policy
Special Economic Zones Authority (SEZA)	* SEZA Act 2019 and Regulations	<ul style="list-style-type: none"> * Benefits and Concessions Policy * Policy on Opportunities for Customary Landowners * One-Stop Shop Approach Policy * Policy on Sustainability and Innovation * Education and Infrastructure Development Policy
Industrial Centres Development Corporation (ICDC)	* ICDC Act 1990 (now repealed)	<ul style="list-style-type: none"> * Industrial Development Policies * Infrastructure Development Policies * Environment and Sustainability Policies * Investment Promotion and Incentives Policies * Employment and Labour Policies * Research and Innovation Policies
Department of Education	<ul style="list-style-type: none"> * Education Act 1983 (amended 1995) and Regulations * Teaching Service Act 1988 (amended 1995) * National Libraries and Archives Act 1993 * Higher Education Act 1993 (amended 1995 and 2000) 	<ul style="list-style-type: none"> * Universal Primary Education Policy (Basic Education Plan 2010-2019) * Government School Fee Subsidy Policy * Tuition Fee Free (TFF) Policy 2012 * Behaviour Management Policy (BMP) 2021 * Scouts Policy 2021
Royal Papua New Guinea Constabulary	<ul style="list-style-type: none"> * PNG Police Act 1998 * Sorcery Act 1971 * Criminal Code Act 1974 * Marriage Act 1963 * Lukautim Pikinini Act 2015 	<ul style="list-style-type: none"> * National Cybercrime Policy 2014 * Cyber Security Policy 2021
Department of Higher Education, Research, Science and Technology (DHERST)	* Higher Education (General Provision) Act 2014 and Regulations	
National Trade Office (NTO)	* Established in accordance with the Public Services Management Act 2005, following directives of NEC Decisions No: 99/2017, No. 82/2019 and No. 110/2020.	* National Trade Policy
Small Medium Enterprise Corporation (SMEC)	* SMEC Act 2014 and Regulations	* PNG SME Policy
National Development Bank (NDB)	* NDB Act 2007	

SECTION 3: TARGET ECONOMIC SECTORS

This policy, when applied in the following priority areas or key economic sectors, will realize the vision of the current Government to fully industrialize the economy. That is; by creating and establishing products' value chains in all resources sectors, value addition activities will be harnessed to grow the manufacturing sector from a 2% contributor to 10% contributor to PNG's total GDP in 2030.

Promotion, development and growth of small, medium, light, heavy and high technology industries in the value chains will further see PNG gradually transforming from being a nation reliant on raw commodity exports to a net producer of value-added products in the region.

3.1 Primary Sector

3.1.1 Agriculture and Livestock Sector

The agriculture and livestock sector in PNG is the key driving factor for the survival and a source of the financial empowerment of approximately eighty percent (80%) of PNG's population. This is the sector where the value-added commercial opportunities of agriculture commodities are lying untapped.

Downstream processing and value addition have fairly progressed to a certain degree in the agriculture and livestock sectors. There are more opportunities that need to be explored to harness the current processed agriculture products to undergo further value addition.

This policy also aims at adding value to the agriculture commodities that we have not tapped into and to also identify further processing or value addition to those agriculture products already semi-processed. Such agricultural commodities include all food crops, coffee, tea, cocoa, coconut, vanilla, and palm oil. Similarly, PNG's livestock also offers manufacturing potential which this policy will promote such as piggyery, cattle, sheep, chicken, duck, deer, and others.

The focus of this policy on agriculture is also to diversify and/or promote further downstream processing or value addition of agriculture and livestock-based products and maximize benefits for our resource owners.

This policy ensures its alignment with agriculture, livestock and commodities policies and regulations in effectively promoting downstream processing. Alignment by other supporting policies and regulations is also vital both for the upstream and downstream stages of the agriculture and livestock sector to facilitate more value-added activities in the subsistence sector of PNG's rural economy.

The policy also ensures that associated spin-offs and value chain activities supporting manufacturing are properly regulated in consideration of the interest of resource owners and all players in the industry.

3.1.2 Forestry Sector

The forestry and plants sector avails many commercial opportunities other than just the trees and logs that we have come to focus on in many of our downstream processing promotional and marketing drives. The broad field of forestry consists of biological, quantitative, managerial, and social sciences that are applied to forest management and conservation. This includes specialized fields such as agroforestry, urban forestry, industrial forestry, and international forestry.

This policy will identify the commercially sustainable opportunities forestry can offer and promote such value-addition manufacturing or downstream processing opportunities in the forestry and plants sector. This policy aims to trigger commercial and economic initiatives and developments, not only of our vast timber resources but also other plants and plant-based products for commercial consumption in the real estate market, cosmetic/beauty/aroma, home use, buildings, medical use, hotel and tourism, printing and stationery, shipping and aviation, land transport, fisheries activities, electronics, energy, etc.

To maximize the opportunities in the forestry and plant value chains, identifying the potential of forestry in downstream processing is one of the key aims of this policy. The policy will also guide the realization of these opportunities, and further identify, establish and strengthen cross-sector linkages in downstream processing and value adding in the forestry sector.

To effectively develop the forestry sector through this policy, other new policies or legislative initiatives are encouraged as well as alignments of existing policies and regulations. The diversification in downstream processing or value addition of forest-based products and maximizing benefits for our resources and landowners is also encouraged by this policy.

3.1.3 Fisheries and Marine Sector

The fisheries and marine sector avail many commercial opportunities other than the fish species alone. To date, the focus has been on tuna and mackerel processing. The sector also offers vast manufacturing opportunities that have never been exported, or very minimal marketing drives have been undertaken to develop the other potential in the fisheries sector. This policy is taking a broader approach and intends to diversify all marine potentials rather than the fisheries alone.

In consideration of the vast opportunities in the fisheries and marine industry, this policy also aims at adding value to other potential natural fisheries and marine resources apart from tuna. To give rise to commercial and economic initiatives and developments of all possible and potential fish and marine-based products, this policy encourages all possible and potential feasible initiatives in value addition to our fisheries and marine resources.

Similarly, all supporting activities towards the fisheries and marine sector is encouraged in terms of downstream processing in both the upstream and downstream stages. This is to strengthen cross-sector linkages in manufacturing and guide the realization of untapped opportunities.

This policy application also aims at diversifying downstream processing or value addition in the marine and fisheries sector to maximize benefits for the coastal and island resource owners and the general populace of PNG.

3.1.4 Mining Sector

The current status quo of PNG's mining sector is that most industrial activities are concentrated on the upstream segment of the value chain with very little occurring in the downstream stage. Most of our gold, silver, copper, iron, nickel, etc., are being exported as ore or in a semi-processed state. PNG boasts some of the world-class mineral deposits in gold, silver, copper, gemstones, etc., however, value addition of these minerals is lacking. PNG does not have a nationally owned refinery or mint that can downstream process gold, silver, copper, etc. into bullion or to other forms for industrial use in sectors like coinage, electronics, space exploration, dental/medicine, glass manufacturing, gilding, cosmetics/beauty, printing, recognition/awards, etc. Very little is being processed onshore or value-added, retained and/or exported in refined form, however none is supplied to our domestic market for finance/investment or industrial purposes.

The PNG domestic market is such that it is not fully developed to a mineral and/or precious stones downstream processing industrial base economy to absorb all or most minerals and precious stones being mined in PNG. Where refining of mineral ores should occur, the PNG finance and investment market and manufacturing market must have the capacity to absorb refined minerals or precious stones products.

Until a fully national-owned refinery and mint is established as well as the establishment of other precious minerals/stones value chain industries, PNG will continue to lose all its mineral resources from our extractive industries to markets abroad. The prevalence of this situation will continue to deprive our resource owners of the maximum benefits anticipated to flow from our mining sector.

Therefore, maximizing the benefits in the mining sector by diversification through establishment of value chains and exploring new and emerging products, technologies and markets is another key aim of this policy.

This policy will ensure that all mining sector opportunities are fully researched and supported, and

continuous improvements are done to this policy accordingly. Policy and regulatory alignments are also important to support the promotion and facilitation of more value-added activities of the mineral resources. Similarly, the policy will ensure that associated support and spin-off activities supporting manufacturing are properly regulated in consideration of the interest of resource owners and all players in the industry.

3.1.5 Oil & Gas Sector

The Oil & Gas sector is mostly concentrated on the upstream side of the oil and gas value chain. Downstream processing is minimal whilst extraction of our crude oil and gas is mostly for export. PNG has only one refinery in Puma Energy Ltd (formerly Inter-Oil Ltd). Like many other economies, PNG relies very much also on products made from crude oil and natural gas.

PNG has the capacity to downstream process more of its fuel needs (gasoline, petrol, diesel, motor oil, & kerosene). The importance of these hydrocarbons is that they essentially run in every machinery, plant, accessory, and gadget. Other than this, we can also manufacture lubricants, paraffin wax, petroleum coke, petrol chemical, asphalt, Sulphur, and propane. Likewise, in natural gas, there are opportunities to manufacture products like fertilizers, antifreeze, plastics, pharmaceuticals, and fabrics in which natural gas is an ingredient. Natural gas is also used to manufacture a wide range of chemicals such as ammonia, methanol, butane, ethane, propane, and acetic acid.

Therefore, to maximize benefits in this sector, product diversification is an area that must be promoted, and this requires policies and regulations to promote more value addition activities to our crude oil and natural gas. Exploring new and emerging technologies and markets is a key aim of this policy.

The PNG Manufacturing Policy will ensure that all other supporting policies and regulations both for upstream and downstream processing stages of the hydrocarbons are aligned to support the promotion and facilitation of more value-added activities locally. This policy will ensure that associated support and spin-off activities supporting manufacturing are properly regulated in consideration of the interest of resource owners and all players in the sector.

3.2 Secondary Sector

3.2.1 Construction Sector

Government must consider the construction industry as the main driving force for economic development. This policy will require putting into place necessary and appropriate infrastructure and public utilities for investments, industrial growth, international business and generally domestic and global commerce. The provision of basic infrastructures and public utilities by the government in supporting socio-economic developments in PNG influences in many ways private sector decisions in investing in value-addition activities or downstream processing.

This policy is very important for the construction sector as it will guide, promote and protect the interest of industry players, especially national contractors or companies in the construction industry. The policy is aimed at identifying, creating and establishing cross-sector linkages and is also making provisions for necessary policy or legislative support.

3.2.2 Manufacturing and Technological Inventions Sector

Manufacturing and technology inventions have been around for a long time and have provided the base for improvement in industrial knowledge and skills, and technological advancement in manufacturing industries. The need to cooperate, share knowledge and resources, carry out research and development (R&D) for technological inventions, and improvement on current technologies and expertise are important. It adds value to our skilled labor, and our resources and influences further advancements in manufacturing and inventions of appropriate technologies for life sustenance and convenience.

The manufacturing and technological inventions sector is an industry that must prevail and co-exist with the service industry in PNG as it is an impetus for the industrial and export-based economy that will create economic cohesion and drive economic growth in PNG.

PNG's raw natural resources and/or semi-processed products continue to offer opportunities for manufacturing and technology inventions at either the upstream and downstream stages or primary and secondary sectors. In consideration of this, the policy will identify potential manufacturing and technological invention opportunities and guide the realization of these opportunities. This will strengthen cross-sector linkages in the manufacturing value chains and make provisions for other necessary policy or legislative support or realignments.

3.2.3 Small Medium Industries Sector

The small-medium industries (SMI) sector has been steadily growing and requires more government support. This sector plays a vital role in the economy as well in terms of value addition. To some degrees, SMIs are attempting and initialing value addition on either some of our natural resources or have launched further into downstream processing of natural resources for domestic use or for personal convenience. This sector needs further study and analysis to explore options to support its development and growth which the SMEs or informal sector with manufacturing interest can venture into.

This policy therefore will encourage the formulation of a specific policy for directions on promoting and developing the Small Medium Industries (SMI) sector. Where existing policies/regulations are identified which promote SMIs, policy/regulatory alignments are encouraged to coordinate the development of simple and appropriate technologies for this industry.

3.2.4 Green Technology

Globally, countries are moving away from using technologies and energies that harm the environment to more environmentally friendly technologies and machines. This policy recognizes the importance of using green technologies and using green energy sources to fully function and operate the manufacturing plants.

The cost of using green technologies and fuels so far has been proven to be cheap compared to the use of brown technology and energy. This policy acknowledges that PNG still has a long way to go in terms of harnessing green technology and fuel, however moving from a brown economy based on fossil fuels to a sustainable green economy creates jobs and fosters innovation. Moving away from fossil fuels in energy production, transport and industry will dramatically reduce environment pollution and improve public health for billions of people in PNG and globally.

Consideration must also be given to the emissions of Green House Gases (GHG) and historical Land Use and Land Use Change and Forestry to factor in preventative and mitigating measures in line with relevant regulatory frameworks and policies to minimize the carbon footprint of manufacturing activities in PNG.

3.3 Tertiary Sector

3.3.1 Social Sector

The social sector is an all-important sector that adds value to the aspirations of the manufacturing sector's growth through human resource capacity building and public health of the working population. Manufacturing basically evolves around the coherence of process which then enhances or adds value to human capital. The policy acknowledges that there are three key fundamentals in setting up an effective manufacturing sector: the technology, the resource inputs and the human capital. The development and health of the workforce (labour/human capital) therefore is important too for the manufacturing sector to develop and grow.

The social sector through this policy will support and encourage training and development of human resources which will be directly absorbed into the manufacturing sector for use in industrial activities. This policy will ensure that the PNG Education System, Religious System, Non-Governmental Organization and other private sector players collaborate in this endeavour to develop necessary human capital for industrial development. Their respective human development policies and regulations must align their curriculums to the labor demand of this

country in terms of up-skilling and improving the technical know-how and the necessary skillsets required by the manufacturing sector.

3.3.2 Services Sector

The service or tertiary sector is the third piece of a three-part economy (primary, secondary and tertiary sectors). The primary sector covers the harvesting in fisheries and forestry sectors, extractions in the oil & gas and mining sectors, and agricultural business activities in the economy. The secondary sector covers manufacturing and business activities that facilitate the production of tangible goods from the raw materials produced in the primary sector. The third economic sector is the service sector which is responsible for the largest portion of the global economy's business activities.

The service sector produces intangible goods. It comprises various service industries including; warehousing and transportation services, information services, securities and other investment services, professional services, waste management, health care and social assistance, arts, entertainment, and recreation. Countries with economies centered on the service sector are considered more advanced than industrial or agricultural economies.

This policy therefore will create backward and forward linkages in the manufacturing sector in which the service sector is the adhesive that glues together the processing lines in the value chains. This policy is cross-cutting as it captures both the production of goods and services.

Appropriate policies for respective primary sectors must therefore be aligned to support and promote downstream processing in PNG. Accordingly, this policy will ensure that associated spin-offs within the service sector and value chain activities supporting manufacturing activities are diligently coordinated to promote the interests of resource owners and all players in the manufacturing sector.

SECTION 4: MANUFACTURING POLICIES AND STRATEGIES

4.1 Policy Focus Area 1

Comprehensive Regulatory Framework

4.1.1 Regulation of the Manufacturing Sector

PNG has been lacking a national manufacturing policy since Independence. Consequently, there have been no clear policy directives, goals, objectives and strategies to promote and regulate best and acceptable practices in the manufacturing of goods and provision of services in PNG's manufacturing sector.

Lack of proper coordination, monitoring and enforcement between the policing and regulating agencies also has allowed fake, counterfeit, low-quality and harmful manufactured products to flood the domestic market. These imported products pose a threat to PNG infant industries as well as imposing stiff competition on genuine goods and services produced domestically which their values are recognized in the GDP calculation.

However, enforcing regulations becomes costly when there are numerous industries to regulate, as it increases the cost of compliance. Regulations also become difficult to administer when similar regulations are administered by more than one agency.

Hence, DCI through regulations will review compliance processes and coordinate compliance in the manufacturing sector to address red-tapes and undertake compliance audits and certification for players to operate in the manufacturing sector.

A legislation on manufacturing activities will establish the long run conditions where firms can enter and leave the industries depending on the profitability and loss. The enforcement of the regulation will ensure compliance with the regulations that allow for competition and fair market practices.

Policy Issue:

Manufacturing Sector is less regulated

Policy Objective 1:

To develop appropriate legislation and regulatory framework to regulate manufacturing activities in PNG

Key Strategies:

1. Enact Manufacturing Legislation

Develop and enact manufacturing legislation to effectively regulate all manufacturing activities in PNG, which includes manufacturing activities in Special Economic Zones in PNG.

The legislative framework for the Manufacturing Legislation shall include the following:

- i. Erecting and operation of a manufacturing plant;
- ii. Supply of raw materials for production;
- iii. Production, storage and labeling of processed products;
- iv. Conveyance of products to the markets;
- v. Importation of manufactured products;
- vi. Value chains;
- vii. Compliance audit and certification of industrial activities; and
- viii. Quality and standard

2. Establish a Manufacturing Authority

Establish a Manufacturing Authority to give effect to the Manufacturing Legislation in regulating all manufacturing activities in PNG, including Special Economic Zones.

3. Industrial Operational Manuals

Develop operational manuals to guide the development and growth of manufacturing industries in PNG including manufacturing activities inside Special Economic Zones.

4. Alignment of Regulatory Functions

Review and align overlapping regulatory functions of respective key government agencies to enhance regulations through whole-of-government approach.

Department of Commerce & Industry (DCI) will: review the regulatory approval processes of the manufacturing activities in PNG; streamline the approval processes; and, coordinate all approval processes in a one-stop-shop facility to address the red tape in the regulatory approval process.

5. Enforcement and Compliance

Joint Agency Spot-Check Operation (JASCO) is an inter-agency task force with roles on enforcement and compliance in manufacturing and trade. JASCO is formed to deal with the crucial issues inherent in the process of trade facilitation.

The scope of JASCO will be broadened to include manufacturing activities also. DCI to assemble a team of skilled, effective and proactive leaders to coordinate enforcement and compliance that will work to complement each other to achieve the desired goals of enforcement and compliance in the manufacturing sector.

Two primary objectives of JASCO in the manufacturing sector will be to: provide spot-checks on plant construction, downstream processing, manufacturing and assembling to ensure final products are safe, are of quality and able to effectively compete in the international markets; and, to facilitate the smooth flow of trade within and across the borders minimizing time, cost and reducing the measures that impede trade.

The agencies' representations in the task force shall have genuine interest in the job and are willing to commit time and effort. Key agencies in the task force include but not limited to DCI, PNG Customs, Investment Promotion Authority, National Trade Office, National Institute of Standards & Industrial Technologies, Conservation & Environment Protection Authority, Department of Lands & Physical Planning, National Department of Health, etc.

All agencies in this task force are encouraged to create an information-sharing platform to use and support the work of JASCO.

4.1.2 Regulatory Framework for Plant Construction and Operation

Industrial Development involves the use of technology in the production process to transform inputs into outputs. Technology in the production process is the combination of labour and capital designed to convert a particular resource input into a product for consumption or further production.

Pertaining to manufacturing activities, a manufacturing plant will draw from PNG's natural endowment only a specific resource identified in the production process for conversion into a desired product, as specified in the project proposals or plans. Private firms engaged in value-addition activities will develop or adopt tools/techniques for harvesting/extracting natural resource(s) intended for a particular product.

This policy does not encourage the use of tools/techniques that involve harvesting or extraction of resource inputs not meant for a particular production. Firms are thereby encouraged to harvest or extract resource inputs with due care to avoid unnecessary environmental damage.

Policy Issue:	Manufacturing plants are constructed outside of Government regulation
Policy Objective 2:	To Regulate the construction and operation of industrial plants

Key Strategies:

1. Plant Construction to Precede Resource Extraction

The practice of harvesting or extracting natural resources before constructing manufacturing plants for value addition is discouraged. This practice is often used with the intent of harvesting or extracting raw materials for export and does not necessarily culminate into tangible developments in the resource sectors or agriculture sector.

For industrial projects that will use natural resources or agricultural produce as production inputs, the construction of manufacturing plants (production/processing facilities) will precede resource harvesting/extraction. Project proponents are encouraged to partner and participate genuinely with the Government to sustainably develop the resource sectors.

On the other hand, for other resource inputs harvested or extracted in the process of harvesting or extracting the desired resource inputs, effort must be made to downstream process them or transact them to local downstream processors that require them as resource inputs for their production facilities.

All relevant resource sector Departments and Agencies of the State must initiate and align their upstream activities with this policy (vertical integration) in terms of decision-making and approval for the construction of manufacturing plants intended for manufacturing or downstream processing activities.

2. Manufacturing Technology

A choice for sustainable technology to be adopted in the country. A technology that is user-friendly, easier to customise and operate, low carbon emission, low noise pollution, poses no risk to radiation, labour intensive and compatible to the environment is recommended for manufacturing and value addition activities in parallel with the following:

- i. Encourage a mobile and durable technology not harmful to people at the workplace, low radioactive risk and conforms to international standard practice especially WHO, WTO and ISO.
- ii. Outdated and restricted traditional technologies banned in other countries be discouraged entry into PNG.
- iii. Encourage sustainable technology that considers natural resources and fosters economic and social development with the goal of reducing environmental and ecological risks.
- iv. Encourage sustainable technology which fosters a shift from non- biodegradable to biodegradable materials in its production and use.
- v. Encourage technology that has user-friendly software in the processing plant, is easier to adopt and can offer results faster than a complex solution that takes longer to master.
- vi. A type of technology that has no net adverse effect on the environment and uses a sustainable source of energy be encouraged.

3. Production of Green Technologies

The policy aims to encourage the adoption and utilization of green technology in manufacturing operations through both regulatory and market-based interventions. The policy proposes the establishment of a Technology Acquisition & Development Fund (TADF) for the acquisition of appropriate environment-friendly technologies and development of green technologies.

Incentives in the form of capital subsidy and reimbursement of nominal interest charged be availed if clean energy is envisaged for production of equipment for renewable energy (solar, wind etc.), carbon emission control, energy conservation technologies, and equipment used for refining & blending renewable fuels.

4. Energy Efficiency

Energy efficiency in manufacturing activities implies use of less energy in the industrial activities to

produce value-added products.

In the manufacturing activities in PNG, energy measures that will promote energy efficiency in industrial activities are encouraged. Industry players are encouraged to optimize equipment and processes that use less energy in the manufacturing activities, improve insulation to reduce use of energy, and use energy efficient lighting, reduce machineries energy consumption, and making use of available electricity supply in the country.

5. Project Construction Milestones

Project proponents will lease land for the industrial project and develop the land within the bounds of the **Land Act 1996** and the **Physical Planning Act 1989**. Similarly, traditional landowners are encouraged to consult the Department of Lands & Physical Planning to voluntarily register their land under the applicable existing legislation for the purposes of utilizing the land for commercial and business initiatives. Unlocking customary land will create opportunities for resource owners to venture into manufacturing projects as sole traders or in partnership with foreign investors.

In constructing manufacturing plants, firms are encouraged to observe the provisions stipulated in the **Environment Act 2014** or such other act/regulation applicable during or after the construction of manufacturing plants, or during the operations of the manufacturing activities.

During the construction phase, construction milestones will be certified through a construction inspection monitoring and evaluation report process to track construction progress and ensure the manufacturing plant is built to specification and standards and completed as per the construction schedule.

Plant construction monitoring and compliance will be carried out in compliance with the **Building Act 1971** and **Building Regulation 1994**; the **Industrial Safety, Health and Welfare Act 1961**; **Industrial Safety (Building Works) Order 1967**; **National Institute of Standards & Industrial Technology Act 1993**; **ISO standards**; **Environment Act 2014**; and any other policies/legislations applicable that are existing or that may be introduced in the future.

6. Plant Commissioning

For a resource input to be transformed into a finished product, a manufacturing plant must be 100% completed (buildings, production line and priority support infrastructures/utilities) and must be fit for the purpose and safe for human beings to handle and operate.

The output that will emanate from the manufacturing plant must be safe and healthy for consumption, free from moral implications and will not undermine competition in the economy.

Compliance in respective stages leading up to commission must be adhered before the manufacturing plant can be commissioned. Plant commissioning is enforced by the **Industrial Development (Wage Subsidy) Act 1984** and the **Patents and Industrial Design Act 2000**.

7. Renewal of Manufacturing License

The government, through DCI, will develop and implement a **Quality Management System** and will periodically conduct production monitoring to verify manufacturing license renewals annually subject to compliance and conformance.

For industrial projects that enjoy Government support through investment incentives, or any other support approved by the Government by way of policy or any other arrangement, the firm must demonstrate compliance to qualifying conditions for awarding of manufacturing license, and all other requirements including benefits anticipated to result from utilizing the government support.

4.1.3 Regulatory Framework for Manufacturing Products

Apart from our locally grown/cultivated agricultural produce, PNG has also been importing agri-based finished products for local consumption despite having the absolute advantage to produce

domestically. Except for Australia and New Zealand, PNG boasts a bigger domestic market in the Pacific that can sustain its manufacturing plants compared to other Pacific Island Countries.

The country has also been exporting agricultural commodities (cocoa, coffee, copra and vanilla), round logs, and mineral ores like gold, copper and aluminum with least value addition for too long now. With this abundance of raw materials at its disposal, PNG can establish resilient backward linkages to its manufacturing plants, which will sustainably draw raw materials from the upstream production to produce high-value products for domestic consumption and the international trade.

Lack of regulation in the manufacturing sector has allowed fake, counterfeit, low-quality and harmful manufactured products to flood the domestic market. Consequently, these goods impose stiff competition on genuine goods, and adversely affecting struggling infant industries that are producing genuine products that are recognized in the GDP calculation.

Policy Issue: Production of unhealthy, counterfeit and fake products in PNG
Policy Objective 3: To regulate the production of intermediary and finished Goods

Key Strategies:

1. Authentic Products

A product having readily available substitutes will have a demand that is more elastic such that when a fake or counterfeit product is sold cheaper relative to the price of the genuine product, the demand for the latter will instantly be dropped to zero resulting in the instant collapse of its market.

To protect PNG infant industries from discriminatory competition imposed by fake and counterfeit products, DCI will apply: relevant provisions of the Customs Act of 1951 or that established by this policy; any other appropriate existing legislation(s); and those that may come into effect in future, to prosecute individuals, producers or organizations that are involved in the production, importation, exportation or smuggling of counterfeit trade goods and pirated copyright goods into PNG.

When manufacturing products within PNG borders, existing and potential manufacturers operating in the PNG manufacturing sector will comply with: the **Goods Act 1952**; **Copy Rights and Neighboring Rights Act 2000**; **Commerce (Trade Description) Act 1952**; **National Institute of Standards & Industrial Technology Act 1993**; and, any applicable legislations existing or that may be introduced in the future.

A Task Force comprising DCI, NISIT, IPA and PNG Custom Services and any relevant organization identified will be assembled to enforce the above Acts and to ensure compliance.

2. Harmless Products

A country exists when there are healthy and able citizens, who can participate in the economic activities at the micro level of the economy to develop and grow the country.

To ensure there is no compromise in the health and safety of consumers, products to be produced in PNG will pass through the health and safety scrutiny and will only be produced when endorsed by competent health and safety authorities.

All manufacturers will observe the: **National Institute of Standards & Industrial Technology Act 1993**; **Food and Sanitation Act 1991**; **Public Health Act 1973**; International Organization for Standardization (ISO) standards; and, other regulatory requirements applicable to ensure health and safety of consumers are protected and not compromised.

3. Packaging & Handling

For quality preservation and safety in consumption, the manufacturers will label and pack value-added products in packages mandatory for storage, shipment and distribution in consistent with global best practices and ISO standards.

The manufacturers will also ensure that processed products destined for markets are not exposed to detrimental or security risks when processed, packaged and transported. The **Packaging Act 1974** and **Customs Act 1951** must be complied with when packaging processed goods within the borders of PNG.

4. Market Requirements and Certification

Products emanating from manufacturing plants in PNG must satisfy standard requirements, of quality and meet ethical standards to be competitive in the international markets.

Consumers' preferences and expectations are factors that ultimately usher consumers into purchasing a particular product. At this time when consumers' behavior is influenced by issues on ethics, concerns about environmental degradation and climate change, resource inputs traceability and Geographical Indication (GI), child labour, underpayment of laborers, etc. It is imperative to also consider these factors as part of the market requirements in order to trade internationally.

Products manufactured in Papua New Guinea must have an identification code in its serial number or a bar code, etc. It enables product tracking and tracing to verify its origin and genuineness. This must be enforced to counter the probability of counterfeit products produced under the same label by unauthorized and unlicensed producers.

Geographical indicators derived from unique PNG landmarks, totems, and cultural totems must be applied on all PNG-made products. This is to maintain the market demand of specific or specialty goods, and to demonstrate that PNG-made products or products from various PNG sources (geographical areas) originate from PNG.

This policy therefore encourages the establishment of a market certification process that will ensure that market requirements and specifications are met, and products produced in PNG are certified and cleared by the proposed Manufacturing Authority before they are exported to international markets or for consumption in the domestic market.

5. New Product Manufacturing Certificate

To ensure that the health and safety of our people are not compromised by the production of a new product or good; the Government through DCI, has the obligation to assess the merits of the manufactured product and grant approval (New Product Manufacturing Certificate) for its production in the country in accordance with **Industrial Development (Wage Subsidy) Act 1984** or the resulting legislation of this policy and any other applicable legislation(s).

A **manufactured product inventory** is important for the country to keep track of products produced in the country or imported for consumption and for the purpose of regulating the manufacturing activities in the country. The **Customs Act 1951** (Manufacture of Goods in Warehouses) including any prescribed laws that may result from this policy are to be observed when keeping and maintaining a manufactured product inventory for PNG.

6. Commercialization of Value-Added Product

The manufactured products must be legitimate, authentic, real, and active. The producer can be a government entity, firm, or charity organization operating within a commercial or entrepreneurial undertaking in which the producer, who produces the services or goods for profit. Technically, the product is a result of or has gone through an accreditation process that is internationally recognized and accredited.

Black markets exist when households purchase illegal products that are, by law not allowed to be traded in the formal markets. Products sold in black markets are near substitutes for products sold in formal markets. The prevalence of black markets in the formal economy is detrimental to the existence of formal markets and must be discouraged and outlawed.

Products manufactured in PNG for commerce, trade and industry will strictly adhere to the **Goods Act 1951**, and the legislation this policy proposes and other relevant PNG laws. These manufactured

products must be traded in the formal markets that are promoted and protected by PNG laws and other recognized laws.

Following policy directions are also necessary to address illegitimate products:

- i. Advocate and harmonize for the purposes of protection and enforcement against Intellectual Property Right (IPR) infringement;
- ii. Enhance greater agency collaboration, coordination, transparency and accountability in the enforcement of illegitimate products;
- iii. Government to ensure conformity to health and safety standards of products through product certification issued by DCI and the Department of Health;
- iv. Government to develop National Indigenous Retail Program for retailing PNG made products inside PNG; and
- v. Government to develop franchise program to distribute foreign manufactured products in PNG through franchise arrangements.

4.1.4 Quality, Standards and Conformity

In PNG, consumers are not quality oriented but are very responsive to price changes. Given an inferior product that commands a low price, consumers will spontaneously substitute the expensive high-quality product for the cheap inferior product.

To curtail this consumption behavior and to protect domestic industries from inferior substitutes, all products to be produced in PNG will have to pass the quality requirements before production can take place. The quality of products must be worth the value of Kina and must meet market requirements to ensure products are competitive in the international markets.

The National Institute of Standards and Industrial Technology (NISIT) of Papua New Guinea is the body that is mandated to perform accreditation of laboratories so that the test results are accepted everywhere in trade, developing and adopting standards for facilitating trade, calibration of measuring instruments to have accurate reading measurements in manufacturing and to certifying systems and products to access and satisfy market requirements. However, there are other regulatory bodies like National Fisheries Authority that have distinctive product testing and certification in their area of specialty /interest that is based on the Codex Alimentarius, International Organization for Standards (ISO), and European Union Directives which fish exports must satisfy before they can be exported.

The standards used in PNG include PNG standard (PNGS), International Organization for Standard (ISO), Illuminating Engineering Society of North America (IEC), Australian Standards (AS), New Zealand Standards (NZS), UK Standards (BS) and others that are market access requirements which PNG manufacturers must conform to in conjunction with **National Institute of Standards & Industrial Technology Act 1993**.

This policy encourages collaboration amongst the regulatory departments and agencies in PNG to ensure that products manufactured in PNG are of quality and standard and are able to access the international markets.

Policy Issue: Manufacturing plants of low standards that produce low-quality products for trade, commerce and industry

Policy Objective 4: To construct manufacturing plants of high quality and of standards that produce quality products for trade, commerce and industry

Key Strategies:

1. Quality Standards

The use of quality standards is a common strategy for improving product quality. Quality standards are established guidelines that specify the minimum requirements for products or services. By setting and enforcing quality standards, manufacturers can ensure that their products meet or exceed a certain level of quality.

The National Institute of Standards and Industrial Technology (NISIT) provides a set of standards and guidelines for manufacturers to attain improved product quality. By conforming to these guidelines, companies can establish clear quality expectations and ensure that their products are consistently produced to meet those expectations.

Implementing quality standards can also have business benefits for manufacturers. By adhering to established quality standards, companies can differentiate themselves from competitors and gain a reputation for producing high-quality products. This can lead to increased customer loyalty and trust resulting in repeat business. Additionally, meeting quality standards can help manufacturers comply with regulations and avoid legal issues related to product safety or quality.

When setting quality standards, plant quality is also an important factor in ensuring that products are of high quality. Plant quality refers to the quality of the manufacturing process and the equipment used in the production process. By ensuring that the manufacturing process is of high quality, manufacturers can produce products that meet the required quality standards. This can be achieved using quality control and quality assurance.

2. Quality Control

Another effective strategy for achieving the policy goal of producing quality products is through the implementation of quality control measures. Quality control is the process of monitoring and testing products to ensure that they meet pre-determined quality standards. This strategy involves inspecting and testing products at different stages of the production process to identify and correct any defects or issues before the final product is released to the market.

Quality control can be achieved through a range of measures such as regular inspections, testing and monitoring of the manufacturing process. By ensuring that the manufacturing process is closely monitored, manufacturers can identify any issues that may affect the quality of the final product. This will help to improve the quality of the product and ensure that it meets the required quality standards.

NISIT will play an important role in ensuring that manufacturers in Papua New Guinea implement effective quality control measures. Through the development of guidelines and standards, NISIT will provide: guidance to manufacturers on the best practices for implementing quality control measures; and, training and technical assistance to manufacturers to implement effective quality control measures.

3. Quality Assurance

Quality assurance is another effective strategy for achieving the policy goal of producing quality products. Quality assurance is a process that involves ensuring that the manufacturing process is of high quality and that products meet the required quality standards. Quality assurance measures can include the development of quality management systems, regular inspections and testing.

Quality assurance can also help manufacturers improve their product development processes. By identifying potential quality issues early in the design process, manufacturers can make design changes that improve product quality and reduce the risk of quality issues occurring later. Manufacturing firms therefore are required to perform regular internal quality audits as part of their quality assurance management.

Implementing quality assurance measures will help manufacturers improve their supply chain processes by working more closely with suppliers to ensure the quality of raw materials and components. Through the development of guidelines and standards, NISIT can provide guidance to manufacturers on the best practices for implementing quality assurance measures, training and technical assistance to manufacturers and help them implement effective quality assurance measures.

4.2 Policy Focus Area 2 Adequate Supply of Raw Resource Inputs to Industrial Plants

Sustainability of manufacturing industries hinges on the adequate supply of resource inputs.

Unsustainable rates of extraction are risks to resource inputs supply and to the entire operation of the manufacturing plants. This policy encourages current players in the upstream industries to venture into downstream processing activities (hence vertical integration) to exert control over the backward linkages to sustain the manufacturing plants.

Policy Issue: **Inadequate supply of natural resources for industrial activities**
Policy Objective 5: **To ensure consistent supply of resources for industrial activities**

Key Strategies:

1. Extractive Industries

In the extractive industries, natural resources are harvested or extracted and are either processed as final goods for consumption or intermediate goods for further processing.

The Government, therefore, must ensure that the extraction rate is sustainable and that resources must not be harvested or extracted for manufacturing activities at unsustainable rates. The extractive firm will use all its effort to ensure the intended resource for the manufacturing plant is extracted or harvested using sustainable harvesting or extraction rates and that the sustainability of the manufacturing plant is not threatened by resource input inadequacy.

2. Domestic Market Obligation

PNG's domestic market, including the international markets, are recognized as niche markets for PNG natural resources. The extractive firms in all the resource sectors, especially in the upstream productions, are encouraged to consider PNG domestic market as a destination for PNG raw resource inputs.

In complementing the government aspiration of fully industrializing the economy, operators in the upstream production must supply 30% of natural resources they harvested/extracted in all resource sectors to the domestic market by 2030 for the purpose of downstream processing and value addition in the economy.

Thereafter operators in the upstream production must make attempts to supply more than 30% of the natural resources harvested/extracted to the domestic market, and by 2050 these operators must be supplying the domestic market with 70% of natural resources harvested/extracted in PNG.

3. Non-Extractive Industries

In the non-extractive industries, unsustainable resource management may result in open access where everyone may have access to the scarce resources. Profit opportunities heralded by open access will attract arbitrageurs who will exploit the resources to make profits at unsustainable yield rates. The government, therefore, has the obligation to ensure basic natural capital in the ecosystem is maintained. Activities like logging and fishing intended for manufacturing must employ sustainable yield of natural capital as the recommended rate for harvesting renewable resources.

4. Agriculture Sector

Sustainability of downstream processing and value-addition activities in the agriculture sector depends on the consistent supply of agricultural produce into the manufacturing plant.

The government will continue to mobilize land for agricultural activities, engage idle labour inputs and ensure that agricultural produce is produced in volume to sustain industrial plants in the agriculture sector. Possible strategies for government to consider are:

- i. Develop farms and engage idle laborers to cultivate fresh produce for food production; and
- ii. Develop plantations and engage idle laborers to cultivate cash crops for downstream processing and value addition.

The government will devise and implement sound production strategies to lower the cost of

production in the agriculture sector. This intervention will lure investments into agriculture and encourage downstream processing and value addition activities of agricultural produce.

5. Specific Input(s) for a Manufacturing Plant

While promoting value addition to our natural resources, the government is not only required to ensure the sustainability of manufacturing plants' operation but also has the obligation to conserve and preserve natural resources for future generations.

The harvesting or extractive firm will use all its endeavours to ensure unspecified resources are not harvested or extracted during the resource harvesting or extraction, and unspecified resources are preserved for scenic beauty or future economic activities.

Respective Acts and policies in the resource sectors will have to be amended to encourage only the extraction of specific resources intended for a particular manufacturing plant and should impose penalties on firms not observing this policy direction.

Where extraction or harvesting of a desired natural resource will inevitably displace or detach other natural resources from their natural inhabitation, efforts must be made to determine the viability of the discards and attempts must be made to further downstream process them into value added products. Exports of the discards must attract higher export duties and firms involved in this malpractice must be heavily penalized.

6. By-Products

By-products emanating from manufacturing plants could be intermediate goods and are potential inputs for further production. These by-products where their potentials have been predetermined by a manufacturer for further utilization as an input for another product must be utilized as determined. Further value addition of the by-products is encouraged.

When proposing to transform an input into an output, the project proponent will anticipate by-product(s) in the transformation process and assist the government to promote and attract investment to develop the by-product(s).

Where a manufacturer has not determined the usefulness of the by-product(s) from its manufacturing process the Government must intervene. This policy encourages government departments or agencies in all sectors, at the upstream and downstream levels of the value chain, to collaborate and identify the potential products associated with the by-product and to encourage the use of appropriate technology to further add value to the by-products of manufacturing activities.

7. Imports of Inputs

Where intermediate products required for production of final goods in the country is unavailable in the economy, the intermediate goods may be sourced externally provided that efforts must be made to produce these intermediate products internally to add value to our natural resources.

Nevertheless, the importation of inputs from sources abroad to supply the local manufacturing plants must comply with all necessary trade requirements including the rules of origin and geographical indication.

In the midst of importing inputs or intermediate goods from sources abroad, the government must be vigilant on individuals and firms benefiting and attempting to profit from immorality of global sourcing shall be held accountable for their actions.

8. Preserving the Ecosystem

Manufacturing firms that will source resource inputs from the land or sea are encouraged to use environmentally friendly technologies for harvesting or extraction and avoid destroying the

ecosystem and subjecting inhabitants (humans, plants and animals) to negative externalities.

Firms involved in harvesting or extracting resources from land and sea are also encouraged to put efforts into replenishing the resource stock levels that they are directly or indirectly responsible for reducing through harvesting or extraction.

Extraction activities intended for manufacturing activities are not allowed in areas designated as reserved or preserved for the purpose of conserving resource stock. The use of environmentally friendly approaches to manufacturing such as green technology is encouraged through this policy.

Manufacturing firms must comply with **Environmental Act 2014** and Waste Management System Plans as encouraged by relevant Acts of Papua New Guinea.

4.3 Policy Focus Area 3

Establishment of Value Chains in the Primary Industries

Resources are characterized as renewable or nonrenewable; a renewable resource can replenish itself at its natural rate, while a non-renewable resource has a limited supply. Renewable resources are timber, wind, and solar while non-renewable resources include mineral, coal, oil and natural gas.

Though PNG has abundant natural resources, we still cannot translate these resources into more jobs, generate further revenue for the Government and avail more business opportunities to Papua New Guineans. The hard truth is that jobs, tax revenue and business opportunities are being transferred abroad when PNG continues to harvest or extract natural resources and export in raw form to countries for further value addition activities abroad.

PNG has been for far too long indulging in upstream production of its natural resources which has led to the fast depletion of current resource stock and less value addition activities in the economy.

It is, therefore, necessary and urgent that PNG venture, without hesitation, into downstream processing activities and apply sustainable measures to prudently manage her available scarce natural resources.

Policy Issue: Less value attained from export of raw resources

Policy Objective 6: To add value to PNG's natural resources

Key Strategies:

1. Downstream Processing

This Policy directs that all natural resources harvested or extracted in PNG shall be processed onshore for the purpose of creating self-reliance and self-sufficiency. Processing of natural resources onshore thus will create wealth and other income earning opportunities for Papua New Guinea.

It is envisaged that the PNG economy will be fully industrialized by 2030 with more resource inputs harvested or extracted in PNG channeled directly into the local manufacturing plants for downstream processing and value addition.

To curtail raw export of PNG natural resources, the government should impose higher export duties on all natural resources extracted or harvested and exported directly in their raw form to international markets.

2. Vertical Integration

Firms who have been involved in upstream production and patronized the extractive industries have made little progress over time to add value to the natural resources they have been harvesting or extracting.

This policy encourages existing firms in the upstream industries to venture into downstream

processing activities. That is resource inputs from upstream processing activities to be redirected from the wharves into the manufacturing plants for downstream processing and export.

New entrants into the existing industries in the resource sectors are required by this policy to invest in both the upstream and downstream processing activities.

The harvesting or extraction of natural resources is subject to the development of manufacturing plants and is a requirement for approval or licensing for upstream production.

Resource sector agencies are obliged by this policy to align their respective upstream production policies and legislations to downstream processing activities, and to work in collaboration with Department of Commerce & Industry to develop value chains in the respective resource sectors.

3. Forestry

Industrial logging in PNG has been the main cause of forest loss and degradation in PNG since Independence. Lack of compliance with environmental regulations is plaguing the sector with compromised monitoring and surveillance on logging operations, and the rate of log harvesting may be higher than what is actually reported.

While harvesting forest products for value addition, consideration must also be given to the benefits of preserving forestry canopy, and the opportunities to participate in carbon trading that can be tapped into through reforestation programs.

In alignment with the **Long-Term Development Strategy (LTDS) 2010-30** for the forest sector, round log exports are discouraged, and appropriate measures must be applied to redirect round logs to onshore forest-based processing plants to add value to forest products harvested in PNG before they can be exported as value added products to markets abroad.

The focal areas for downstream processing and value addition in the forestry sector are sawmilling, plywood, kiln drying, pulp and pulp paper manufacturing, paper products, bio-energy and bio-mass, wood pallet production, value added furniture, flooring and curated architectural features.

Government agencies in the forestry sector, therefore, are encouraged to align their upstream production policies and legislations with this manufacturing policy. The current players and new industry entrants are encouraged to forgo round log exports and instead invest in the establishment of value chains in the forestry sector for downstream processing and value addition of forest products harvested in PNG.

This policy direction is emphasized in the **Long-Term Development Strategy (LTDS) 2010-30**, which explicitly encourages downstream processing of forest products such that by 2030 PNG will have 80% of its timbers processed onshore.

4. Fisheries

PNG has an extensive and valuable fisheries sector that ranges from inland river fisheries, aquaculture, and coastal and reef fisheries to the prawn trawling and large-scale deep-water tuna fisheries. The exporting of fish and fisheries products from Papua New Guinea, in terms of quantity, has contributed to the increased export annually over the past years.

Hence, it is encouraged in the **Long-Term Development Strategy 2010-2030** that windfall gains generated from charging access fees for tuna catch must be reinvested into the fisheries sector. This will enhance development of the fish value chains in PNG that will subsequently enable local fishermen to participate and benefit from downstream processing of fish and fisheries products in PNG.

The focal areas for downstream processing and value addition in the fisheries sector are can and loin tuna, fish smoking and curing, fish meal production for animal feed, fish oil extraction and fish waste utilization.

Government agencies in the fisheries sector, therefore, are encouraged to align their upstream production policies and legislations with this manufacturing policy. Both the current players and new industry entrants into fisheries industries are encouraged to establish the value chains in the fisheries sector to downstream process and add value to the marine products harvested in PNG waters.

5. Mining

In alignment with **Long Term Development Strategic Plan 2010-30**, the government shall devise downstream processing strategies in the mining sector to source in gold ore and other precious metals and process them into gold bullion for storing and trading.

The Gold Refinery and Mint Program entails refining and minting of all gold and precious metals mined or recovered in PNG into bullion for storing as State Reserved Asset to be used in economic emergencies. Onshore production of bullion will create value in employment, tax revenue, and additional foreign earnings amongst others that are presently lost through the export of raw minerals.

For the Government of Papua New Guinea to achieve the resource value optimization objective in the mining sector, refining is the higher echelon activity in the precious metals value and supply chain. The GoPNG must, therefore, make a concerted effort to support the PNG National Gold Refinery & Mint Program advocated by the Department of Commerce & Industry.

The focal areas for downstream processing and value addition in the mining sector are production of gold bullion related products, coinage and jewelries.

Government agencies in the mining sector are, therefore, encouraged to align their upstream production policies and legislations with this manufacturing policy. Both current players and new industry entrants into mining industries are encouraged to establish the value chains in the mining sector for downstream processing of gold, base minerals and rear-earth elements mined in PNG.

6. Oil and Gas

According to PNG Investment Promotion Authority, PNG currently has Oil Projects in Kutubu, Gobe, Moran and Agogo, and a Gas Project in Hides, which are all located in the Highlands region.

It is estimated that PNG has a huge volume of oil and gas on land and sea and is spread right across the country. Many gas fields in PNG are undeveloped which is estimated to be about 14 trillion cubic feet of gas in stock that has great potential to be commercialized.

As per the **Long-Term Development Strategic Plan 2010-2030**, PNG will have to develop a petrochemical industry, using the above projected volume of petroleum, to produce fertilizers and Liquefied Petroleum Gas (LPG) for both domestic use and export to niche markets. Other petroleum products that have huge potential to be processed in PNG are gasoline, diesel, jet fuel, lubricants, methane, ethane, propane and butanes, and petrochemicals.

Government agencies in the oil and gas sector are, therefore, encouraged to align their upstream production policies and legislations with this manufacturing policy. Both current players and new industry entrants into the sector are encouraged to establish value chains in the oil & gas sector for downstream processing and value addition of hydrocarbon products extracted in PNG.

7. Agriculture

About 90% of land in PNG is under customary ownership and belongs to families and tribes that have been occupying the land for thousands of years. Agriculture therefore has been a way of living for Papua New Guineans and most are subsistence farmers who sustain their lives through subsistence farming.

Subsistence farming in PNG should evolve with time, and in the process create new knowledge and technologies in the agriculture sector to set the pace for industrialization in PNG. Going forward, whole-of-government approach should focus on creating value chains in the agriculture sector and empowering rural folk with knowledge, skills, technologies, and finance to participate in advancing

the sector.

The vision for Agriculture in Vision 2050 is for PNG to promote and develop one major agriculture project in each region of PNG. This Policy, therefore, complements Vision 2050 by encouraging downstream processing activities in all agricultural projects that will add value to agricultural produce that emanates from the agriculture sector.

i. Simple & Appropriate Technologies

To build the capacity for industrialization, the use of appropriate technologies at the household level will develop the baseline knowledge and skills for industrialization. This which will subsequently provide the impetus for the transition from agriculture to industrial activities.

Government agencies in the agriculture sector and technical institutions designated for research & development are encouraged to collaborate with the Department of Commerce & Industry to identify simple and appropriate technologies, source or develop these technologies, and distribute them to households to develop cottage industries at the village level.

Resource owners and subsistence farmers, therefore, are encouraged to mobilize into cooperative societies, pool their resources and venture into downstream processing activities (small medium industries) at the village level.

To ensure households, especially women, youths and persons with special needs, also participate in the manufacturing activities, cottage industries must be identified in the agriculture sector and value addition on agricultural produce must take place initially at the village level.

ii. Subsistence Farming (Fresh Produce)

An agricultural produce attracts a high monetary value from its in-situ state or freshness, but its monetary value decreases as it perishes with the lapsing of time. Due to the perishable nature of agricultural produces, demand for an agricultural produce is more responsive to price changes and will drop to zero level when the produce is rotting.

An Agri-food system is a value addition opportunity that has huge potential of increasing household income in the rural areas. This policy, therefore, encourages subsistence farmers to mobilize into cooperative societies, use simple and appropriate technologies to process staples into processed food, and sell domestically for household consumption or for consumption in the service sector.

iii. Cash Crops and Livestock

Only a few industries in the agriculture sector have ventured into the commercial space and are supporting the bulk of the population in the rural areas of PNG in terms of employment, income-earning opportunities, and provision of basic goods and services.

These industries, therefore, are encouraged to establish value chains and process their produce into finished goods for export or intermediary goods for further onshore processing.

a) Cocoa: Government agencies in the agriculture sector are encouraged to align their upstream production policies and legislations with this manufacturing policy and both current players and new entrants into the cocoa industry are encouraged to establish the value chains in the cocoa industry for downstream processing and value addition of cocoa produce harvested in PNG.

b) Coffee: Government agencies in the agriculture sector are encouraged to align their coffee upstream production policy with this manufacturing policy and both current players and new entrants into the coffee industry are encouraged to establish the value chains in

the coffee industry for downstream processing and value addition of coffee produce harvested in PNG.

- c) **Tea:** Government agencies in the agriculture sector are encouraged to align their tea upstream production policy with this manufacturing policy and both current players and new entrants into the tea industry are encouraged to establish the value chains in the tea industry for downstream processing and value addition of tea produce harvested in PNG.
- d) **Vanilla & spice:** Government agencies in the agriculture sector are encouraged to align their vanilla and spice upstream production policy with this manufacturing policy and both current players and new entrants into the vanilla and spice industry are encouraged to establish the value chains in the vanilla and spice industry for downstream processing and value addition of vanilla and spice produce harvested in PNG.
- e) **Palm Oil:** Government agencies in the agriculture sector are encouraged to align their oil palm upstream production policy with this manufacturing policy and both current players and new entrants into the oil palm industry are encouraged to establish the value chains for downstream processing and value addition.
- f) **Coconut:** Government agencies in the agriculture sector are encouraged to align their coconut upstream production policy with this manufacturing policy and both current players and new entrants into the coconut industry are encouraged to establish the value chains in the coconut industry for downstream processing and value addition of coconut produce harvested in PNG.
- g) **Rubber:** Government agencies in the agriculture sector are encouraged to align their rubber upstream production policy with this manufacturing policy and both current players and new entrants into the rubber industry are encouraged to establish the value chains in the rubber industry for downstream processing and value addition of rubber produce harvested in PNG.
- h) **Rice:** Government agencies in the agriculture sector are encouraged to align their rice upstream production policy with this manufacturing policy and both current players and new entrants into the rice industry are encouraged to establish the value chains in the rice industry for downstream processing and value addition of rice produce harvested in PNG.
- i) **Livestock:** Government agencies in the agriculture sector are encouraged to align their livestock upstream production policy with this manufacturing policy. And both current players and new entrants are encouraged to establish the value chains.

4.4 Policy Focus Area 4 Small Medium Industries

The absence of Manufacturing Policy in the last forty-eight (48) years has instilled the perception in Papua New Guineans that business opportunities for SMEs are only available in the service sector.

Consequently, there are less Small and Medium Industries (SMI) operating in the PNG and it is evident in less downstream processing and value addition activities occurring at the household level.

SMI sector is cross-cutting as it involves SMEs or MSMEs and the informal economy that currently manufactures goods at a small scale for trade in both formal and informal markets. There is no realistic data available to verify SMI contribution to the GDP, employment or tax revenue paid to the Government. However, by promoting, developing and growing small medium industries, it is anticipated that jobs can be created, tax revenue can be optimized and GDP contribution from the manufacturing sector can see a rise.

Policy Issue: Less participation of Papua New Guineans in manufacturing activities
Policy Objective 7: To engage PNG's households in manufacturing activities

Key Strategies:

1. Research and Development of Simple and Appropriate Technologies

Research and Scientific Institutions are expected/encouraged to do research into innovative methods of downstream processing PNG's natural resources and agricultural produce whilst also being encouraged to invent simple and appropriate technologies for households to use in manufacturing activities at the lower scale.

As an incentive to encourage research and development of simple and appropriate technologies, the innovations and technologies invented will be patented via the **Patents and Industrial Design Act 2000** such that new innovations will become the sole property of the inventors/Papua New Guineans.

Possible strategies that should be considered to address lack of appropriate technologies are for:

- i. Government to develop and establish a research hub designated for research and development of new products using PNG's natural resources. This will enable the diversification of intermediate goods (new products) and promote innovation in the manufacturing sector;
- ii. Government to invest in research and development of new products and support private sector's research and development to enhance the effort in developing new products with our natural resources;
- iii. Government to develop and establish technological hubs in PNG for researching and developing of simple and appropriate technologies for use by households in the small-medium industries;
- iv. Technological institutions and individuals involved in developing technologies are encouraged to do research and develop simple and appropriate technologies for use by cottage industries, especially in the agriculture sector, and train households to use these technologies in manufacturing activities; and,
- v. Government to establish an incentive or reward scheme in this endeavour to encourage institutions or individuals to invent new ideas and advanced technologies for manufacturing activities, including the development of technologies that will enable the trading of PNG goods in the e-commerce space.

2. Import of Simple & Appropriate Technologies

Most of the simple and appropriate technologies have already been developed and are used extensively around the world for production at the household level. PNG can piggyback on these technologies and customize these technologies to the skill sets of simple Papua New Guineans for use in the cottage industries.

Alternatively, these technologies can be imported through Government concessions and distributed from retailers to households with basic training for production at the household level.

3. Nucleus Estate

In the nucleus setting, small block holders will use simple and appropriate technologies to produce intermediary products at the production peripheries and sell to a major industry for further production.

Profound effort therefore must be placed on the research and development of simple and appropriate technologies for production and packaging. This will empower villagers to become entrepreneurs where they can commercialize agricultural produce and natural resources at the household level.

For industrialization to occur at the village level, resource owners shall mobilize together in cooperative societies, pool resources and undertake initial value addition of natural resources at their primary stages. That is, forestry landowners, fishermen, alluvial gold miners and farmers are

encouraged to venture into small medium industries to produce intermediary goods using simple and appropriate technologies, for either final consumption or further processing in the country.

4. Cottage Industry

As an opportunity to develop SMEs in the backyards, households will use simple & appropriate technologies to downstream process natural resources or agricultural produce into finished and intermediate products in their backyard, and wholesale or retail these products for trade, commerce and industry.

A nucleus establishment or cooperative setup for downstream processing activities is encouraged in the cottage industries to amass resource inputs (intermediate goods) for further production or mobilize final inputs for commerce, trade and industry.

5. Agriculture Sector

To preserve the in-situ state of agricultural produce and to maximize their monetary value, Government agencies in the agriculture sector and technological institutions designated for research & development are encouraged to collaborate with the Department of Commerce & Industry.

Such collaboration is to identify simple and appropriate technologies for preservation of agriculture produce such as packaging, source or develop these technologies, and distribute them to households, thus empowering them to venture into small medium industries in the agriculture sector.

6. Incentives for Small Medium Industries

Small and Medium Industries comprise manufacturing activities that Papua New Guineans can participate and benefit from and actively contribute to develop the country. As such, manufacturing activities that use simple and appropriate technologies from small-scale manufacturing must be reserved or restricted only to Papua New Guineans.

SMEs/MSMEs mostly are households participating in small business activities that generate income to support their family's livelihood. Thus, it is in the best interest of SMEs/MSMEs that this policy supports the small and medium industries by providing incentives and directions on research and development of appropriate technologies.

7. Start-up Capital

Through government intervention to finance the small medium enterprise, finance must also be made available to individuals or enterprises that identify technology and are willing to take the risk of developing cottage industries and adding value to our natural resources.

Financial institutions and government-controlled banks are to support the SME programs by providing policy-oriented loans in favorable terms and make them accessible to individuals or enterprises that are willing to extract/harvest natural resources and downstream process them.

This also includes funding through foreign aid or other treaties that PNG is a party to.

4.5 Policy Focus Area 5 Special Economic Zones

Special Economic Zones (SEZs) are referred to as: Export Processing Zones, Free Trade Zones, Free Ports, Enterprise Zones, Empowerment Zones, Urban Free Zones, Single Factory Zones, and Specialized Zones including Science and Technology Parks, Petrochemical Zones, Logistic Zones and Airport Based Zones.

PNG must create SEZs and business growth centres around the country in the resource sectors such as fishery, forestry and agriculture with emphasis on downstream processing and export of value-added products. The idea is to create competition in the different sectors to increase our

exports.

The trickling effect will be seen in an increase in employment, peripheral business stimulation and parallel growth, alleviation of poverty, rise in education and training, increased social awareness, a raised health consciousness and the realization of a wealthy and healthy population.

It is important to note that SEZs are more sustainable in their operations than resource projects such as the oil, gas and mining projects which have time frames and are largely measured by the number of resources that are available. Resource Projects, therefore, are not sustainable over the long term.

Policy Issue: Lack of critical infrastructure for Investment
Policy Objective 8: To lure in investment for industrial development and growth

Key Strategies:

1. Special Economic Zone

Special Economic Zones (SEZs) are defined as geographically delimited areas administered by a single body offering certain incentives (generally for duty-free importing and exporting and streamlined customs procedures) to businesses that are physically located within the zone.

In essence, a SEZ will be a separate administrative area for the purposes of the SEZ Act. Its boundaries will be clearly demarcated, and persons can move in and out for any authorized activities. Goods purchased there will be duty-free and if taken out of the SEZ will be subjected to duty being paid in certain cases.

The SEZ concept is the Government's solution to creating an environment with facilities for downstream processing where industries can set up operations in the SEZs to take advantage of the single-body regulatory regime and incentives.

The attraction for processing industries is that they are protected and can channel their resources to maximizing benefits which in turn will trigger value addition in terms of job creation, spin-off business opportunities, housing for workers, and on-site and off-site infrastructure development.

However, where SEZs will provide conducive environment for a new entrant to enter a local industry and compete with existing players who are outside of the SEZs. A new entrant in the SEZ is expected to set up its production facilities to produce value added products and export these value-added products to niche markets abroad.

2. Manufacturing Hub

The explicit target of developing manufacturing sector as encouraged in **Medium Term Development Plan IV** is the development and establishment of manufacturing hubs.

Thus, a manufacturing hub can be thought of as an industrial center that is equipped with vital infrastructure, utilities and services that will harness and enhance commerce, trade and industry for a province and a region.

The strategy to establish the manufacturing hubs therefore is to initially develop the Special Economic Zones, accord the SEZs preferential incentives to spur the growth of industries in the zone, and once matured terminate all incentives and allow market forces to dictate industrial activities in the manufacturing hub.

3. Hub and Spokes

A downstream processing hub and spokes refers to integrated cluster industries where natural resources are harvested/extracted from different parts of a region, processed and/or transported to an industrial hub for further processing into finished products for export.

Through the concept of hub and spokes, regions can add value to common resources through harvesting of natural resources and semi process at the spokes, pooling and downstream process intermediary products into final goods in a hub, and export from the hub value added products to niche markets. The backward and forward linkages are embedded in the hub and spokes concept and is ideal for establishing value chains in the resource sectors.

Where a province has comparative advantage in its natural endowment, the province, in consultation with Department of Commerce & Industry, is encouraged to vertically integrate upstream production cluster industries with downstream processing cluster industries through establishment of Special Economic Zones.

A hub for downstream processing is the Special Economic Zone which is integrated to resource projects as spokes for raw resource supply to the manufacturing hub.

4. Objective of Special Economic Zone

Consistent with the Manufacturing Policy Strategic intent and its overarching objectives, the SEZ's intent is to create a conducive environment with respect to the creation of a tailored taxation, investment and trade regime complemented by sound economic infrastructures and sufficient land to entice international capital flow into diverse upstream and downstream investment opportunities offered within the zone. The objectives of SEZ are to:

- i. Lure in investment for the purpose of developing and growing the heavy and high technological industries in PNG;
- ii. Enhance private sector participation in the economy;
- iii. Promote diversification of the economic base to cushion PNG against external economic shocks and disturbances arising from fluctuations in commodity prices and demand;
- iv. Promote inclusive, balanced and sustainable economic growth of the country through conversion of the vast, arable land idleness into sustainable development of upstream and downstream Agro-industries;
- v. Create a sustainable export base and sustainable foreign exchange earnings;
- vi. Generate a steady flow of Government revenues for consolidation into national budgets;
- vii. Promote direct and indirect employment and income-earning opportunities for the locals as well as others from the province, region and the country as a whole; and,
- viii. Promote skills and technology transfers to the province, region and PNG.

5. Special Economic Zone Incentives Framework

The zone shall offer an internationally competitive investment incentive framework for investors. The movement of factor inputs and processed goods through the zone shall be zero-rated. In the view of the current binding tariff liberalization programs at the global scale, other internal taxes applicable on all transactions including income transfers in the zone shall be relaxed than ordinary rates currently applied on transactions in the ordinary commerce of PNG.

Its design will have an incentive framework that is WTO-compliant. This will be done by removing any export obligation and allowing zone enterprises or locators to have full access to the domestic market on a duty-paid basis.

Consistent with global best practices, efficient economic infrastructures and public institutions covering roads, bridges, water, power, police, health care, schools etc. shall also be provided to complement the tax and fiscal incentives.

Appropriate development strategies shall be applied to share the risks and costs of such major infrastructure developments between the public and private sector entities based on whether they are pure public or private goods. In the case of the former, the Department of Commerce & Industry shall employ a mix of financing strategies including a Public Investment Program, District Support Improvement Program, Provincial Support Improvement Program and donor funding.

The development of Agro-related industries, and commercial and residential hubs shall be promoted

via private investments. The zone shall be marketed or promoted for investment through trade and investment missions, expositions, promotion agencies, etc.

6. Special Economic Zone Operation

The operation of the Special Economic Zone is to be governed by the ***Special Economic Zone Act 2019***.

The administrative body in this case under the SEZ Act is the Special Economic Zone Authority (SEZA). The SEZA Board reports to the responsible Minister appointed by the Prime Minister and subsequently to the National Executive Council as is the norm with other Regulatory Authorities.

SEZA has the power to approve and regulate developments and operations of SEZs in the country. The Government through DCI or any private developer can set up a SEZ. The zone shall be licensed and regulated by SEZA through the governing Act. Kumul Consolidated Holding Limited should preferably be a trustee shareholder.

The Authority has the necessary mandates to involve only in the regulatory aspects of SEZs. The investment and commercial function will be undertaken by DCI or Industrial Centres Development Corporation (ICDC).

The SEZ Act provides the two most important factors in a development model in a developing country. First, it reduces downtime in the processing of approvals and related services by offering a one-stop-shop facility. Second, it coordinates incentives and provides clear guidelines on incentives.

SEZA will operate a one-stop-shop facility where SEZA will enter into a Memorandum Of Understanding (MOU) with key Government agencies such as the Investment Promotion Authority, Conservation Environment Protection Authority, PNG Ports Corporation, PNG Customs Services, Department of Labour & Industrial Relations, Internal Revenue Commission and Citizenship & Immigration Authority where their functions will be delegated and performed by their officers seconded to SEZA so that there is a speedy service delivery on the processing of approvals and related services. *The single most important factor under the SEZ model is that the processing of approvals can be done much faster than the current system.*

Incentives are not a key factor in the SEZ development and operations in so far as the competitiveness of industries in areas outside of the SEZs are concerned. It is also realized that under our current system the tax concessions and business incentives on offer are adequate to attract foreign and domestic investment. However, where an incentive is required, DCI is allowed to coordinate with other agencies and the National Executive Council to avail the relevant incentives depending on the type and nature of the industry and investment in the SEZs.

7. Designated Areas for Special Economic Zone Development

Industrial development strategies in National Investment Policy (NIP) I&II and SEZ must be configured such that SEZ must complement the policy intent of NIP I&II in driving industrialization in PNG. Where it is less attractive with the investment incentive package provided for in NIP I&II for investment to flow to, particularly due to the lack of enabling environment, SEZ has to be promoted with its investment concessions to attract investment. Hence designated areas to develop SEZs are:

- i. Remote and rural towns in PNG that have deteriorating economic infrastructure and utilities for businesses are potential areas to be designated as Special Economic Zones;
- ii. SEZ will be developed in the corridors which are emphasized in the ***Long-Term Development Strategy 2010 - 2030*** and will be connected to markets by the ***Connect PNG Policy***;
- iii. Through the Connect PNG Policy, economic corridors will be opened up and it is envisaged that potential industries will be identified and developed. Potential industries, therefore will be developed using the economic SEZ concept to develop and grow the rural economy. In the long run, the returns generated by these SEZs shall sustain the recurrent cost of maintaining the market access infrastructure;
- iv. Develop a zone designation criterion in the SEZA Act to provide for private zone

- developments to be established where prerequisite infrastructures like ports, roads, power supply and communication are conveniently established, and raw material supplies are accessible; and
- v. Design an incentive framework that will encourage SEZ developments by both private and joint venture developers in economically distressed areas/locations to trigger economic growth.

8. Forward and Backward Linkages

The zone shall be configured within enclosed land with an approved point of entry and exit and all inbound and outbound cargo will be custom-cleared at a dedicated port. The zone shall promote heterogeneous enterprises with all investors being treated fairly and equitably. For ease of management, industry clustering by nature of activities shall be promoted.

Maximum opportunity shall be made available for backward and forward integration for enterprises in various industries to place them in advantaged positions to have access to or control the supply base for downstream activities or for those investing significantly in the upstream to value-add their produces in the downstream.

9. Economic Development Tool

The Special Economic Zone (SEZ) amongst others is the most appropriate economic development tool for PNG that will lure investment to areas that lack basic infrastructure and utilities for investment.

Clustered Industrial development can therefore be strategically driven by the Government when availing critical Government infrastructural support and fiscal concessions for investors to invest in designated SEZ areas.

Rural, remote and least growth centers are devoid of investment infrastructure and are the least considered destinations for investment. Overcrowding of investment in the urban centers is the result of a less conducive environment for investing in the rural and remote areas of PNG and a lack of investment incentives to lure investment.

Fostering a conducive environment for investment in rural and remote areas of PNG will be realized through the SEZ concept and will spur industrial development to create wealth and jobs for local constituents and Papua New Guineans.

10. Government Priorities

The SEZ complements the current Government Development policies like the Economic Corridor Policy and the Connect PNG Infrastructure Program in MTDP IV by opening up the backend of the country where SEZs can be established to take advantage of Government funded infrastructure projects along the economic corridors to access the markets.

With the SEZ, PNG can develop and diversify exports while maintaining protective barriers to create jobs and to pilot new policies and approaches such as in customs, law, labour, and public-private partnerships. SEZ most importantly allows for more efficient government supervision of enterprises, provision of off-site infrastructure, and environment controls.

It makes commercial sense as an economic corridor concept entails building road infrastructure and roads that can only be sustainable if there is a SEZ or business growth center located along the road to support its maintenance and operation.

11. Industrial Centres Development Corporation

In the **PNGSDP 2010-2030**, the main strategy in manufacturing activities is to strongly encourage the processing of products for export. Transforming the manufacturing sector from light industries into higher value production can be achieved through appropriate linkages with other sectors and adapting to changing technology and mechanisms.

This is the primary reason why the Industrial Centres Development Act 1990 was enacted. The establishment of the Industrial Centres Development Corporation (ICDC) was to facilitate the design, development and construction of vital infrastructure and utilities at the Industrial Centre locations to create a conducive environment for industrial development and growth.

The ICDC currently has properties including Malahang Industrial Centre (MIC) and Ulaveo Industrial Centre (UIC). These Centres have ready-made facilities for the purpose of promoting manufacturing in the country. The property at Ulaveo Centre will undergo further infrastructure expansion specifically to attract Foreign Direct Investment (FDI) interests.

ICDC is a major stakeholder in the manufacturing sector and will play a pivotal role in promoting Foreign Direct Investment (FDI) and developing critical infrastructure for industrial development. It will also be pivotal in connecting partnerships between Foreign Investment and domestic commercial entities.

4.6 Policy Focus Area 6 Development of Cluster Industries in Districts

PNG has 80% of the population living in rural areas which justifies the competence for human capital utilization and efficient raw resources development that has potential to trigger economic development at the district level. Each of the twenty-one (21) districts, excluding NCD, have variations in climate, infrastructures, natural resources endowments, cultural and other capacities and aspects that need proper assessment and planning prior to mooted of any development initiatives.

Enabling, enhancing and broadening socio-economic development at the district level is essential. One radical initiative to boost a broad-based economic development nationwide is to initiate cluster industry development that encompasses down streaming and manufacturing of raw materials at the district level.

Clusters, as defined by the Harvard Business Review, are “*geographic concentrations of interconnected companies and institutions in a particular field.*” In the PNG context, two cluster types can make up a district economy. Local Clusters comprising suppliers of raw materials for manufacturing in processing plants, and Traded Clusters that sell products from the manufacturing plants within the district, province, or region for export.

Cluster Industries, therefore, is in alignment with MTDP IV on Connect PNG Infrastructure and in particular to develop district growth centers for industrial development at the district level.

The income generated from Traded Cluster companies is important for the economic growth in the district and province as it represents new wealth (foreign earnings) being brought into the area rather than the simple recirculation of wealth already created and retained in the local economy.

Policy Issue: Lack of economic activities in the rural areas

Policy Objective 9: To create enabling environment for industrial development at the district level

Key Strategies:

1. Industrial Growth Centres

A Five-Year District Development Plan devised by a District Development Authority (DDA) must capture a district township development and improvement plan. Integral to the town plan must be the designated area(s) for industrial growth Centres to spur industrial development at the district level. There will be also economic infrastructure developed at the district level to support manufacturing, commerce and trade activities to bolster economic growth in rural towns and districts. Most of the rural towns and districts have economic and service infrastructure for economic activities

developed in the colonial era. These infrastructures and utilities still have relevance for investment and will be tapped into to promote and facilitate industrial development in the rural economy.

Hence, District Development Authorities (DDAs) are encouraged to allocate monies for renovations and maintenance of these infrastructure to create an enabling environment for investment to flow into the rural areas.

2. Economic Infrastructure

Constraints to investment in PNG are prevalent not only in PNG's urban centers but also in the rural areas essentially because of a lack of critical infrastructure and key utilities to do business at the district level.

The District Development Authorities (DDAs) are encouraged to prioritize the development of key economic and service infrastructure to complement the effort of the National Government to build the capacity at the rural level to draw in investment for industrial development at the district level.

3. Utilities (Water and Power)

Lack of utilities is one of the impediments to investment. The government through its State-Owned Enterprises (SOEs) such as Water PNG, PNG Power and Telikom PNG to provide water, power and telecommunication which are critical for businesses to operate.

Where the investment is costly for the government to invest in the above utilities, the government should consider public-private partnership options and partner with private firms to deliver efficient and reliable water, power, and telecommunication to industries at the district level.

4. Land Availability

The unavailability of land for investment in rural areas is an investment concern and DDAs have to take ownership of this issue and deal with it at the district level. That is, DDAs are encouraged to consult landowners, mobilize customary land and collaborate with the Department of Lands & Physical Planning to make customary land available for investment.

Further still, the District Administrators are encouraged to take stock of all State Land available at the district level, mobilize them through the DDAs, and in consultation with the National Government lease the land for industrial development in each district.

5. Human Capital

The District Administrations will identify the skills and knowledge required for the cluster industry development at the district level and use their District Support Improvement Program (DSIP) funding to develop educational facilities that will teach knowledge and skills relevant to the development of a cluster industry at the district level.

6. Cluster Industry

In a cluster industry, there will be lead firms, supplier firms and economic infrastructure to support the leading firms.

Thus, in a district, there will exist a leading firm in downstream processing activities who will be supported by supplier firms in the upstream production, suppliers of parts and components as well as suppliers of services.

Where a district has a comparative advantage in its natural endowment, the district is encouraged to promote and develop an integrated industrial project. The integrated industrial project will have a downstream processing industry as the lead industry and should be supported by a cluster of small medium industries that will primarily produce intermediate products from raw resource inputs for further value addition by the major industry.

7. Investment Incentives

The government shall offer investment incentive package that targets rural towns and districts to lure investment for cluster industry development.

These incentives should be sufficient enough to thrust investment into the interior and rural areas of PNG.

8. Financing the Infrastructure

Funding of basic infrastructure and utilities can be financed via District Support Improvement Program (DSIP), Provincial Support Improvement Program (PSIP) and constitutional grants to create conducive environment for investing.

The government will use DSIP and PSIP including Public Investment Program (PIP) to establish infrastructure such as roads, bridges and wharves including developing infrastructure for utilities such as power, water and telecommunication which are requisites for investment.

4.7 Policy Focus Area 7 **Assembling Activities**

Traditionally, PNG has had a primary industry in agriculture, forestry, fisheries/marine, mining and petroleum. However, greater emphasis is now being placed on downstream processing and value addition, particularly for all manufacturing entities in PNG. The advantage that firms will enjoy is the backward linkages where proponents have the leverage to draw in inputs directly from the natural endowments to supply their manufacturing plants.

Nevertheless, the manufacturing of semi-finished products for further manufacturing is slowly growing and will eventually become one of the major industries in the manufacturing sector and the economy in the foreseeable future. Equal attention must also be placed on assembling components into products and should be aligned with the Make to Assemble (MTA) segment of the manufacturing sector.

This policy focus area, therefore, gives emphasis on assembling activities, particularly importing of components from abroad or within PNG and assembling components into products for trade and commerce both in PNG and abroad.

Policy Issue: Lack of Assembling Activities in PNG
Policy Objective 10: To develop and grow the Made-to-Assemble Industry in PNG

Key Strategies:

1. Make-to-Assemble Investment via Public Investment Program

This policy through DCI and in consultation with relevant stakeholders will encourage all Government funded programs and projects involved in activities aimed at adding value to our natural resources to develop semi-finished products for assembling.

Small and Medium Enterprises (SMEs), Domestic Direct Investment (DDI) and Foreign Direct Investment (FDI) with Make-to-Assemble (MTA) initiatives, programs and/or projects for Make-to-Assemble must be supported by all means and ways possible to produce semi-finished products.

Furthermore, emphasis must be placed on research and development of technologies that will improve the production of semi-finished products or products that will go through the MTA process of producing a finished product for commerce and trade.

2. Monitoring and Evaluations

All manufacturing processes in MTA must conform to set standards and guidelines and must adhere to stringent monitoring and evaluation processes.

3. Compliances

Players in the MTA manufacturing sector must produce MTA products within or import MTA products into PNG for the purposes of assembling components into finished products for commerce and trade. These MTA products must conform to recognized standards and prevailing market requirements and all other manufacturing and quality standards encouraged domestically and internationally.

4. Make-to-Assemble Zones

Where PNG lacks the capabilities to completely manufacture sophisticated products, assembling zones will be developed and equipped with the necessary infrastructure to create an enabling environment to lure in industrial knowledge, skills and technology to develop and grow MTA industry in PNG.

5. Remanufacturing

Non-functional or faulty machines, equipment and parts of machinery that are abandoned or discarded in the open air contribute to environmental pollution and climate change issues. Business opportunities are available in re-manufacturing business where firms can haul up non-functional and obsolete equipment and machines and re-manufacture whole or part of the equipment/materials into new equipment/machines.

Individuals, firms, and the government are encouraged to explore **re-manufacturing** technologies to remanufacture non-functional or faulty machines, equipment and parts to reduce waste and environmental pollution and allow these non-functional or faulty machines, equipment and parts to be reused in PNG.

4.8 Policy Focus Area 8

Developing Industries from Industrial Wastes

Concern has been raised on the increased disposal of industrial waste by manufacturers into drains, waterways and public places. This irresponsible act poses danger to human lives and the surrounding environment and contributes to environmental degradation in both the urban and rural areas.

Better use of waste material needs to be encouraged through an option of International Best Practices and regulations of international standards. Where the Government and the project proponent can identify any industrial waste as an input for a product or an industry, that product or industry must be promoted to add value to natural resource inputs. Hence, this will address industrial waste through further value-addition activities.

Policy Issue:

Pollution emanating from discharge of industrial waste

Policy Objective 11:

To develop potential industries from industrial wastes

Key Strategies:

1. Industrial Waste as Potential Input

Industrial waste can be useful for manufacturing activities when they are identified as inputs to manufacturing plants.

To manage industrial wastes that will emanate from upstream production or manufacturing plants,

DCI in consultation with Conservation & Environment Protection Authority (CEPA) will identify industrial wastes as potential inputs for other manufacturing activities and facilitate further value-addition activities on these industrial wastes.

For CEPA to grant approval for an industrial waste to be an input to another manufacturing activity, the primary industrial waste must be considered as a prescribed activity under **Environment Act 2014**, and not a contaminant.

2. Value Addition Technology

In partnership with private firms or government agencies, DCI will identify technologies to utilize industrial waste that have the potential for further value-addition activities.

Where there is no investment interest for further value addition to the industrial waste from the manufacturing plants, DCI will collaborate with Science, Research and Development institutions to identify or do research and develop appropriate technologies and engage SMEs to further do downstream processing of the industrial wastes.

3. Recycling of Industrial Waste

DCI will identify by-products that have the potential for recycling and will promote the development of a recycling industry to recycle industrial waste. The industrial wastes that have properties for recycling will be treated as inputs into recurring production and will be used continuously to produce final goods for commerce and trade.

4. Biodegradable Packaging

Packaging in plastics has become an environmental hazard and threatens the lives of all living organisms as they continue to aggregate in the natural surroundings through careless human dumping. To ensure PNG is addressing the non-biodegradable disposals, manufacturing firms are encouraged to use bio-degradable packaging material when packaging their intermediary and final products that emanate from their manufacturing plants.

Manufacturing firms are urged to engage with firms that have valid environment permits and are permitted to produce biodegradable packaging products.

5. Waste Management through Value Addition

There are other industrial wastes that have the potential for value addition and come under the immediate authority of CEPA.

In this endeavour, DCI will collaborate with CEPA to identify industrial waste that has the potential for value addition and will promote appropriate value addition activities in its industrial waste management intervention strategies to further add value to those industrial wastes.

4.9 Policy Focus Area 9 Industrial Development Incentives

Depending on the nature and magnitude of the industrial project development, the construction phase will attract a huge capital outlay and in the first years of operation, firms will make losses as they struggle to produce at full capacity. The high costs of construction and operation is a deterrent to investment whilst the opposite is true when construction and operational costs are lower.

To encourage the construction of manufacturing plants, relief will be availed for materials, equipment

and machinery not found in the country and imported for the plant construction. Further, tax relief will be given during the first years of operation as an incentive for the firm to lower costs and minimize its losses. However, these incentives are not perpetual and will only be exploited by firms in set timeframes via State Project Agreements (SPA).

These investment incentives will be framed on the premise of mutual concessions and compromises (give and take). Whilst the State will lose revenue because of availing Government concessions, it is expected that those losses should translate in employment generation, creation of income-earning opportunities, development of human capital, and construction of economical and service infrastructures for doing businesses.

The State Project Agreement will be used to administer the Government concessions during the transition period of the implementation of this policy from Cabinet approval of the PNG Manufacturing Policy to the passing of the PNG Manufacturing Bill by Parliament for the PNG Manufacturing Act.

Policy Issue: **Less investment entering the Manufacturing Sector**
Policy Objective 12: **To attract investment into the Manufacturing Sector**

The key strategies delineated below will strive to create short run conditions in the industries to anchor the investment in the manufacturing plants and encourage the venture to grow under preferential condition until it reaches maturity and can compete evenly in the industry.

Key Strategies:

1. Lands

DCI in collaboration with Department of Lands & Physical Planning will consult Provincial Governments to identify sites for industrial development and will work closely with the Provincial Governments and landowners to mobilize State and customary land for industrial development.

2. Construction

A manufacturing firm intending to establish and operate a manufacturing plant in PNG will apply for import duty exemption for the duration of the construction period, and will use its sourcing plan, plant construction schedule and construction milestones to qualify for the exemption.

This requirement applies to the building of infrastructure for goods and services which will have its architectural design and engineering plan to justify its estimated construction period to attract tax exemption. Reviews shall be done thereafter for further consideration of concessions only if there will be **further investment in expanding** the current operation.

Sunset clauses will be inserted in the State Project Agreement to end concessions immediately after the plant construction for goods and infrastructure for services has been concluded.

3. Project Operation

The manufacturing firm intending to establish and operate a manufacturing plant in PNG will apply for tax concessions on depreciation of plant or equipment and will use an audited financial report to qualify for the tax exemption. The Government will conduct its independent assessment and audit to verify and validate information to consider further availing of other government concessions.

Sunset clauses are necessary and will be inserted in the State Project Agreement to end the type of concessions immediately after the first years of production and operation.

4. Exploitation of Tax Concession

Tax concessions exploited after the project construction phase and first years of operation will be recognized as foregone revenue and be treated as an equity investment by the Government into the

manufacturing company. Manufacturing firms who still need an extension of tax concessions should apply to the State through DCI before the expiration of the State Project Agreement and should proactively pursue their case in the negotiation and conclusion of a Revised State Project Agreement.

Lack of proactivity on the part of the firms will imply exploitation of tax concession and shall be treated as forgone revenue equity investment by government in the firm's balance sheet. Nevertheless, sunset clauses will also be applied in the extension of tax concessions under the State Project Agreements and terms and conditions under the PNGMA.

5. Incentive for Further Value Addition Activities

Most of the by-products emanating from manufacturing plants are harmful and are thrust directly into waste treatment plants for treatment and safe disposal into the surroundings. Other industrial discharges that are not harmful but useful, are normally dumped and piled in the vicinities of the manufacturing plants and later destroyed by burning or land-fill disposal.

To encourage further value addition to the by-products of the industrial plants, which are identified as inputs to production of a value-added product, the government should devise a specific investment incentive for further processing of industries' by-products which shall result in further job creation, generation of income-earning opportunities and raising of tax revenue for the government.

Where discards from the upstream production can be utilized in downstream or used as inputs for value addition activities, the government should avail incentives intrinsic to downstream processing and value addition to encourage production of value-added products.

6. Incentive for Green Technology

A manufacturing firm intending to establish and operate a manufacturing plant in PNG that will use green technology, will apply for government incentive for the duration of the construction and production periods and will use its sourcing plans, plant construction schedule and construction milestone to qualify for the incentives.

The incentive will only be applied to the firms who venture into downstream processing and value addition activities and are using green technology in the production of finished and intermediate goods.

7. Other Government Support

As additional measures are advocated to reduce investment and operational costs, the manufacturing firm will utilize other investment incentives provided for under existing laws in accordance with the conditions of such laws or those factored in the State Project Agreement:

- i. Regulatory assistance can be obtained from the Government pertaining to details specified and committed in the Project agreement.
- ii. All current Government-sanctioned incentives being awarded to manufacturing activities through the **National Investment Policy Volume I and Volume II (NIP Volume I & II)** continue to prevail including other sectoral incentives provided for under the mandates of other economic sector Departments and Agencies.
- iii. Tax incentives will be identified and considered for investment in agriculture or garment & textile that will impart the requisite skills and knowledge necessary for industrialization in PNG.
- iv. Public Private Partnership (PPP) arrangements that feature 100% locally owned manufacturing firms will be considered under existing laws to qualify for concessions as an incentive for prudent management & utilization of capital.
- v. Conditional incentives will be provided to manufacturing industries that expand their capital expenses on critical public utilities/infrastructure that promotes economic activities.
- vi. DCI and PNGMA in consultation with NISIT will enhance the capacity of NISIT to counter malicious, counterfeit and dangerous goods with scientific justification to

- impose import bans and other restrictions on foreign firms intending to destroy the local infant manufacturers from introducing inferior substitutes that will compete stiffly with local products.
- vii. DCI and PNGMA in consultation with the appropriate stakeholders will negotiate with trading partners to ensure availability of market access for PNG-manufactured export products into niche markets.
 - viii. DCI will ensure that a review of the **National Investment Policy Volume I & II (NIP Vol. I&II)** and the **Industry Assistance Board Act 1995** (IABA) takes place to allow for further improvements in support of the PNG Manufacturing Act.
 - ix. State Project Agreements will be considered on a case-by-case basis for manufacturing activities or related business activities that are special in nature and where the PNG Manufacturing Act/Regulation does not apply.

8. Rural Development Incentive

The profit-maximizing objective of any firm is to lower the costs of the business as much as possible to fetch considerable profit for the firm. Company taxes paid by firms to the government are costly to the firms and can reduce profit significantly if the tax rates are too high.

To lower the cost of doing business in PNG and to encourage the development and growth of manufacturing industries, the government should develop a regressive company tax system in which the firms will pay less as they move away from the urban areas and into the interior of PNG. As provided for in the **Income Tax Act 1953**, firms will qualify for Rural Development Incentive if they will create employment opportunities and export more from their setups that are established in the rural and remote parts of PNG.

9. Special Economic Zone

The Department of Commerce & Industry is the only mandated PNG Government Agency responsible for coordinating and administering all investment incentives pertaining to promotion and facilitation of industrial development in PNG. Special Economic Zone (SEZ) incentives will be used to complement the intent of **National Investment Policy I & II** in attracting investment and encouraging manufacturing activities in PNG. Specifically, SEZ investment incentives will be used to attract investment to the least preferred investment destinations in PNG, and concessions provided for investment in SEZ will be well above what is provided in NIP I & II.

Further, SEZ concessions will be availed to a firm that will locate or participate in developing a SEZ in accordance with relevant laws including the SEZ Act. Nevertheless, DCI will still issue the manufacturing certificate and commission the manufacturing plant in those SEZs as per its policy mandate.

10. Foreign Reserve Account

In ensuring that value is added to our natural resources, project proponents will have adequate investment capital mobilized and readily available onshore before executing contracts with the State.

All investors who will invest in industrial projects in PNG for the purpose of exporting manufactured goods abroad are required to open foreign reserve accounts in PNG.

These foreign reserve accounts will be used predominantly to hold foreign earnings from the firms' sales abroad, to make purchases of goods and services that will be imported to support the manufacturing operations in PNG, and for the firm to use in PNG to service its on-shore and off-shore loan obligations.

11. One-Stop-Shop

Department of Commerce & Industry will create a one-stop-shop facility that will streamline

government processes to promote and facilitate Foreign Direct Investment in the manufacturing sector through whole-of-government approach:

i. Administration and coordination

By virtue of this policy and subsequent legislation, DCI will address bureaucratic red tapes by reducing the turnaround time for approvals. To achieve this, DCI will formalize MOUs with key government agencies in delegating regulatory powers to the one-stop-shop facility with secondment of officers to be attached with this facility to enable swift processing, clearance, approval and timely reporting.

ii. Collaboration by government agencies

Infrastructure and Utilities are important enablers to foster growth and development in the manufacturing sector. Government agencies are encouraged to collaborate in sharing information and resources to create a conducive environment for investment. Through such collaboration and sharing of resources in whole-of-government approach, the government can mobilize resources, build critical infrastructure for commerce, trade, and industry, and lower the cost of doing business in PNG.

12. Public-Private Partnership

Government to recognize efforts by entities (both Government and Private) in remote areas that are experiencing high operational costs and to avail incentives for them to continue their operations. These incentives can come from the National or Provincial & Local Level Government, NGOs, private companies or donors.

These key entities provide services like water, power and telecommunication which are essential to attract investors. Government subsidies through Public-Private Partnerships (PPP) will enable these entities to strengthen their performance and promote reliable services to support the growth and development of the manufacturing sector.

It is important that Provincial & Local Level Government take ownership of developing the infrastructure for these services to have these services available to lure investors and industries into provinces and districts. They can partner with these entities to finance the infrastructure development using their DSIP/PSIP.

13. State Project Agreement

A State Project Agreement is an agreement between the Independent State of Papua New Guinea and the project proponent or investor that designates obligations of either party in facilitating investment. Thus, all the above investment incentives to be exploited by a manufacturing firm will be negotiated and concluded via a State Project Agreement.

A State Project Agreement will go through a consultation process before it is approved for execution:

- i. All stakeholders in a State Project Agreement must be consulted for their opinions;
- ii. All Project Agreements must be correct technically and legally; and
- iii. Details of the agreement must be entered on a prescribed format acceptable by all parties to the agreement.

4.10 Policy Focus Area 10

Support Services for Manufacturing Activities

To enhance the growth of the manufacturing sector in an economy, the manufacturing sector needs the service sector to support its operations in transportation and production of final and intermediate products. The Service sector or tertiary sector is defined as the final stage of the construction and production phase where goods and services are ready for use or consumption. Support services

comprise wholesale and retail sales; transport, storage and communication; financial, insurance, real estate and business services; community, social and personal services.

If these key services are well available in the economy, they will enhance the operation of the manufacturing sector which will then lead to the rise in the production of final goods and services in PNG.

Policy Issue: Lack of value-added services to harness manufacturing activities
Policy Objective 13: To develop and grow value-added services in PNG

Key Strategies

1. Support Services for Manufacturing Activities

The availability of basic economic infrastructures and common utilities harness business activities and create a conducive environment for investment. However, the business activities will only function if there are services, and the services on the other hand will be rendered only if there are service infrastructures.

To expand the manufacturing sector, the government should invest in developing economic infrastructures for transportation services and partner with private firms to develop service infrastructures for critical utilities. These services are fundamental requisites for industrial development and are essential for manufacturing activities to ride on. The lack of these critical infrastructures implies a lack of essential services for business and are impediments to investment flows to the manufacturing sector.

2. Value Chain Services

Value addition of natural resources implies value being added to the in-situ value of the natural resources. The value chain, therefore, is to bring a resource input from its in-situ state to the final product for consumption.

There are critical services along the value chain that must be available in order to connect segments of value-addition activities and establish the configuration in the production line. The government therefore should invest in infrastructure and services that will establish and harness the value chains such as warehouse and storage facilities, research & development facilities, transportation, marketing and sales services, after-sales services, etc.

This policy direction is very important to the establishment of value chains in the resource sectors and it is aligned to Policy Focus Area 3 of this policy document that advocates for the development of value chains in the resource sectors.

3. Service Infrastructure

There are service infrastructures that must be developed in order for services to be rendered. Social services such as health, education, or tourism are rendered through an infrastructure platform. This infrastructure platform must be developed to produce tailored services for manufacturing and value addition activities.

In circumstances where service infrastructures are requisites for manufacturing activities or provision of support services to the manufacturing activities is essential, the government will provide incentives similar to manufacturing activities to encourage the development of the infrastructure platforms for rendering the support services to manufacturing activities.

4. Utilities

The cost of utilities, particularly the water and power in PNG, is one of the highest in the world and is a factor that is hindering the government's effort of luring investment into the country.

Lack of investment in maintaining and expanding the utilities' infrastructure has caused congestion in power and water usage, in which manufacturing firms are paying higher rates in using these utilities.

To relieve manufacturing firms from the high cost of utilities, the government should design and implement a special industry rate that will not only ease the high cost of accessing power and water but also as an incentive to lure investment into the manufacturing sector.

5. Energy

Another preferred option to reduce costs would be to encourage use of green energy in the manufacturing sector. Derived from natural resources, it is renewable and often readily available. Also proven to be cheap, viable and lures a sustainable future for the manufacturing firms who intend to use green energy than those using brown energy.

The policy therefore promotes the use of clean and efficient technologies including environment friendly technologies and manufacturing equipment to use for downstream processing to address pollution and reducing the consumption of fossil fuels.

The State should amend legislations pertaining to energy generation and usage in PNG to allow industries to research and develop green energy for industrial use, and encourage supply of excess energy to the main energy grid for residential, industrial and commercial uses in PNG.

4.11 Policy Focus Area 11

Development of Human Capital

The human capital in PNG is not adequately developed to a level that it can support the industrialization ambitions of the government. The inadequately skilled human resource is attributed to few and ill-equipped technical educational institutions, generally negative attitude towards vocational education, and the disconnect between educational institutions and the industries in PNG.

Policy Issue: Lack of productive labour force for Industrial Development
Policy Objective 14: To develop PNG's human capital for Industrial Development

Key Strategies

1. Department of Higher Education Research Science & Technology

To integrate and synchronize the Department of Higher Education Research, Science & Technology (DHERST) programs on: (a) high skill and (b) industrial skill human development with programs relevant for the industrial activities, in which Department of Higher Education Research Science & Technology can develop human capital for industrial skills and development through several means such as:

- i. Investor training programs;
- ii. Sponsorships from bilateral partners;
- iii. Sponsorship from the GoPNG;
- iv. Sponsorship from Provincial Governments;
- v. Sponsorship training from LLGs;
- vi. Private/self-sponsorship: or
- vii. Sponsorship from donor agencies.

By aligning Policy Goals in the Manufacturing Policy with DHERST's Technical Education Strategic Implementation Plan (2017-2038), PNG can develop adequate level of human capital that can be optimized in the manufacturing industry.

2. Specific Industry Skill Development Program

Certain industries have tacit knowledge and skills that cannot be acquired through mainstream education but can only be acquired through engagement in the industries. In such cases, the government should:

- i. Enter into partnerships with the manufacturing firms to develop their curriculum and teach their industrial knowledge and skills to develop human capital for the development and growth of their industries in PNG, and
- ii. Facilitate Memorandum of Understandings/Memorandum of Agreements between manufacturing firms and designated technical training institutions for the manufacturing firms to teach their industry curriculums.

The Department of Commerce & Industry will identify specific skills and knowledge for targeted industries and collaborate with National Skills Development Authority to develop human capital for those targeted industries.

3. Industrial Skill Upgrading and Retooling Program

To prepare PNG's human capital for industrialization, the government should design and implement an Industrial Skill Upgrading and Retooling Program to build the capacity of the current technical labour force to enable Papua New Guineans to participate in advanced manufacturing industries in PNG.

The government is further encouraged to develop innovative strategies for upgrading industrial skills and retooling such that current labour force will not be made redundant by the new and emerging technologies but can adapt to the structural change and be more productive.

4. Employer for Employees

The current education system promotes development of intellectual capabilities and encouraged successful students to lease their intellectual assets to organizations at wage rates or salaries that generate adequate returns on their investment.

To maximize the participation of Papua New Guineans in the manufacturing sector, the government should establish an education system that will not only promote education for employments, but also develop intellectual capabilities that successful students can be empowered to start-up firms in the manufacturing sector, employ other Papua New Guineans and have ownership over PNG's economy.

5. Mass-Level Skilling and Training Programs for Youths, Women, and People with Special Needs

In ensuring that every Papua New Guinean is given an opportunity to participate in the country's industrialization program, the government is also encouraged to facilitate mass-level skilling and training programs that will build capacity for youths, women and people with special needs to enable them to actively participate in cottage and backyard industries hence, benefiting from employment and income earning opportunities.

6. Industrialization Internship Programs

Students coming through mainstream education and private education arrangements must be equipped with the necessary knowledge and skills for industrialization to harness industrialization in the future.

The government should provide incentives for technical vocational training institutions and private education institutions to support internship programs for students to acquire industrial knowledge and skills that are necessary to support industrialization in the future.

7. Existing Educational Training Institution

Certain educational training institutions must be designated to develop and up-skill PNG's human capital to support industrialization in PNG.

The government must identify and designate educational training institutions to teach industrial knowledge and skills and upgrade current technical educational institutions to teach compatible industrial knowledge and skills that can be utilized in the current industrial projects in PNG.

8. Establish Database, Alumni and Conduct Tracer Studies for all the Graduates of Institutions.

All Institutions must:

- i. Have a database of their students, students' assessment, certification, teachers, assets, finance and most importantly, their graduates;
- ii. Establish an Alumni and encourage participation of graduates through annual meetings in order to know where they are and what they are doing; and
- iii. Conduct Tracer Studies for those who are not members of the Alumnus.

9. Link relevant data from the Graduates Databases, Alumni and Tracer Studies with Labour Market Information System (LMIS)

Relevant graduates' data obtained from the Institutions Databases, Alumni and Tracer Studies, must be made available to the Department of Labour and Industrial Relations to support the Labour Market Information System (LMIS).

10. DCI to establish partnership with DoE and DHERST to identify skills gap in the Country which would see the recruitment of Volunteers and Contract Officers for 2 years at the most.

The Government should conduct mass recruitment of Specialized International Volunteers (30% of current TVET teacher population) in key skills areas where we have gaps to facilitate skills training in Vocational Centres, Technical High Schools and Technical Secondary Schools in Certificate 1, 2, 3, and 4 skills courses and programs.

11. Create an Ecosystem for Graduate Institutions to come together to Share Ideas and collaborate on Downstream Processing Projects

PNG's higher education institutions have produced many engineers, accountants, IT professionals, chemists, agriculturalists, foresters, geologists, lawyers, and so much more in their respective fields. All these graduates then, get filtered and converged into their respective graduate institutions such as Institute of Engineers, Institute of Chemists, Institute of Chartered Accountants, Institute of Human Resource, Digital ICT Cluster, etc.

While these groupings are great to help each other achieve outcomes within their area of specialties, the agenda of Downstream Processing would require the breaking of barriers to see more collaboration from all these institutions together.

For example, instead of marketing coconut water (kulau) in the hot sun of Port Moresby every day, we can ease the burden of our people by creating a market or an industry to produce coconut water (kulau). It would need economists, accountants, engineers, chemists, agriculturalists, welders,

machinists, etc. plus, STEM students in grades 11 and 12 working together to brainstorm a prototype PNG-made machine and techniques to develop that coconut water (kulau) product and market it successfully within the Country and abroad.

12. Public-Private Partnership

Government should enter into Public-Private Partnership (PPP) projects with the private sector and encourage the private sector to set up their own institutions for skill development in collaboration with Human Skill Development Authority (HSDA) from the Department of Higher Education Research Science and Technology (DHERST) to teach their curriculums.

4.12 Policy Focus Area 12 Industrial Project Benefits

There will be a material cost incurred by the project proponent in developing the project, however, the proponents will only finance industrial projects they perceive will generate greater returns from their capital outlays.

There are also externalities associated with developing an industrial project and are imposed on the society by the operations of the project. Positive externalities benefit the society whilst negative externalities impose costs on society.

To maximize the net benefits of an industrial project, the government and the manufacturing firm are encouraged to collaborate in transactions that will minimize the negative externalities such that project's benefits to the communities and country will outweigh the costs of implementing the projects.

Internalizing of social cost is an option that the government will request the manufacturing firms to consider in their cost structure during plant construction and operations.

Policy Issue: Current project benefits are limited to employment opportunities
Policy Objective 15: To maximize the net benefit accruing from manufacturing project

Key strategies:

1. Cost Benefit Analysis

The government when availing government support in the form of tax concession, expects the forgone revenue to be translated into jobs, provision of basic goods and services, business opportunities for Papua New Guineans or to basically maximize the net benefits of PNG.

It is therefore important that a cost benefit analysis is to be performed on new investments to determine the net benefits of the projects and shall be stipulated in State Project Agreements to obligate the project proponent to maximize the net benefits of the project.

2. Project Monitoring & Evaluation

DCI to periodically monitor baseline indicators using a template to measure benefits anticipated in the State Project Agreement. The reports will be used to review the State Project Agreement and revise the government concessions enjoyed by the project proponent.

3. Employment

In promoting industrial development, the State will negotiate with the manufacturing firms to employ Papua New Guineans during the construction phase, build capacities of the technical labor force and equip the labor force through the transfer of industrial skills and knowledge.

To foster localization of both management and technical jobs, it is envisaged that the transfer of industrial knowledge and skills is necessary to empower Papua New Guineans in the long run to engage in other manufacturing projects that will come on stream in the future.

The proponent is thereby encouraged to develop its curriculum and in partnership with the government to teach the technology and skills in its industry to Papua New Guineans so as to prepare the human capital for industrialization in PNG.

4. Project Impact Area

There are two common Project Impact Areas. The first are the ones that are immediately impacted by the project through displacement. The second are the ones that are absorbing the impacts of the project due to discharges and wastes. In both situations, their livelihoods are compromised and their cultural and traditional relationship with their natural surroundings is disconnected. Manufacturers are therefore required to take full responsibility of displacement and support the livelihood of Project Impact Area people in the long term.

Resource owners who are in the vicinity of a Project Impact Area (PIA) must be accorded all due considerations of their human rights. The firm has the obligation to resettle resource owners in the PIA when their habitation is likely to be threatened or destroyed by the construction and operation of the manufacturing plant.

5. Spin-off Benefits – Local Participation

To develop and grow SMEs (spin-off businesses) on the periphery as nucleus estates feeding the manufacturing plant, manufacturers will give preference to local SMLs/SMEs with appropriate assistance on capacity building and appropriate and simple technologies.

6. Equity Participation

People maximize their wealth by directly investing in projects that command a stream of future cash flows over a period of time or earn dividends by investing in fund managers that manage long-term securities in portfolios.

The royalty payment is a form of wealth distribution; however, is wealth distributed to people who are owners of the resources being harvested as inputs for production. Citizens who are not resource owners cannot benefit from royalty but benefit through the Government tax revenue that provides Government goods and services.

To spread benefits to other citizens and to maximize the wealth emanating from our natural resources, manufacturing firms will allow the National Government, Provincial Government and Local Level Government, local firms and citizens to participate in equity investment and will become shareholders in the industrial projects that are being developed in the country.

Hence, alluvial miners, landowners who have royalty payments accruing to them and other SMEs/SMLs and landowner companies dealing or operating in other sectors are encouraged to mobilize their savings as investments and participate in equity financing with the government or foreign investors in the industrial projects.

Credible financial reports instill confidence in the investors and improve investment levels in public companies operating in an economy. The value of the company, the profit it is generating and the dividends a company is paying its shareholders are pertinent information investors search for when looking for investment opportunities.

Manufacturing firms operating in PNG will engage reputable accounting firms in PNG to audit their books and make public financial reports that local and international investors will appreciate.

The Governments and citizens who will participate in the equity investments above are shareholders who will have access to these financial reports to make informed investment decisions.

7. Corporate Social Responsibility (CSR)

The Corporate Social Responsibility (CSR) will entail strategies to ensure the project proponent participates in community-based programs and projects that are philanthropic in nature, including but not restricted to business support, education and training, environment and health, law and order, spiritual development, infrastructure development, etc., that will generally be geared towards generating a positive impact in the community.

Companies setting up in designated rural areas can implement some of their CSR Policies to qualify them for the benefits intrinsic to the rural development incentives that the government has established.

8. State Project Agreement

In the case of firms seeking government support to develop industrial projects, all the above benefits anticipated to accrue to the economy and the citizens due to government availing investment concessions, will be documented in the State Project Agreements.

A project monitoring template for monitoring the project construction and operation, and measuring project benefits anticipated in the above will also be annexed and shall be necessary for negotiating further government support.

A plan for developing SMEs to support the major industries will be annexed in the State Project Agreement and through evaluation will be used also in negotiating for further government support.

Further, a State Negotiating Team (SNT) shall be established to negotiate and conclude the State Project Agreements. This SNT shall comprise State Agencies and will also be charged with the responsibility of endorsing investment incentives stipulated in the National Investment Policy I and II or the revised National Investment Policy III.

4.13 Policy Focus Area 13

Industry Liaising and Policy Intervention

By providing support to develop and grow the manufacturing industry, the Government further has the obligation to ensure there is fair competition in the domestic market in which local industry participants are not disadvantaged by the operation of the market or other industry players.

Further, the policy support that the government will avail to the industry is intended for the industry to exploit in achieving the economies of scale which shall ultimately be translated into PNG processed products becoming competitive domestically and abroad.

Policy Issue:

Lack of Government support to the existing industries

Policy Objective 16:

To provide Government policy support to existing industries

Key strategies:

1. Incentives for the Existing Industries

Cost of doing business in PNG is so high such that the high cost of doing business in itself is a deterrent to the existing industries to expand operations and raise production in the manufacturing sector. The factors that are responsible for the high cost of doing business, and as identified by the industries are high cost of regulation, ailing investment and trade infrastructure, lack of economic infrastructure, bureaucratic red tape and inefficient utilities. The government should address the

above constraints faced by the existing industries and avail cost relief to struggling industries to ensure their operations are more buoyant in the midst of ever-increasing cost of doing business.

i. High Cost of Regulation

The Department of Commerce & Industry will collaborate with regulators, review current regulatory costs in consultation with regulators and structure regulatory fees and charges that are reasonable to an extent that the low regulatory cost will drive cost of production down.

ii. Bureaucratic Red Tape

Department of Commerce & Industry will set up a one-stop-shop within the Ministry of Commerce & Industry to house all regulators with delegated powers to expedite approvals in record time.

DCI will develop an automated approval system in the one-stop-shop to allow for regulatory approval to be lodged and processed online and limit direct interfacing with the officers of the regulatory authorities.

iii. Ailing Investment and Trade Infrastructure

Road and utility access that are essential for industries to grow and trade to take place are deteriorating at an alarming rate and are causing discouragement to industries in the manufacturing sector to continue their operations or expand in their production capacities.

The government should rehabilitate and maintain deteriorating road access that leads to manufacturing plants and export facilities, and improve the export facilities that will harness the turnaround time for export approvals and enhance trade. This includes also upgrading of strategic airports to create access to international and niche markets for PNG products.

iv. Inefficient Utilities

Constant power and water disruptions is tremendously affecting the productions of the manufacturing plants and is causing the manufacturing firms to incur loss as a result of decline in production.

The government should implement the following strategies to address the power and water woes the manufacturing firms are experiencing:

- a) The government must consider availing subsidies to the manufacturing industries in the use of power and water;
- b) Department of Commerce & Industry to negotiate with power and water companies to lower fees and charges imposed on the industrial use of power and water; and
- c) Amend regulations to allow firms operating within the vicinity of an urban area or town to produce their own power and water for their industrial use. The regulation must also allow for these firms to supply the surplus to the main grid at reasonable prices.

v. Required skills & knowledge for manufacturing activities

Where there is lack of required skills and knowledge for manufacturing activities in the domestic workforce, manufacturing firms are encouraged to outsource from productive workforce abroad in the interim to fill in the skill and knowledge gaps in their organizations.

Nevertheless, the manufacturing firms are also encouraged to train and impart required skills and knowledge to the local workforce and prepare the local labour force for manufacturing jobs that demand those skills and knowledge in the future.

2. Industry Liaising

The Government through DCI will consult and liaise on constant basis with manufacturing industries to identify industrial issues for assessment and formulating remedial actions via administrative and policy interventions.

3. Reporting of Industrial Issues

Industries in the manufacturing sector that are affected by unfair competition or unfair trading will seek Government intervention through consultation with DCI. DCI will use existing policies and legislation at its disposal to create conducive environment for manufacturing industries to develop and grow in PNG.

Industrial issues that are cross-cutting and require interventions from a range of government agencies will be processed and addressed through a one-stop-shop facility to be administered by the Department of Commerce & Industry.

4. Administrative Approach

DCI will take the lead in addressing industrial issues in the manufacturing sector in collaboration with key Government agencies.

5. Policy Intervention

Through industrial project monitoring & evaluation and industry liaison and consultation, DCI will formulate commercial and industrial policies that will create a conducive environment for industrial development and growth in PNG.

6. Industry Profiling

The DCI in collaboration with IPA will undertake research and profile potential industries as requisite for investment promotion. These government agencies will also perform cost benefit analysis or prefeasibility studies to determine the investment viability of the industries and use the information for investment promotion and policy formulation.

7. Information Sharing Agreement

An Information Sharing Agreement must be negotiated to ensure the smooth flow of required information. This may include but not restricted to financial statements, construction plans, implementation schedules, reinvestment plans, etc., between the manufacturing firms and responsible Government agencies. This information will be strictly used for the purpose of monitoring and evaluation of related objectives.

SECTION 5: POLICY COORDINATION & REPORTING

WHOLE OF GOVERNMENT APPROACH

This policy resonates the government's vision of fully industrializing the economy by encouraging downstream processing and value addition activities in all resource. The Department of Commerce & Industry in its endeavour to promote and facilitate manufacturing activities in PNG, will consult and collaborate with the resource sector agencies to process natural resources under their regulatory ambit.

Manufacturing Policy is developed to fill the policy gap in the manufacturing space and to establish the parameters of downstream processing activities from the upstream production. The policy provides policy direction also to fill the regulatory gap in the manufacturing sector, and as such a legislation to regulate manufacturing activities in PNG will be enacted. The Proposed National Manufacturing Authority will be established to regulate all manufacturing activities in PNG.

Through the implementation of this policy, the Department intends to restore its policy functions usurped by other State Departments and Agencies. The Department will achieve this intend by synchronizing the upstream processing functions of resource sector agencies with the downstream processing function of the Department which is outlined in this policy.

This policy encourages the development of value chains in the resource sectors which are managed and regulated by the resource sector agencies. Department of Commerce & Industry in its endeavour to coordinate and facilitate manufacturing activities will consult and collaborate with sector agencies to align upstream processing activities with downstream processing activities that will establish the value chains in the resource sectors.

The table below summarizes the roles and responsibilities in the whole-of-government approach that are expected to be performed by key Government Agencies and Organizations in the administration and implementation of this policy.

Table 2. Key organizations and their responsibilities

Organizations	Responsibilities
Department of Commerce & Industry	<p>Department of Commerce & Industry as the mandated Government Agency responsible for coordinating and monitoring the downstream processing and value-addition activities in PNG will exercise this mandate by coordinating and monitoring the implementation of this policy.</p> <p>To lure in investment and encourage investment in the manufacturing sector, the Department is also the mandated Government Agency charged with the role of coordinating, administrating and monitoring investment incentives in PNG.</p>
National Institute of Standards & Industrial Technology	<p>There is a genuine need for government oversight in the quality, standards and industrial technologies in the manufacturing sector of the economy. It will take the government to establish the capability and competency of its institutions responsible for adequately discharging services within this purview and role.</p> <p>The National Institute of Standards and Industrial Technology (NISIT) is established to discharge these services. NISIT will play a key role in the realms of quality, standards and industrial technology within the manufacturing space to assure conformance.</p>
National Manufacturing Authority	<p>With an enacted legislation to regulate manufacturing activities in PNG, the proposed National Manufacturing Authority (NMA) shall be established to regulate the manufacturing sector and all downstream processing activities in PNG.</p> <p>Empowered by relevant legislation(s), DCI through the proposed NMA will regulate manufacturing activities to deliver on the government priorities in raising the GDP contribution of manufacturing sector.</p>

Organizations	Responsibilities
State Negotiating Team	<p>Will be established to negotiate and conclude the State Project Agreements of industrial projects that will operationalize the government support as well as being charged with the responsibility of reviewing Government support and revising expiring State Project Agreements.</p> <p>The composition of the team shall be the Department of Commerce & Industry as the Chair, the Department of Treasury as Deputy Chair, the Department of Prime Minister & National Executive Council, the Department of Justice & Attorney General, the Department of Provincial & Local Level Government, and the agency responsible for the economic sector hosting the industrial project.</p>
Joint Agency Spot-Check Operation	The Joint Agency Spot-Check Operation was established to enforce compliance with business regulations on commerce and trade. Its functions hinge on strengthening border security and border management and addressing illegal business activities.
Investment Promotion Authority	Core business activities are business regulation, and investment and trade promotion.
Intellectual Property Office	Administers laws on trademarks, copyright and neighbouring rights and the patents and industrial design in PNG.
Independent Consumer & Competition Commission	Regulate competition and fair trade for companies operating within the manufacturing sector.
Department of Transport	Provide transport mechanisms that will enhance the efficiency, accessibility, and sustainability of transportation networks for manufacturers.
Department of Agriculture & Livestock	DAL will consult and collaborate with DCI on matters relating to the downstream processing of agricultural produce and livestock in PNG.
Commodity Boards	Commodity Boards in Coffee, Cocoa and Kokonas industries will consult and collaborate with DCI on matters relating to downstream processing of these commodities (coffee, cocoa and coconut) in PNG.
Department of Mineral Policy & Geo Hazards Management	Department of Mineral Policy & Geo Hazards Management will consult and collaborate with DCI on matters relating to downstream processing of minerals mined or recovered in PNG.
Department of Petroleum	Department of Petroleum will consult and collaborate with the Department of Commerce & Industry (DCI) on matters relating to the downstream processing of oil and gas found in PNG.
National Fisheries Authority	National Fisheries Authority (NFA) to consult and collaborate with DCI on matters relating to downstream processing of fisheries caught and landed in PNG. The development of the Pacific Marine Industry Zone (PMIZ) is the flagship project for the fisheries sector in which DCI and NFA will collaborate to progress it past the construction phase.
PNG National Forestry Authority	<p>National Forestry Authority will consult and collaborate with DCI on matters relating to the downstream processing of forest products harvested in PNG.</p> <p>The National Forestry Act of 1991 aims to promote the growth of a sustainable forest industry and promote downstream processing activities in the country to create jobs in the sector.</p>
Department of Treasury and Internal Revenue Commission	Department of Treasury and Internal Revenue Commission to deal with matters that have revenues implication when administering tax concessions for industrial development.
Department of National Planning & Monitoring	Department of National Planning and Monitoring to facilitate funding for the industrial development programs that are financed through Government investments.

Organizations	Responsibilities
Conservation & Environment Protection Authority	Conservation & Environment Protection Authority regulates industrial wastes and ensures compliance through environmental management plans and environment permit conditions.
Department of Lands & Physical Planning	Department of Lands & Physical Planning is the mandated government agency on land acquisition and titles to land portion identified for industrial development.
Immigration and Citizenship Authority	Immigration & Citizenship Authority administers the import of skilled and qualified personnel abroad to work in the industrial projects.
Department of Labor and Industrial Relations	Department of Labor & Industrial Relations issues work permits to personnel imported to work in industrial projects, monitor welfare of labourers and set minimum wage rate.
PNG Customs Services	PNG Customs Services will facilitate and filter export and imports for industrial development in PNG.
Provincial Administrations	Provincial Administrations to mobilize stakeholder support and secure available land for industrial development in the provinces. Provincial Administrators will work in partnership with National Government in all of the government approach to create conducive environment for investment and jointly facilitate investment entering PNG.
Department of Health	Department of Health to ensure the manufacturing processes are complying with the health and safety requirements as per the Public Health Act 1973.
Provincial Government	Districts and provinces should spend funding earmarked for infrastructure development in Support Improvement Programs (SIPs) on enhancing the effort of National Government to develop economic infrastructure that are critical for industrial development in the districts and provinces.
National Government	DCI through the whole of government approach will consult and collaborate with relevant State Agencies to develop critical infrastructure required for industrial development in PNG.
Department of Works & Highways	Department of Works and Highways will be responsible for construction and maintenance of roads and bridges to connect industries to markets.
PNG Ports Corporation Limited	PNG Ports Corporation provides oversight over declared ports in PNG and will be the sole government entity responsible for developing wharves to create market access to overseas markets
Special Economic Zone Authority	Special Economy Zone Authority will be responsible for regulating the development and operations of Special Economic Zones in PNG.
Industrial Centers Development Corporation	Industrial Centres Development Corporation is the State entity that will be responsible for developing industrial centres for manufacturing activities including government sponsored Special Economic Zones.
Department of Education	Department of Education will be responsible for developing necessary human capital required for industrial activities in PNG.
Department of Higher Education, Research, Science & Technology	Department of Education will be responsible for developing necessary human capital required for industrial activities in PNG.
National Trade Office	National Trade Office is the sole government entity responsible for negotiating and signing international and regional trade agreements to enable PNG to trade with rest of the world. To an extent, National Trade Office will also coordinate the implementation of Trade Policy to establish niche markets overseas for PNG manufactured products.
PNG Royal Constabulary	PNG Royal Constabulary enforces laws in PNG by arresting and prosecuting law offenders and curb law and order in PNG. Thus, PNG Royal Constabulary will be responsible for addressing law and order in PNG and create a harmonious society where businesses can operate and thrive.

Organizations	Responsibilities
Small Medium Enterprise Corporation	Small Medium Enterprise Corporation will be responsible for coordinating training and mentoring of Papua New Guineans who intend to become entrepreneurs in PNG.
National Development Bank	National Development Bank is the government bank and will be responsible for providing loans to Papua New Guineans that will participate in developing and growing the small medium industries sector of PNG.
Utility Companies	Utility companies will provide utilities that are necessary for industrial development.
Investors	DCI will promote investment opportunities and will negotiate with investors/developers to facilitate the development of industrial projects in PNG.
Manufacturing Council of PNG	The Manufacturing Council of PNG will promote the interest of industries in the manufacturing sector and will discuss, negotiate and compromise on industrial issues that requires government intervention.

SECTION 6: POLICY IMPLEMENTATION

6.1 Implementation of Industrialization Strategy

The Department of Commerce & Industry will exclusively be responsible for promoting, facilitating, coordinating and monitoring all activities pertaining to semi processing, downstream processing and manufacturing activities. Any activity that promotes value addition and is advocated for in this policy, inevitably falls under the ambit of the Department of Commerce & Industry. Other Government agencies are encouraged to consult DCI as the lead government policy agency in these endeavours.

The implementation of the PNG Manufacturing Policy will be coordinated and monitored by the Department of Commerce and Industry with the necessary support from various relevant Government agencies over a five (5) year period. This policy will be reviewed after the fifth anniversary of its implementation.

Economic sector agencies in forestry, fisheries, mining, oil & gas, and agriculture are mandated Government agencies in the upstream productions. These agencies are organizations in the backward linkages to the resource supply base of the manufacturing plants and their primary role is limited to resource management and harvesting. These agencies will manage their resources in a more sustainable manner in collaboration with DCI on matters pertaining to industrial development.

There will be a manufacturing regulator to regulate manufacturing activities in PNG. The manufacturing regulator will be responsible for regulating all manufacturing activities that will occur along the value-addition chains of resource sectors. The primary role of this regulator will be to ensure that production of finished products for consumption or intermediary products for further production is of moral standards, quality and are healthy for consumers.

The Department of Commerce & Industry will be responsible for the drafting of the bill and legislation for the creation of the National Manufacturing Authority.

6.2 Broad Strategy on Industrialization

This Policy will set the course of industrialization in PNG by introducing citizens to use of machines to add value to natural resources and equipping them with requisite knowledge and skills of industrial development. This is a gradual process and will be attempted in stages to graduate citizens from the agriculture resource-based economy to a mechanized manufacturing economy that is producing and exporting value added products.

Following are broad strategies when implemented cohesively by all resources sectors in the trajectory delineated below will usher PNG into the brink of industrialization:

1. Small Medium Industries (Cottage Industries)

Households shall drive the industrialization through use of simple and appropriate technologies to downstream process natural resources into intermediate or finished products for commerce, trade and industry.

Through Small Medium Industry (SMI) financing and availability of simple & appropriate technologies, Small Medium Enterprises (SME) will develop and grow the cottage industries for commerce, trade and industry.

2. Light & Heavy Industries

Foreign/Domestic Direct Investment is designated to develop and grow the light and heavy industries in the resource sectors.

Through their technological advancement and capital outlays, Foreign/Domestic Direct Investment will establish manufacturing plants and downstream process natural resources into finished products for commerce and trade.

Foreign/Domestic Direct Investment will also be channeled into Special Economic Zones to develop and grow specific light and heavy industries for the purpose of creating jobs, generating tax revenue for the government and raise export earnings.

3. High Technology Industries

Foreign Direct Investments that have advanced in manufacturing technologies will be given the preference to establish in the Special Economic Zone to manufacture value added products for commerce, trade and industry.

6.3 Policy Implementation Schedule

Table 3. Policy Implementation & Growth Schedule

Policy Implementation Schedule 2024- 2029							
	2025	2026	2027	2028	2029	2030	COST (KM)
INDUSTRIALISATION PHASE 1	We aspire to nurture and stimulate development and growth of small medium industries (cottage) at the household level in the first two years of policy implementation						
Implementing years [2025-2026]							Action Plan
INDUSTRIALISATION PHASE 2	We intend to develop and grow light and heavy industries in resource sectors for the next two years of policy implementation						
Implementing years [2027-2028]							Action Plan
INDUSTRIALISATION PHASE 3	In the final years of policy implementation, we envisage developing and growing high technology industries in the SEZ						
Implementing years [2029-2030]							Action Plan

SECTION 7: MONITORING AND EVALUATION

7.1 Manufacturing Policy Monitoring Framework

DCI in collaboration with key government agencies guided by the policy monitoring and evaluation framework shall compile a biannual report as a tool to monitor and evaluate the progress of the implementation of the policy.

The following parameters as tabulated below will suffice as the primary variables/indicators that will be fed into the monitoring and evaluation exercises to determine the extent to which this policy and related stimulated activities are producing the desired impacts.

Table 4. Manufacturing Policy Monitoring Framework

INDICATOR	Definition (How calculated)	Baseline (Current Value)	Target (Target value)	Data Source (How measured)	Frequency (Schedule)	Responsible (Who)	Reporting (Where)	Remarks
Manufacturing Authority	Manufacturing legislation			Gazette			Gazettal notice	
PNG made products	Baseline survey			Primary data	Biannually	DCI	Baseline/ Monitoring report	
Manufacturing plants	Baseline survey			Primary data	Biannually	DCI	Baseline/ Monitoring report	
Certifications of conformance to appropriate standards and on quality								
Resource stock level	Consult & collaborate			Secondary data	Biannually	Sector agencies	Sector agencies' data	
Decline in GDP contribution from resource sectors	Research			Secondary data	Quarterly		BPNG	
Small medium industries	Baseline survey			Primary data	Biannually	DCI	Baseline/Monitoring report	

INDICATOR	Definition (How calculated)	Baseline (Current Value)	Target (Target value)	Data Source (How measured)	Frequency (Schedule)	Responsible (Who)	Reporting (Where)	Remarks
Enabling infrastructure & utilities	Baseline survey			Primary data	Biannually	DCI	Baseline/ Monitoring report	
Assembling factories	Baseline survey			Primary data	Biannually	DCI	Baseline/ Monitoring report	
Value addition of by- products	Baseline survey			Primary data	Biannually	DCI	Baseline/ Monitoring report	
Investments	Baseline survey			Primary data	Biannually	DCI	Baseline/ Monitoring report	
Labour capital	Baseline survey			Primary data	Biannually	DCI	Baseline/ Monitoring report	
Net Benefits	Baseline survey			Primary data	Biannually	DCI	Baseline/ Monitoring report	
Policy supports to industries	Baseline survey			Primary data	Biannually	DCI	Baseline/ Monitoring report	
Compliance	Baseline survey			Primary data	Biannually	DCI	Baseline/ Monitoring report	

7.2 Manufacturing Policy Evaluation Framework

Table 5. Manufacturing Policy Evaluation Framework

INDICATOR	Definition (How calculated)	Baseline (Current Value)	Target (Target value)	Data Source (How measured)	Frequency (Schedule)	Responsible (Who)	Reporting (Where)
Manufacturing sector GDP Contribution	Consult and collaborate	2%	20%	Secondary data	Yearly	Bank of PNG	BPNG Bulletin
Employment in manufacturing sector	Baseline survey			Primary data	Yearly	DCI	Baseline
Standard of living / GDP per Capita	Survey			Primary data	Yearly	DCI	Evaluation Report

SECTION 8: RISK MANAGEMENT

8.1 Duplication of DCI Policy Mandate

Duplication or assuming of functions explicit to the policy mandates of the Department of Commerce and Industry (DCI) by other State Departments and Agencies is creating clashes between DCI and these Departments and Agencies. Such situation creates confusion and uncertainty on the implementation of DCI programs. This also results in competition between these Government Agencies and DCI in accessing limited funding for the industrial development programs.

This policy therefore institutes Department of Commerce & Industry as the mandated Department to promote, facilitate and coordinate all manufacturing activities and industrialization in general in PNG. All Government Agencies and Departments that have policy mandate in the upstream processing and those that have a role to play in industrialization, including other stakeholders in the bureaucratic system, are encouraged to align their policies with this Manufacturing Policy and collaborate with the Department of Commerce & Industry to develop the manufacturing sector.

8.2 Lack of Infrastructure and Utilities

Where there is lack of infrastructure and utilities, there will be no impetus to lure in investment and a disincentive for investment to flow into the manufacturing sector. Sound economic infrastructure and availability of utilities including industrial incentives for investors both in-country (DDIs/JVs) and coming from abroad (FDIs/JVs), create necessary conditions for investment to flow into the manufacturing sector.

The National, Provincial and Local Level Governments will have to invest in the basic enabling infrastructure and utilities (air & seaports options, roads & bridges, energy supply options, voice & data communication options, etc.) and make environment conducive for investment. The usage of Service Improvement Program (SIP) funding is a key tool that this policy encourages linkages with in realizing objectives of this policy.

8.3 Lack of Funding for Monitoring & Evaluation

Experience over time has shown that lack of monitoring and evaluation on industrial projects, facilitated through State Project Agreements, result in Government continuing to forego huge tax revenues when expired State Project Agreements are not reviewed on time and terminated forthwith.

Recurrent funding of a reasonable and realistic amount must be allocated to the Department of Commerce & Industry (DCI) annually by the Government to empower DCI to timely undertake monitoring and evaluation of State sponsored projects.

8.4 Lack of Government Investment in Industrial Projects

Lack of funding in financing the Capital Investment Program and inconsistent funding over a period of time normally lead to incomplete industrial projects. Often ambitious projects that have great potential to generate huge returns on the initial Government's investment gets neglected and eventually shelved in many cases.

The Department of National Planning & Monitoring must understand fully the policy mandate of the Department of Commerce & Industry in business development, commercialization of goods and services, industrial development, investment promotion and international business development.

Funds appropriated for programs under industrial development must be frontloaded at the beginning of the year to avoid diversion of funds when accounts are closed at the end of each financial year in December.

8.5 Lack of Land Availability

One of the factors that discourages the flow of investment into PNG is the land tenure system which has locked up approximately 90% of potential land for investment under customary land ownership. The process of unlocking customary land is cumbersome and often ends up in disputed situations and often become unavailable for investments.

The government must identify potential land for industrial development and encourage voluntary customary land registration to free up customary land for development.

DCI must consult and collaborate with Provincial administrations to mobilize the customary landowners support for industrial development prior to freeing customary land for development.

8.6 Counterfeit and Fake Products

Industries are bound to face stiff competition from counterfeits and fake products and will likely go out of business if the counterfeits and fake products are selling at cheaper prices. Allowing counterfeit and fake products to sell freely in the country discourages investment into the manufacturing sector and will see less growth in the sector.

DCI must develop additional policies and to some extent establish regulatory frameworks to deal with commercial issues. DCI should establish market requirements for the domestic market and regulate the entry and trade of value-added goods and services entering the country. These market requirements will create a level playing field for goods and services imported and goods and services produced domestically.

8.7 Political Interference

Whilst this policy acknowledges the importance of political contributions in the course of its implementation, unacceptable political interferences in any way, form or manner will be treated as a risk to implementation.

To mitigate this, DCI as the coordinating Department through the Secretariat that will be established within the Department will further establish an independent body through a legislative framework (authority or task force) to take on the task of administering legislation/regulation accordingly with transparency and accountability.

8.8 Natural Disasters/Pandemic

Natural disasters and/or pandemics are events that cannot be predicted and happen at will and random by the nature/universe. This can have negative impacts on some policy implementation activities as they are likely to derail progress of the entire policy implementation schedule and cost.

DCI will put together contingency plans for such events allowing for additional resources especially time, funding and also manpower to mitigate negative impacts of such events as and when they happen. DCI will implement those contingency plans in collaboration with other relevant agencies.

8.9 Industrial Issues / Disagreements (Consultation)

Disputes can be internal, external or can happen between the policy implementers and recipients/beneficiaries of the policy. Like any other risks disputes will have some negative impacts on policy implementation activities and may affect the budgets and schedules.

An overall mediation plan will be put together to have dispute settlement remedies to address all other risk covered in this section.

8.10 Supply Risk

Broken supply chains/unavailability due to unforeseen events of certain raw materials/or shortages in the supply of materials and or production stoppages of raw materials that are vital for manufacturing industries can have an adverse impact on manufacturing industries that depend heavily on imports of raw materials. This can lead to stoppages in production and impact revenues/profits for the industry.

This risk is associated with manufacturing industries that depend on imports and local supply of raw materials in their production lines. Mitigation measures of such will be established in a risk mitigation plan to curtail occurrences of such.

8.11 Foreign Exchange

Inadequate or shortages in foreign reserves in the country can have immense impact on manufacturing industries. Manufacturing industries that depend on importation for their production lines need adequate/sufficient foreign currencies for import of supplies. These industries use foreign currency to do business overseas, thus shortages in foreign reserves will lead to industries cutting down on imports of materials which then leads to disruptions in production.

This issue is to be addressed in the risk mitigation plan in consultation with the BPNG to identify options or measures in making sure adequate foreign reserves are always readily available for manufacturing and value addition activities.

8.12 Global Economic Shocks

Global Economic Shocks (GES) can impact various areas or sectors. Such may happen in finance and banking, real estate, stock market, medicine/health, transportation/logistics, politics, human capital, fuel/oil/energy supply, manufactured goods supply chain, etc.

Almost all Global Economic Shocks lead to a financial crisis. Contributing factors to a global economic crisis varies and a financial crisis can result from systemic failures, unanticipated or uncontrollable human behavior, incentives to take too much risks, regulatory absence or failures, or contagions that amount to a virus-like spread of problems from one institution or country to the next, and wars, etc.

If left unchecked or unattended to or unresolved can lead to a recession or depression. Even when measures are taken to avert a financial crisis, they can still happen.

'We do not have any control over a global financial crisis that originates from another country except to plan for its spill-over effects into PNG. If a likely internal financial crisis is imminent, mitigating the impact of GES by the Government on manufacturers and supply chains requires both new approaches and new forms of collaboration to increase overall resilience.

8.13 Law & Order

The preferred destination for investment to cluster will be the destination not only equip with investment and trade infrastructure, but also secured from robberies, vandalism, arson, murder and petty crimes, etc.

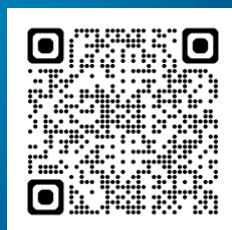
Law and order problem in PNG will spiral out of control only if the government will be ignorant on unproductive force and be complacent in creating jobs to engage this labour force in the industrial activities.

Hence to address law and order problems throughout PNG, the government will have to create job opportunities in the manufacturing sector and engage all productive and unproductive laborers in industrial activities to contribute in raising the GDP contribution from the manufacturing sector.

© Department of Commerce and Industry 2024

You may download, display, print and copy any material in this document in unaltered form only, for your personal use or for non-commercial use within your organization.

Except as permitted above, you must not publish, distribute, or commercialize any material contained in this document without prior written permission from the Independent State of Papua New Guinea through the Department of Commerce and Industry.



www.dci.gov.pg

