

ENERGY, WATER & SANITATION SECTOR SKILLS PLAN



JUNE 2014



NAMIBIA TRAINING AUTHORITY

MESSAGE FROM CHIEF EXECUTIVE OFFICER

We are pleased to present you with the Sector Skills Plan (SSP) for the Energy, Water and Sanitation Industry. The aim of this SSP is to guide and inform skills development initiatives in this industry from a skills planning perspective. Sector skills planning is a relatively new process for the Namibian Training Authority. We have therefore adopted a developmental approach to this process. We have aligned the SSP to *Vision 2030*, *NDP4* and the *National Human Resources Plan: 2010 - 2025* of Namibia. Our SSP should resonate with our national vision and policy goals of our government.

Over the last few months we have consulted widely with stakeholders. Many who attended our workshops and focus group sessions participated enthusiastically in the SSP deliberations. We are very encouraged by this, and would like to build strong stakeholder partnerships. The SSP is a living document that should be subject to continuous change and improvement. It should be owned by industry stakeholders.

We have asked the research team to produce a user-friendly plan that will be easily read, understood and applied. The intention is not to write a thesis or peer-reviewed academic journal, but rather to produce a document that will be used by all interested organisations and individuals. We want practitioners and managers in the workplace to read the document. We will achieve this without compromising the integrity of the research.

The primary target audience are employers, managers, unionists, public policy-makers and planners, researchers, career counsellors and education managers as well as others who have an interest or stake in this industry.

We have made a strong start by putting a workable plan on the table for skills development in the energy, water and sanitation industry. We are committed to improving the skills of workers and new entrants. Let's join hands and take this industry to new heights.

We hope you contribute to the further development of the SSP in future iterations.

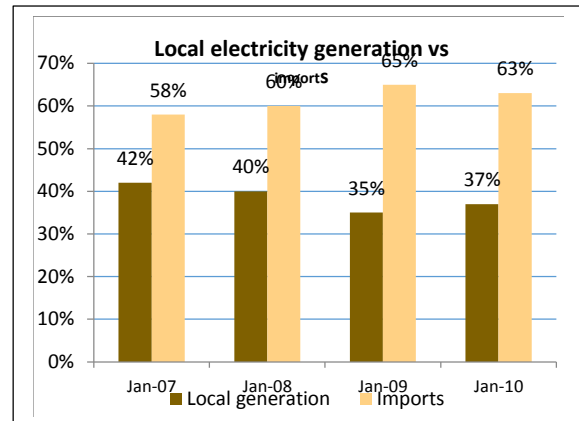
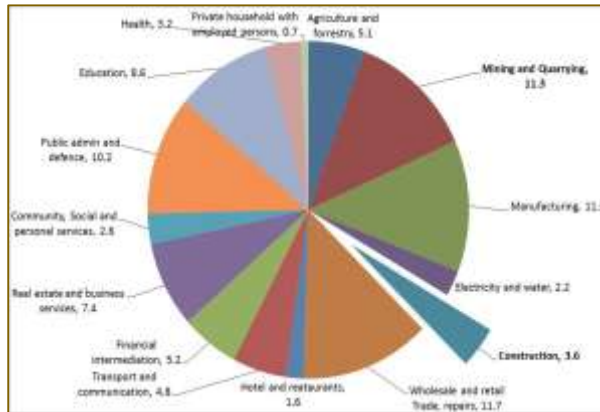
Best wishes!

Ms Ester Anna Nghipondoka
Chief Executive Officer
National Training Authority

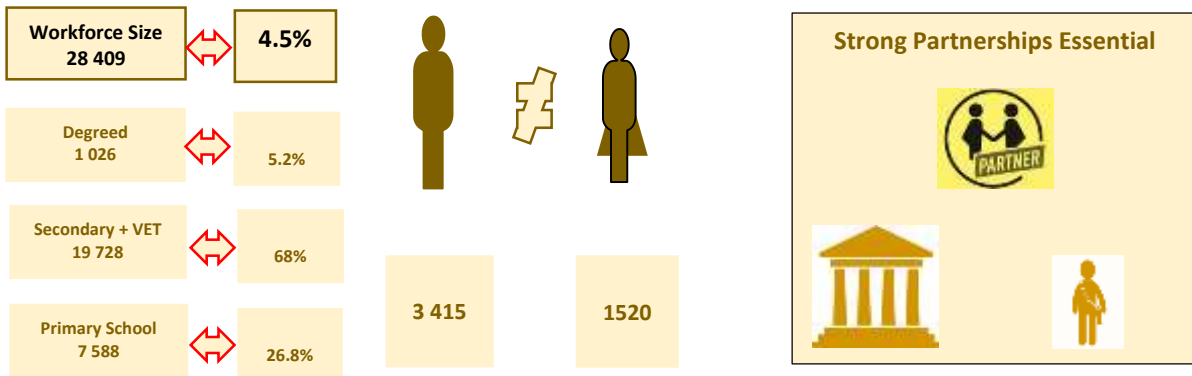
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ENERGY, WATER AND SANITATION'S SKILLS CHALLENGE



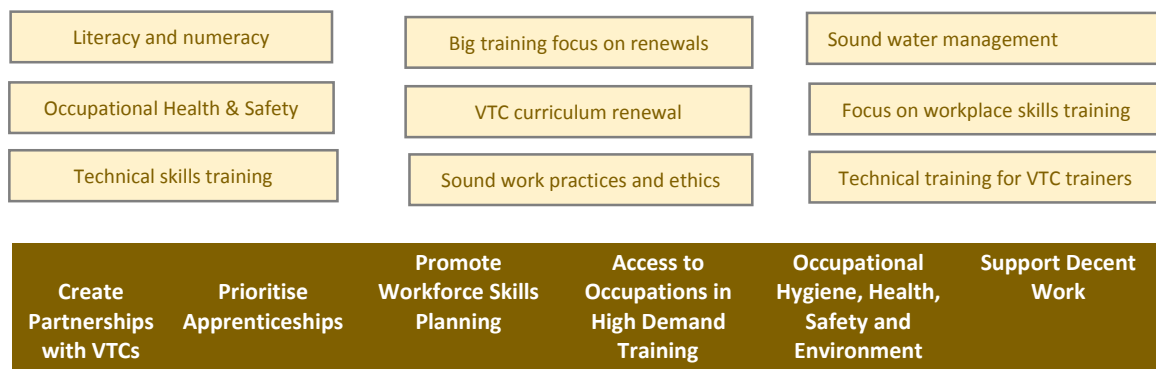
SKILLS ISSUES



SKILLS SHORTAGES



SKILLS PRIORITIES



ENERGY, WATER AND SANITATION SECTOR SKILLS PLAN

1. INDUSTRY DEMARCATION

According to the *International Standard Industrial Classification of All Economic Activities (ISIC)*¹, the scope of industry coverage for energy, water and sanitation is as follows:

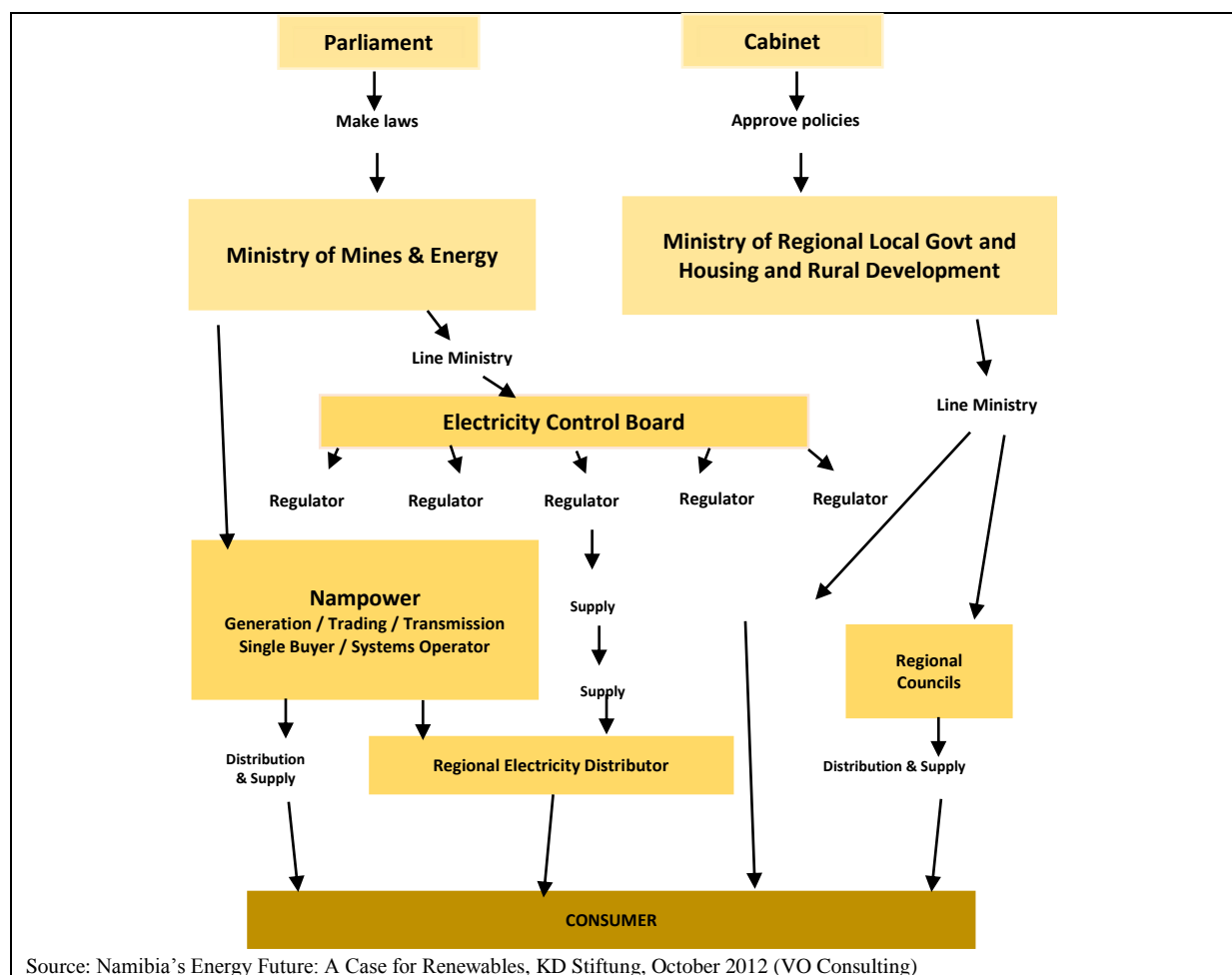
DIVISION	GROUP	CLASS	Electricity, gas, steam and air conditioning supply
Division 35			Electricity, gas, steam and air conditioning supply
	351	3510	Electric power generation, transmission and distribution
	352	3520	Manufacture of gas; distribution of gaseous fuels through mains
	353	3530	Steam and air conditioning supply
Source: UNO Revision 4			

DIVISION	GROUP	CLASS	Water supply; sewerage & waste management
Division 36			Water collection, treatment and supply
	360	3600	Water collection, treatment and supply
Division 37			Sewerage
	370	3700	Sewerage
Division 38			Waste collection, treatment and disposal activities; materials recovery
	381		Waste collection
		3811	Collection of non-hazardous waste
		3812	Collection of hazardous waste
	382		Waste treatment and disposal
		3821	Treatment and disposal of non-hazardous waste
		3822	Treatment and disposal of hazardous waste
	383	3830	Materials recovery
Division 39			Remediation activities and other waste management services
	390	3900	Remediation activities and other waste management services
Source: UNO Revision 4			

¹ United Nations, 2008, ISIC, Revision 4

2. MAJOR INDUSTRY STAKEHOLDERS

Electricity



ROLE OF STAKEHOLDERS	
Cabinet	Has approved Namibia's White Paper on Energy Policy of 1998.
Parliament	Formalises relevant policies with appropriate legislation, eg the country's Electricity Act of 2007.
The Ministry of Mines and Energy (MME)	Responsible for overseeing and administering Namibia's electricity sector, in accordance with applicable policies and laws.
The Electricity Control Board (ECB)	Is Namibia's statutory electricity sector regulator, and oversees the licensing, standard of service and supply of all electricity industry participants, and regulates the country's electricity tariffs.
The Ministry of Regional and Local Government and Housing and Rural Development	Oversees Namibia's local authorities and regional councils.
NamPower	Is Namibia's state-owned electricity generation and transmission entity, and is also responsible for all electricity trading into and across the borders, and acts as the country's electricity system operator.
Regional Electricity Distributors (REDs) and other electricity distribution entities	Responsible for the distribution and supply of electricity, in accordance with the provisions of the Electricity Act and residual regulations under the Local Authorities and Regional Councils Acts.
Consumers	End-users of electrical energy.

Water Supply and Sanitation

- As evidenced in the figure below, the Water Supply and Sanitation Sectors in Namibia is very complex due to the large number of stakeholders.
- There are more than 70 primary stakeholders (such as Ministries, Municipalities, Local Authorities, Villages and Regional Councils) with delivery responsibilities in the Water Supply and Sanitation Sectors.
- Many more secondary stakeholders including for example over 50 declared and planned new settlements.
- More than 160 supply chain organisations support the primary delivery stakeholders.
- This large number of stakeholders results in a lack of coordination in the implementation of activities.

3. GOVERNMENT PRIORITIES

- According to NDP 4, by 2017, Namibia will have in place adequate base load energy to support industry development through construction of energy infrastructure and the production capacity would have expanded from 400 to more than 750 mega-watts to meet demand.
- NDP 4² emphasises the need to develop and strengthen rural sanitation services, empower and motivate communities to improve their living environments and health status and establish an integrated sanitation programme at all levels with clearly delegated responsibilities between stakeholders.
- In Vision 2030³ for Namibia, 100% sanitation coverage is foreseen by 2030 in urban areas, 50% coverage in rural areas and 80% in national sanitation coverage.
- MDG target (Goal 7 and Target 7C) is to halve by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation.
- SWAPO Party Manifesto sanitation sector is associated with initiatives that address poverty reduction, job creation, SME development, civil service efficiency and the decentralisation of rural water and sanitation services.

² Office of the President, undated, NDP 4

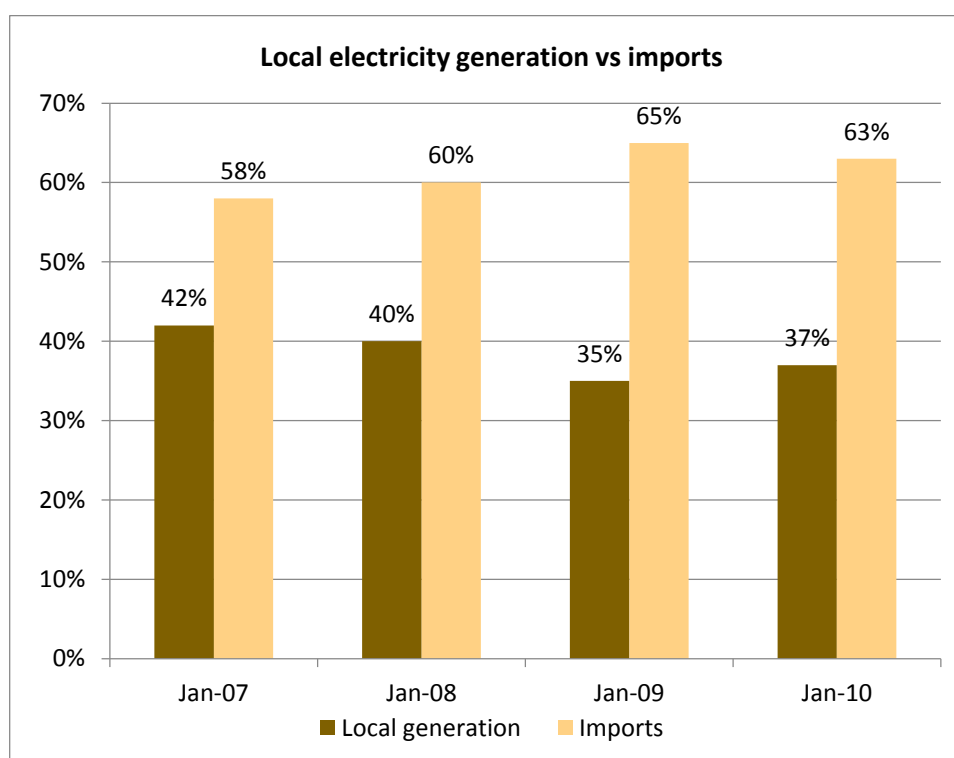
³ Office of the President, 2004, Vision 2030

4. INDUSTRY HIGHLIGHTS

Highlights: Electricity

- NamPower is at present amongst the largest licensed to generate electricity. Its main sources of power are the thermal, coal-fired Van Eck Power Station, the hydroelectric plant at the Ruacana Falls, and the standby diesel-driven Paratus Power Station at Walvis Bay.
- Deregulation at both national and regional levels during the 2000s—allowed other firms to distribute electricity and sell it to local utility companies, who resell that energy to consumers. Such companies are called Regional Electricity Distributors (REDs).
- Although the production capacity has improved from 400MW in 2011 to 495.5MW in 2012, the power demand is still not being met and is expected to increase over the next ten years partly due to the development of uranium mines on the western coast of the country.
- Almost 50% of the country's electricity needs are met by imports, with South Africa and Zimbabwe as the main external suppliers.
- Renewable energy sector offers major yet untapped opportunities for investment, development and expansion.
- Namibia's solar power is amongst the world's best and holds significant development potentials.
- In addition, on-land wind energy sites together with biomass potential, specifically from invader bush, could readily boost the national power capacity.

The figure below indicates local electricity production and imports over the last four years.



Source: Nampower Annual Report 2012

The following is evident from the figure:

- Namibia is dependent on electricity imports which make the country vulnerable to external shocks such as price fluctuations, security and quality of electricity supply.
- Increased imports affect the achievements of other developmental goals. About 61% of households cook without electricity or gas, of which 23% are in urban and 90% in rural areas. Only 42 %of households use electricity for lighting while 38% use candles.
- To achieve the NDP 4 target of 750MW by 2017, there is need to improve energy production.
- Projects such as the upgrading of the Heavy Fuel Oil thermal power plant, the Concentrated Solar Power, Kudu gas power project, Arandis power plant, and Baynes hydro power projects needs to be accelerated⁴.

Challenges

Although considerable progress has been made since independence in supplying grid electricity to community facilities and rural villages, the Namibian electricity sector still face a number key challenges. These include, amongst others:

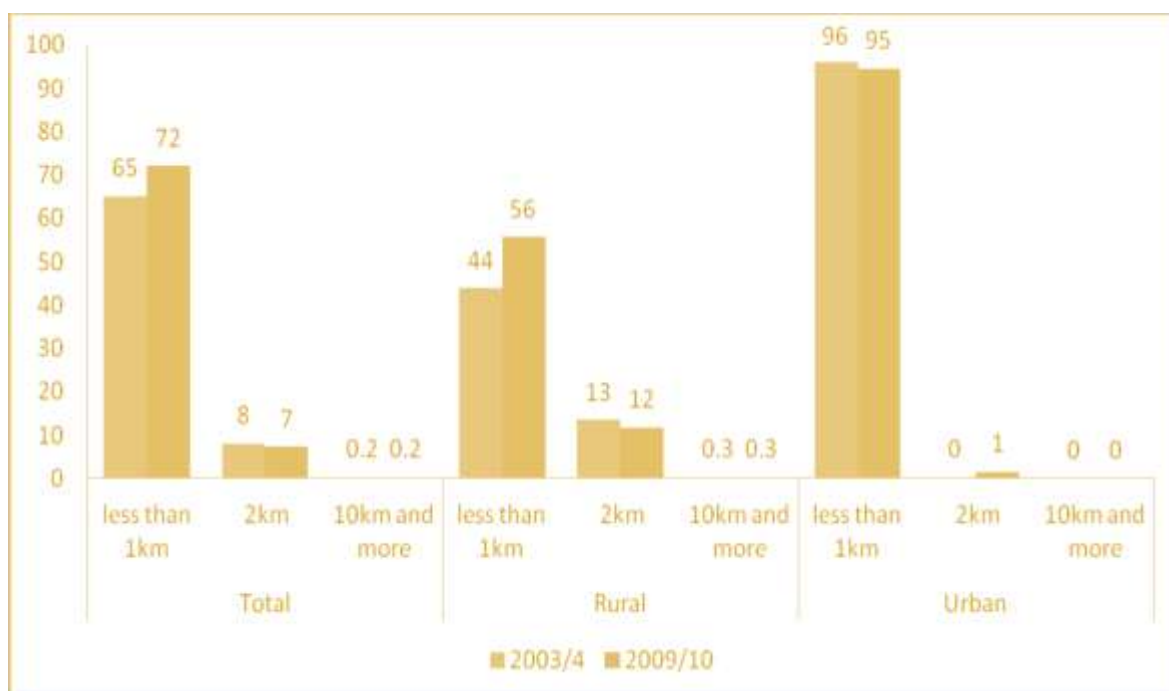
- Increasing sector efficiency.
- Improving access to electricity in a sustainable manner, particularly in rural areas.
- Increasing security of supply, while taking into account the risk of stranded investments.
- Promotion and development of the sector as a key vehicle for investment and growth.
- Ensuring environmental and socio-economic sustainability.
- Alleviation of resource constraints in the electricity sector.
- Development of an efficient and appropriate governance framework and structure.

Highlights: Water Supply and Sanitation

- Namibia's water resources originate both nationally (within its borders) and internationally and are shared with its neighbours.
- The water supply network, which is operated by a state-owned company, Namwater, can normally meet most demand for drinking water.
- However, demand has risen because of population growth, and reservoirs can run dangerously low during droughts.
- Desalination plants are under consideration by NamWater in view of the increase in uranium mining.
- The Government is building more dams due to the demand for irrigation water.
- Although the population access to water has increased since independence, with 70% of the rural population and 95% of the urban population having access to safe water supplies for domestic use, in rural areas only about 56 percent of households live within 1km to the nearest source of drinking water compared to 95 percent in urban areas.

⁴ Office of the President National Planning Commission Economic Development Report Quarter 1, 2013

The figure below depicts the population location in terms of water accessibility.



Source: NHIES 2003/4, 2009/10 NSA

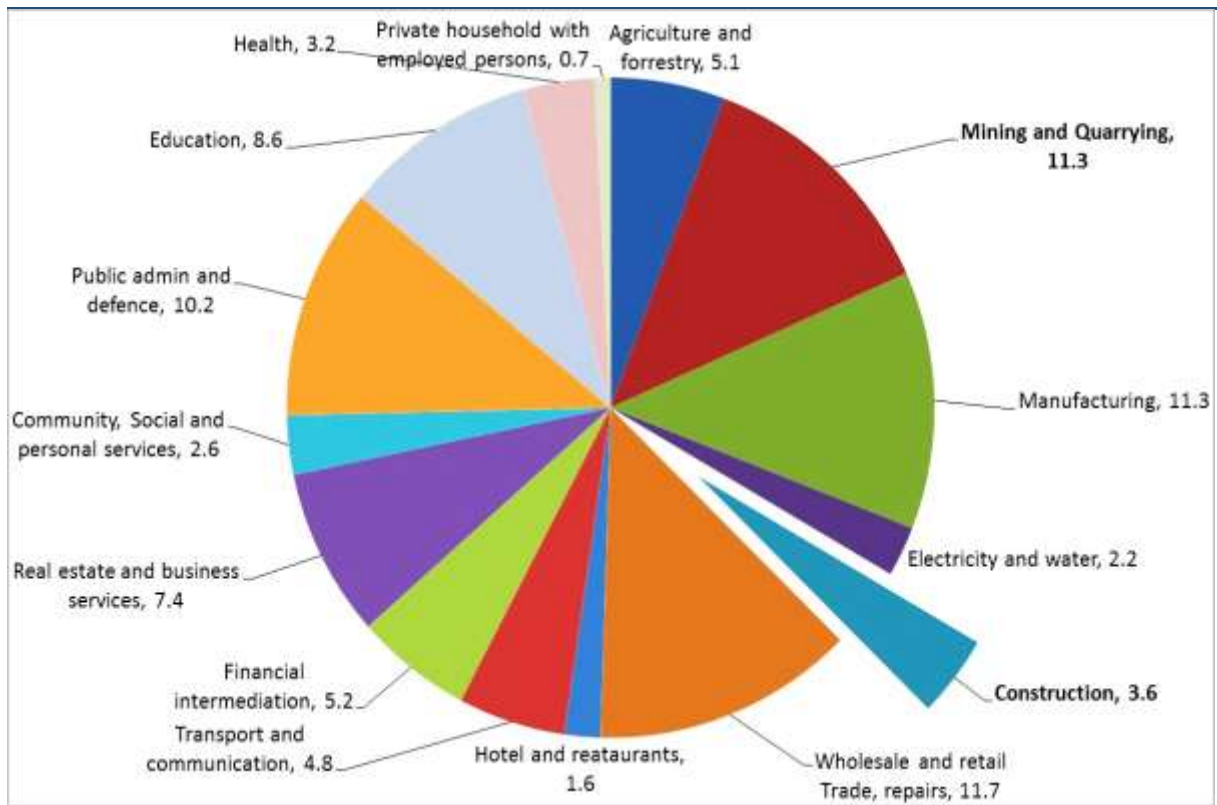
- The NDP 4 target of increasing access to water for human consumption from 86% to 100%, as well as sufficient reserves for industrialisation could be achieved if projects such as the Aussenker Scheme, Kavango Link to CAN and Cuvelai, Neckartal Dam are accelerated.

Highlights: Oil and Gas

- Namibia has a fledgling upstream industry with probably more gas than oil potential.
- It has, however, a very well established downstream oil-marketing infrastructure.
- Namibia is underexplored with seven onshore and eleven offshore wells.
- The only significant discovery to date has been the Kudu gas field operated by Shell.
- The legal framework governing the exploration for, development and production of petroleum in Namibia is set out in the Petroleum (Exploration and Production) Act, 1991 (the "Petroleum Act"), the Petroleum (Taxation) Act, 1991 (both as amended principally by the Petroleum Laws Amendment Act, 1998) and the Model Petroleum Agreement 1998.
- Namibia has no refinery and is dependent on imports from South Africa and Cote d'Ivoire.
- The state-owned National Petroleum Corporation of Namibia (NAMCOR) is the national oil company.
- The Ministry of Mines and Energy (MME) regulates the Namibian oil industry.

The structure of Namibia's economy has changed over the past three decades. In terms of industry contribution to GDP the breakdown is as follows:

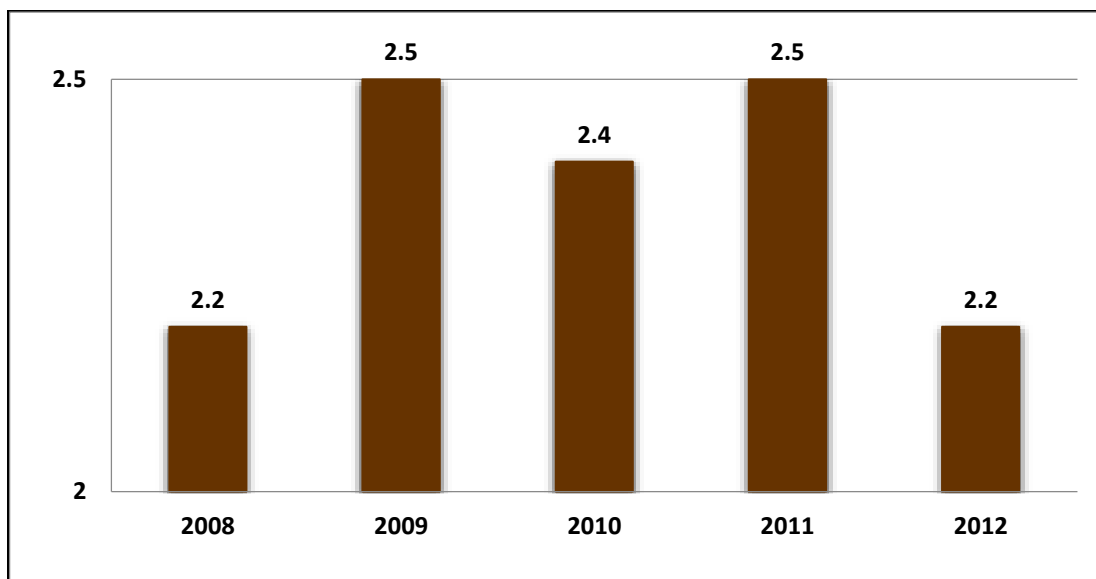
INDUSTRY GDP CONTRIBUTION



Source: National Human Resource Plan (2012)

- Electricity, together with water remains subdued at 2.2% but is expected to rise with increased economic growth projected at 5.7% in 2014.

INDUSTRY GDP TRENDS, 2008-2012

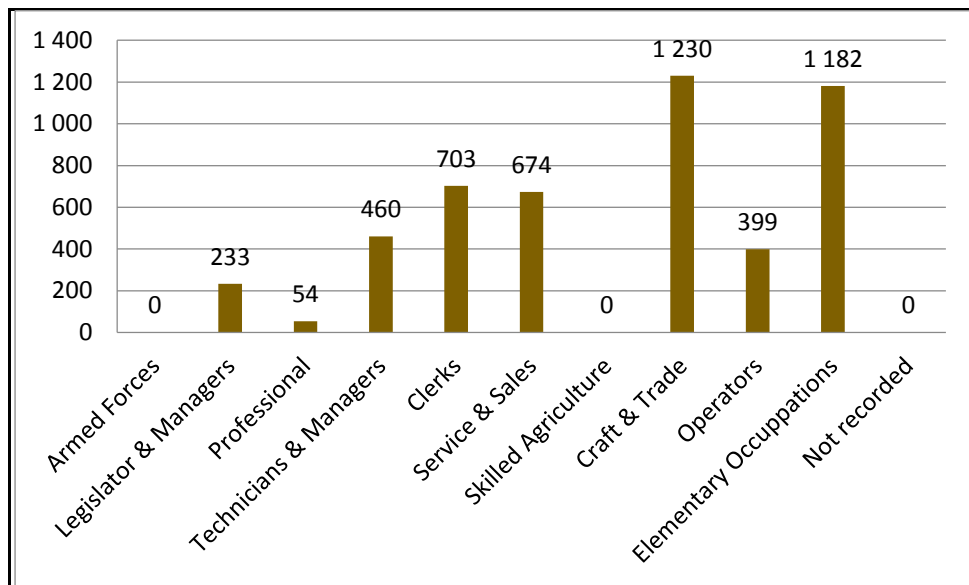


Source: Bank of Namibia, December 2013. Economic Outlook Namibia

- Protracted drought conditions have had adverse effects on the water and electricity generation industries but is expected to pick up in 2014.
- Electricity generation has declined significantly, at the Ruacana hydropower station, which has resulted in increased electricity imports from South Africa.
- Based on better rain prospects the industry is projected to grow by 1.5% in 2014.

5. LABOUR MARKET PROFILE

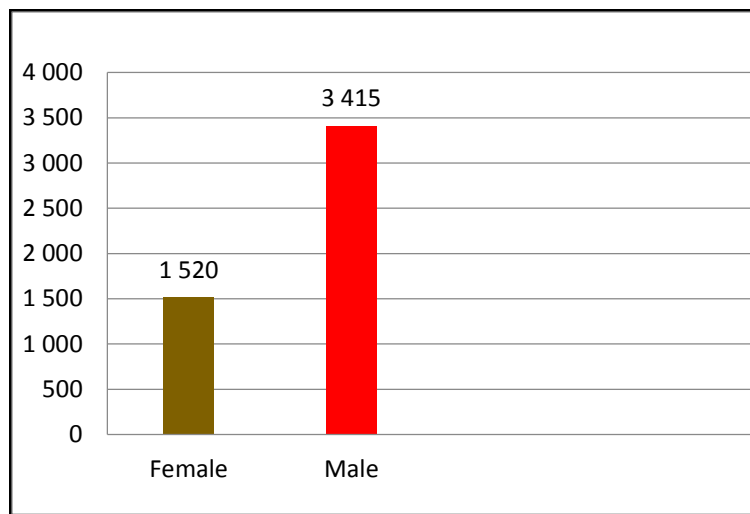
OCCUPATIONAL BREAKDOWN



Source: Namibia Statistics Agency (2012)

- The total labour force for this industry sector is 4 936.
- There are a high number of workers in the craft and trade (1230) and elementary occupations (1182).
- There is pressure on the education and training system to deliver skilled workers.

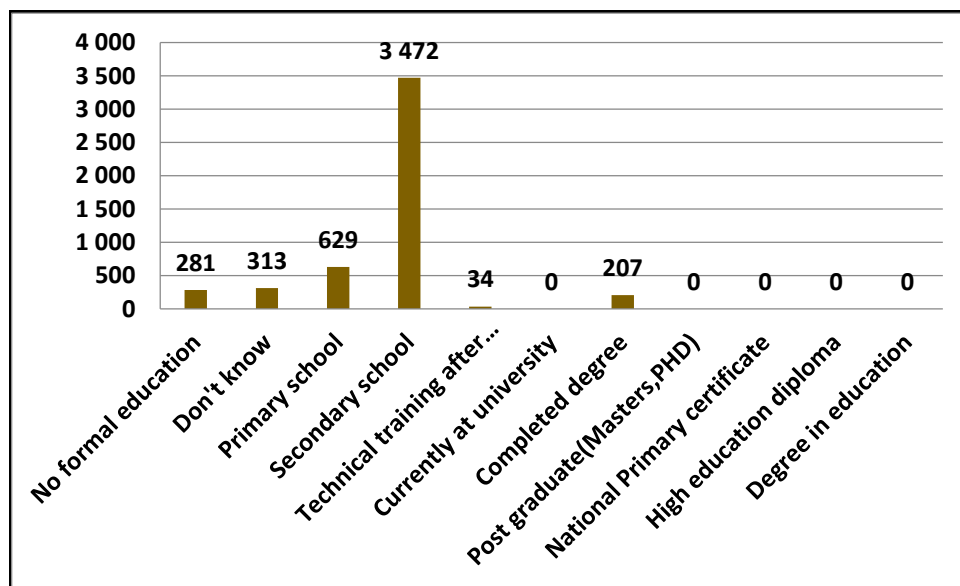
GENDER BREAKDOWN



Source: Namibia Statistics Agency (2012)

- Room for improvement in addressing gender disparities.
- Females make up 44% of the industry sector.

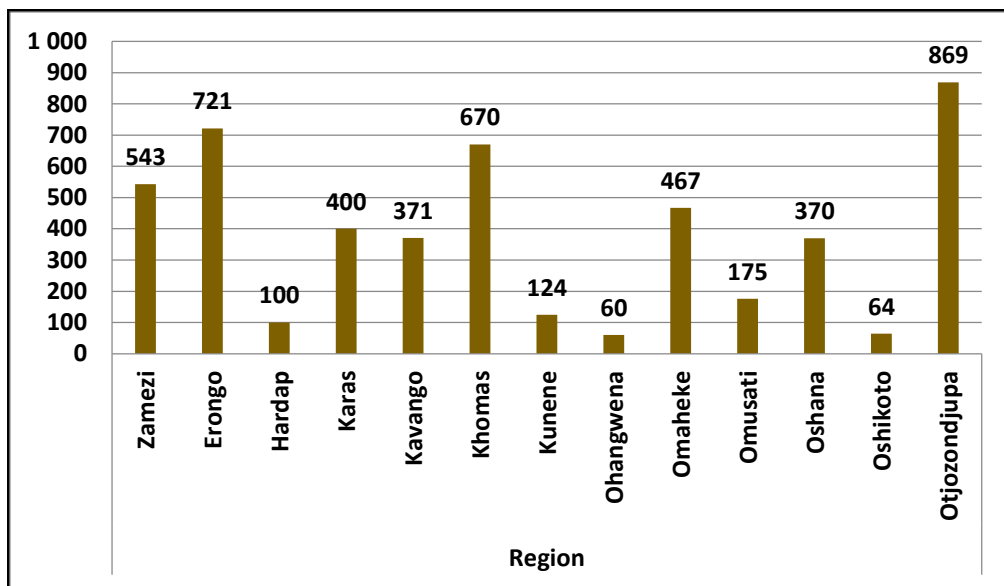
EMPLOYEE QUALIFICATIONS



Source: Namibia Statistics Agency (2012)

- Most employees have a secondary education (3427).
- There are very few people with post-school qualification in a sector which needs to keep up with new technology.
- According to NamWater the figures provided by the Namibia Statistics Agency for post-graduates are questionable because there are a small number of people with such qualifications working for firms.

REGIONAL EMPLOYEE BREAKDOWN



Source: Namibia Statistics Agency (2012)

- Erongo, Khomas and Otjozondjupa have a higher number of employees due to increased industrial activities in these regions.

6. CHANGE DRIVERS

Key change drivers in the industry.....

ELECTRICITY: POWER SHORTAGES

- Namibia's electricity demand outstrips the available supplies.
- NamPower, faces challenging times to ensure that the country is supplied with the electricity it demands.
- Looming electricity shortages threaten to put a brake on large-scale industrial and mineral resource exploitation projects currently in existence and still in the pipeline, thus undermining the viability of significant growth opportunities, holding off much needed investment, and by extension dampening the state's ability to generate adequate resources to meet the increasing infra-structure and social needs of a developing society.

IMPLICATIONS

- Renewable energy technologies can significantly contribute to address short-term electricity supply gaps, while offering outstanding opportunities for the country's long-term development and also create opportunities for job creation and skills development to address energy needs.
- NamPower's envisaged solar water heater and efficient lighting campaigns can generate employment and skills development in local communities.
- There is a significant need to increase graduate outputs of artisans and engineers to meet the envisaged expansion in electricity demand.

WATER SUPPLY & SANITATION: WATER COST RECOVERY

- *Water cost recovery is a major issue in Namibia.*
- *While the basic premise of cost recovery is to make water available to the poor, the service providers will be unable to continue providing the expected water supply services without the necessary revenue. Hence, full cost recovery and prevention of debt should be promoted and implemented, based on equitable tariffs to improve access by poor and marginalised communities.*
- *It is therefore important to recover the full financial cost as far as is possible. There should be full cost recovery for those customers who can afford it while with the low income rural and informal urban areas, at least the operational and maintenance costs should be recovered. This income can be used for capital infrastructure support and other operational expenditure.*



IMPLICATIONS

- *General up-skilling of community members on the importance of paying for water.*
- *Training of councillors in water conservation and water demand management.*
- *Training of municipal staff in metering, billing and cost recovery.*
- *Development of management and leadership skills.*
- *Artisan development.*
- *Operations and plant maintenance skills.*

WATER SUPPLY & SANITATION: SANITATION ACCESSIBILITY

- *According to the National Demographic Health Survey conducted in Namibia in 2007, 67% of the Namibian population do not have access to improved sanitation and practice open defecation.*
- *This represents 1.4 million people, mostly living in rural areas and in informal settlements around urban areas.*
- *In urban areas (in all municipalities, towns and villages), 57.8% of the population and in rural areas 5.5 % of the population are connected to water-borne sewers.*
- *On-site sanitation systems (wet and dry) are not well developed and cover only a small percentage of the population.*
- *The majority of current sanitation systems in Namibia are water-borne sanitation.*
- *Shared toilets, which are not regarded as improved systems according to the WHO/UNICEF Joint Monitoring Programme definition, are used by 18% of the urban population.*



IMPLICATIONS

- *Acquiring knowledge of sanitation issues at central, regional and local levels is a major priority in order to address the problems.*
- *Technical and hardware skills can be developed at TVET Colleges and on job sites.*
- *Capacity building aspects can be developed by appropriate training providers.*
- *Management skills for smaller local authorities need to be developed so that they can properly manage their sanitation systems/wastewater treatment facilities.*

WATER SUPPLY & SANITATION: WATER SCARCITY

- *Namibia is a naturally arid country where water is already a very scarce resource. Population growth, expanding economies and climate change are exacerbating the problem of water scarcity.*
- *Predictions for Namibia and the rest of sub-Saharan Africa indicate that there will be absolute water scarcity by 2020.*
- *Higher water temperatures and changes in extremes, including floods and droughts, are projected to affect water quality and quantity due to high evaporation as climate gets drier, and exacerbate many forms of water pollution.*

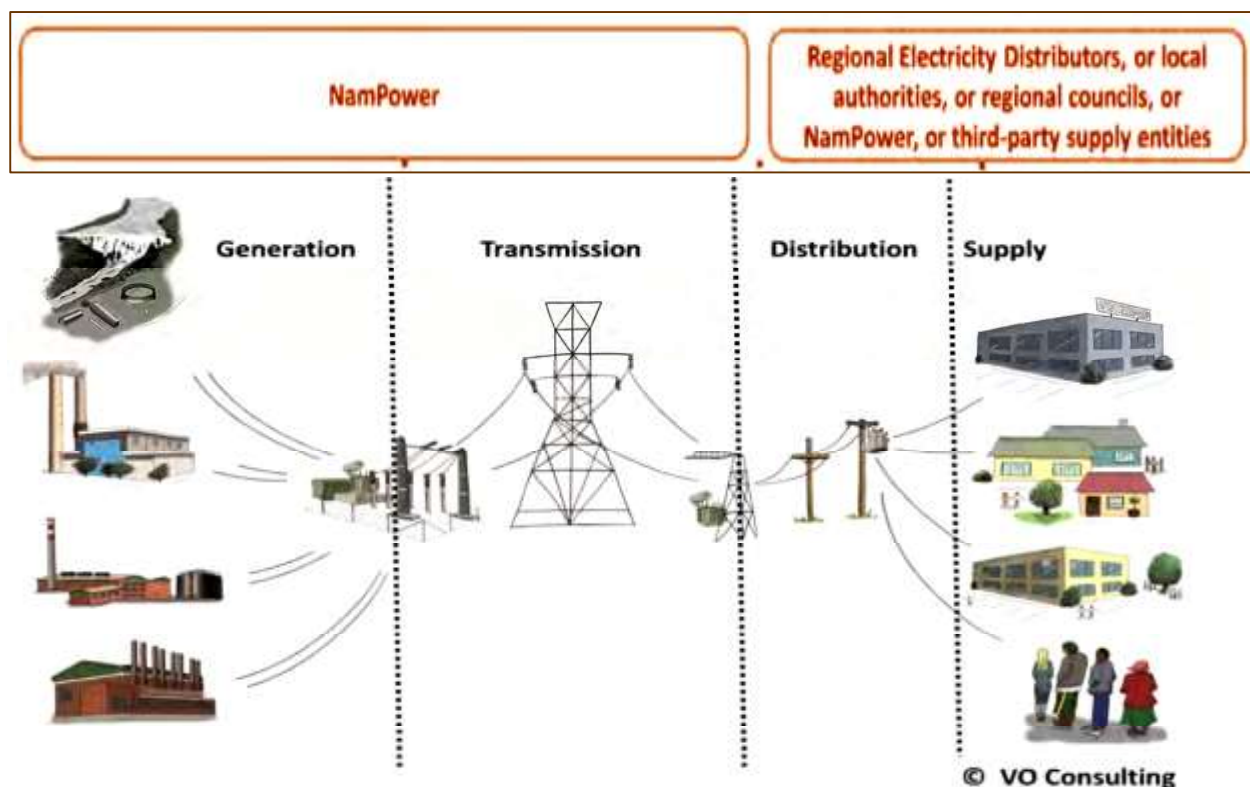
IMPLICATIONS

- *Specific engineering skills would be required for construction of dams and pans in areas where there is increased rainfall, to handle the desalination process and recycling and re-use of water.*
- *Specialist managers should be equipped in management of inflow and outflow of water in the event when there is no water or during dry seasons.*
- *The general public should be educated on efficient water usage in order to save it.*
- *There is a need to improve and encourage innovation in reducing water scarcity.*

7. VALUE CHAIN ANALYSIS

Electricity

A typical value chain for the electricity industry reflects four main functions – i.e. generation, transmission, distribution and supply. The aim of this analysis is to demonstrate the complex nature of electricity movement from input to output. In doing so, occupations are identified at different points in the cycle that are needed to drive the industry. Our interest in examining the various stages is to assist in understanding workforce requirements over the life-time of projects, in the context of persistence skills shortages in certain occupations.

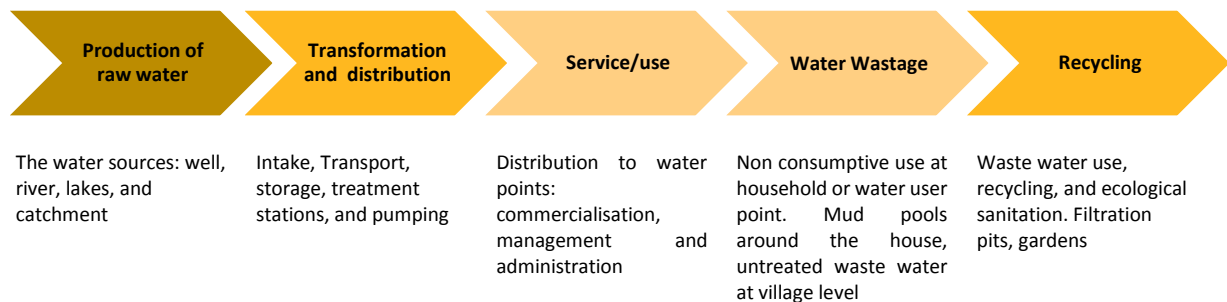


Generation	Transmission	Distribution	Supply
Electricity is generated in either hydro-electric or coal-fired power stations. New power stations using renewable energy sources, such as solar, wind and biomass are likely to come into operation in Namibia.	Electricity is fed into the national transmission grid and transported from the place of generation to the places where it is used. Transmission takes place at high voltage to minimise losses.	Closer to the places where electrical energy is consumed, electricity is transformed to low voltages, and distributed to commercial, industrial, institutional and domestic end-users.	End-users are connected to the electrical distribution network. They take delivery of electrical energy, which is supplied and sold by a distribution entity, such as CENORED, Erongo RED or NORED, or a local authority or regional council or their agents, or in some cases, NamPower.

Source: Namibia's Energy Future a Case for Renewables, KD Stiftung, October 2012 [VO Consulting]

Water and sanitation

A typical value chain for the water and sanitation industry is reflected as follows:

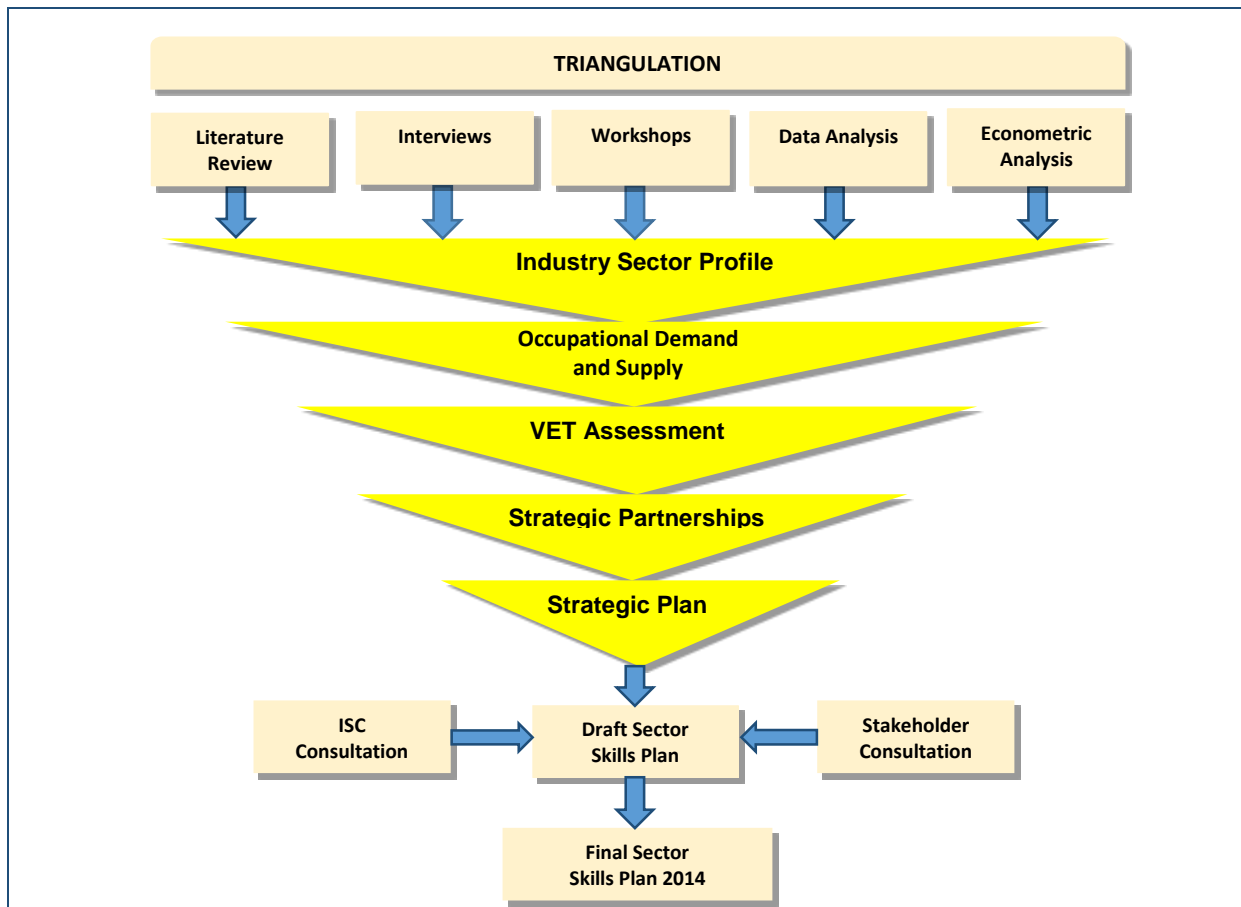


Source: Topp, V; Soames, L; Parham, D & Bloch, H. 2008. Productivity in the mining industry: measurement and interpretation.

8. RESEARCH DESIGN AND METHODOLOGY

A well-considered research design, using appropriate methods, is essential to identify and anticipate occupational shortages in designated industries. The design is based on a mixed method approach, which brings together different research methods. This approach uses qualitative and quantitative research techniques. The chosen method is intended to 'triangulate' different information sources to identify occupational skills shortages. This ensures the credibility and legitimacy of the sector skills plan.

The research design is set out as follows:



- Multiple data sources in order to identify occupational shortages and skills gaps in the labour market.
- Information is gathered on the occupational labour market, demand and supply of occupations, skills gaps, VET assessment and strategic partnerships to develop a strategic plan for the industry sector.
- Stakeholder consultations take place at all stages in the SSP development cycle.

Data Collection: Data was collected from the following sources:

Review of existing data and information sources
Literature search of studies in the sector
Analysis of industry market reports
Review of national strategies
Annual Reports of employer associations and companies
Interviews with key informants in the sector
Group discussions with stakeholders
Revision of the Sector Skills Plan
Presentation of SSP to Industry Skills Councils
Adoption of SSP by NTA

To add further value, qualitative research methods were used. Various focus group consultations with stakeholders were held in the development process.

The following research techniques were employed to make a determination on occupational demand:

Interviews: Interviews were conducted with key informants in the industry sector. These individuals were assumed to possess deep knowledge, understandings and insights of skills development in their respective sectors. The interviews were conducted using a semi-structured interview schedule. This kind of interview is partially structured with open-ended questions to elicit information that would not be obtained by closed questions. The interviewer is free to deviate from the questions so long as the issues are covered by the conclusion of the interview.

Workshops: Workshops were held with a larger group of industry sector experts to ascertain their views on skills developments in their respective industry sector.

Literature Review: A review of literature was conducted in the industry sector. Industry publications such as company annual reports, research studies, employer newsletters, economic reports, sector studies, and risk analysis reports were examined to establish evolving trends and skills needs in the industry sector.

Econometric Forecasts: The National Planning Commission undertakes econometric forecasting. The findings were used in this study as research evidence.

By using multiple research methods, it is possible to draw comparisons, establish occupational trends, identify occupational shortages, and make decisions based on the weight of supporting evidence rather than subjective inclinations.

Data Analysis: Data is analysed from a comprehensive array of market-based measures (signals and indicators) in the economy for proposing interventions in education and training. Reliance on a composite of labour market signals, rather than on a single forecast, allows the researcher to form judgments on the basis of the weight of evidence.

The identification and interpretation of labour market signals require a basic understanding of the analytical processes which can be applied to occupational supply and demand. It also implies the availability of reliable labour market data for: guiding education and training decisions; managing training systems; and planning for education and training.

9. SKILLS IN DEMAND

Based on the value chains, the skills below are in demand in the energy, water and sanitation industries. There are certain skills that are common to all sub-sectors in the industry.

Occupations (Electricity and Gas)	Shortages 2015	Shortages 2020
Professionals		
Industrial Engineers	15	25
Electrical Engineer	10	15
Electronic Engineers	15	25
Chemical Engineers	10	15
Mechanical Engineer	15	20
Project Manager	50	75
Production Manager	20	30
Project Engineer	30	50
Civil Engineers	20	30
Ecologists	5	10
Accountants	10	20
Financial managers	10	15
Associate Professional or Incorporated Engineers		
Occupational Health and Safety Officers	25	50
Power Distribution / Transmission Incorporated Engineers	50	75
Chemical Engineering Incorporated Engineers	20	35
Electrical Engineering Mechanician	75	91
Mechanical Engineering Mechanician	31	32
Instrumentation Mechanician	3	20
Metal Fabricator	15	10
Civil Engineering incorporated Engineers	23	37
Craft Related Workers		
Electrician (Heavy Current)	35	50
Electrician	25	35

Occupations (Electricity and Gas)	Shortages 2015	Shortages 2020
Diesel Mechanics	45	55
Fitters and turners	30	40
Boilermaker	50	75
Millwright	30	50
Welder	75	100
Foreman	50	75
Diesel Mechanics	30	40
Heavy Plant Operators	50	70
Semi-skilled (Plant & machine operators)		
Structural steel erector	150	200
Electric power plant operator	100	150
Steam Engine and Boiler Operators	8	13

Occupations (Water and Sanitation)	Shortages 2015	Shortages 2020
Professionals		
Water Resources Engineer	10	15
Water Distribution Engineer	15	20
Water treatment Engineer	20	25
Hydrologist	20	30
Geo-hydrologist	10	15
Water Scientist	20	30
Limnologists	15	20
Biologist	5	8
Social Scientist	10	15
Ecologist	5	7
Land Hydrographical Surveyor	8	10
Mechanical Maintenance Engineer	10	12
Sewerage System Engineer	10	15
Sewerage Treatment Engineer	20	30
Electrical Engineer	15	20
Finance Manager	30	50
Asset Manager	10	15
Associate Professional or Technician		
Technician Water Distribution	5	10
Technician Water Treatment	10	15
Occupational Health and Safety Officers	30	50
Water laboratory technicians	10	20
IT Engineers and related occupations	30	50
Technician Sewer System	30	40
Technician Sewage Treatment	30	40
Artisans		

Occupations (Water and Sanitation)	Shortages 2015	Shortages 2020
Pipe Fitter	100	150
Water Artisans (civil, mechanical, electrical)	150	250
Plumber	75	100
Electrician	15	20
Diesel Mechanics	30	50
Fitters and turners	30	40
Boilermaker	20	50
Millwright	30	50
Welder	40	50
Foreman	20	25
Heavy Plant Operators	50	70
Semi-skilled (Plant & machine operators)		
Borehole Drillers	30	50
Water plant operator	30	50
High Pressure Jetting Operator	20	30
Night Soil Truck Operator	50	70
Waste material plant operator	30	50
Water Treatment Plant Operator	10	15

10. SKILLS SUPPLY

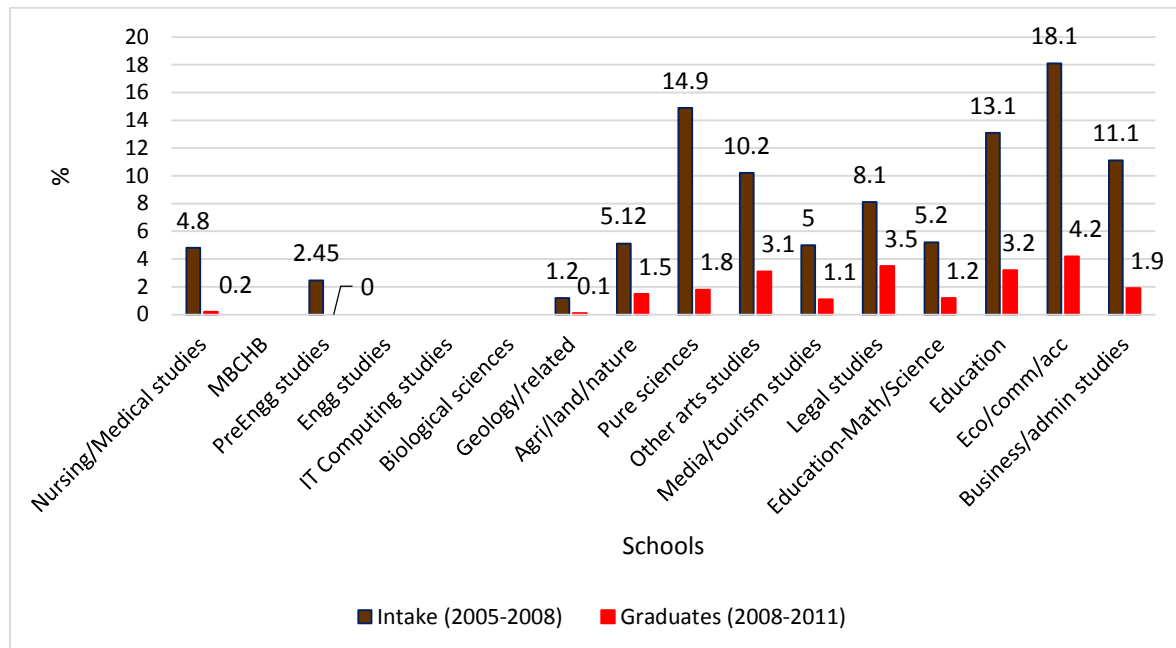
Higher Education

- This section focuses the supply of skills from Higher Education and Training (HET) Institutions and Vocational Training Centres (VTCs).
- The data of HET graduates from the engineering, information technology and science schools (faculties) is analysed because these graduates tend to be absorbed by the industry.
- There are two public HET institutions, the University of Namibia (UNAM) and the Polytechnic of Namibia (PoN).
- VET provision in Namibia is provided through public, parastatals and private vocational training centres (VTCs). In addition, there are public Community Skills Development Centres (COSDECs), KAYTEC and the Katatura Youth Enterprise Centre. Training is also offered through non-profit and private training providers on a smaller scale.

University of Namibia (UNAM)

The figure below provides intake (2005-2008) and graduates (2008-2011) for all schools. However, for the purpose of this industry, the discussion will focus on engineering and IT and science.

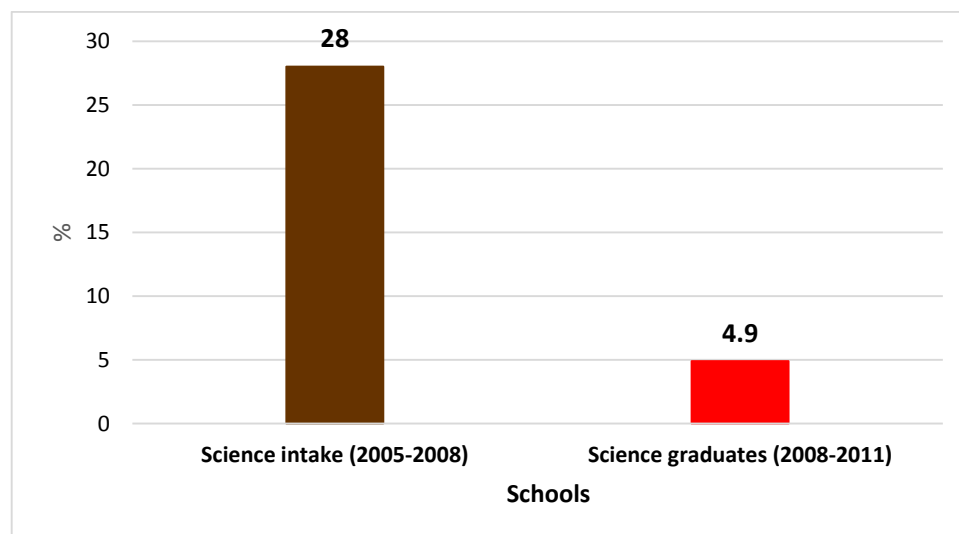
Intake (2005-2008) and graduates (2008-2011) by school



Source: Insight Namibia Report 2012/2013

- There is minimal to no intake in the school of engineering and IT studies for the period (2005-2008).
- Whilst there is a 14.9% intake for science for the same period, the graduation rate of 1.8% is very low.

Intake (2005-2008) and graduates (2008-2011) by school

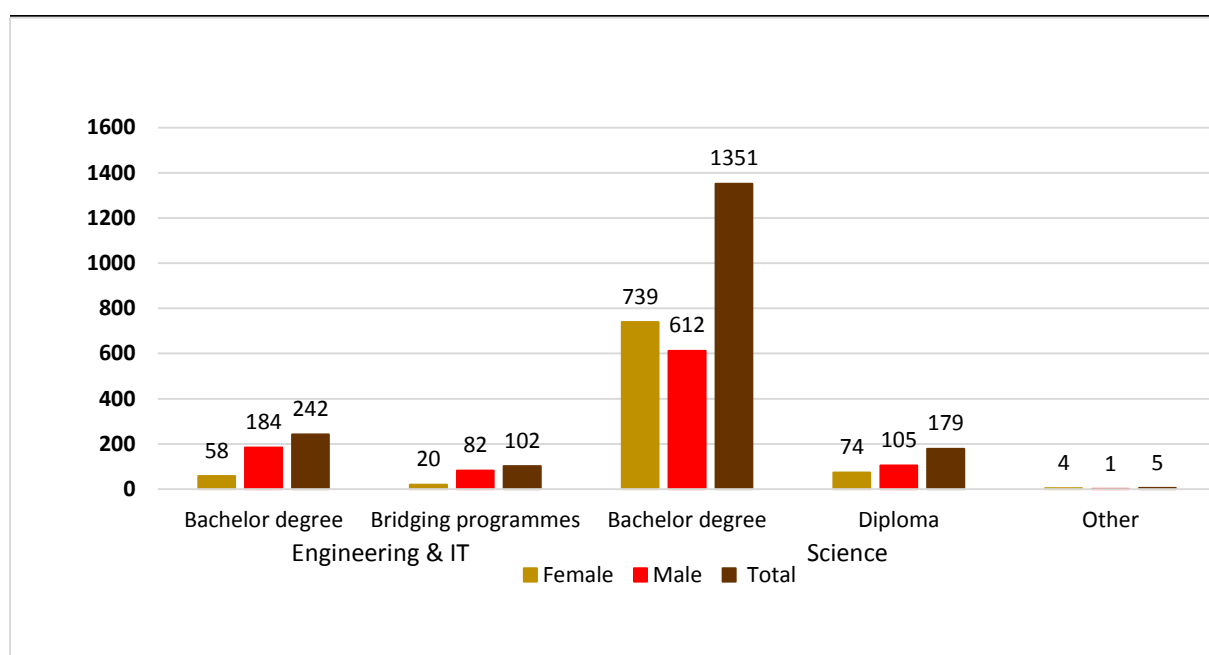


Source: Insight Namibia Report 2012/2013

- The figure above provides further support to the low science graduate rates (4.9%) despite a 28% intake.
- The total undergraduate enrolment at UNAM for 2013 was 17 536. This comprised 10 897 females and 6639 males. A total of 1 879 students, comprising 10.7% of the total student enrolment, undertook programmes in engineering and information technology and science. While this is minimal, it does indicate slow but gradual progress in relation to the 2005-2008 intake.

The figure below provides a breakdown of undergraduate enrolment by school, qualification type and gender for 2013.

UNAM- undergraduate enrolment by school, qualification type, gender, 2013

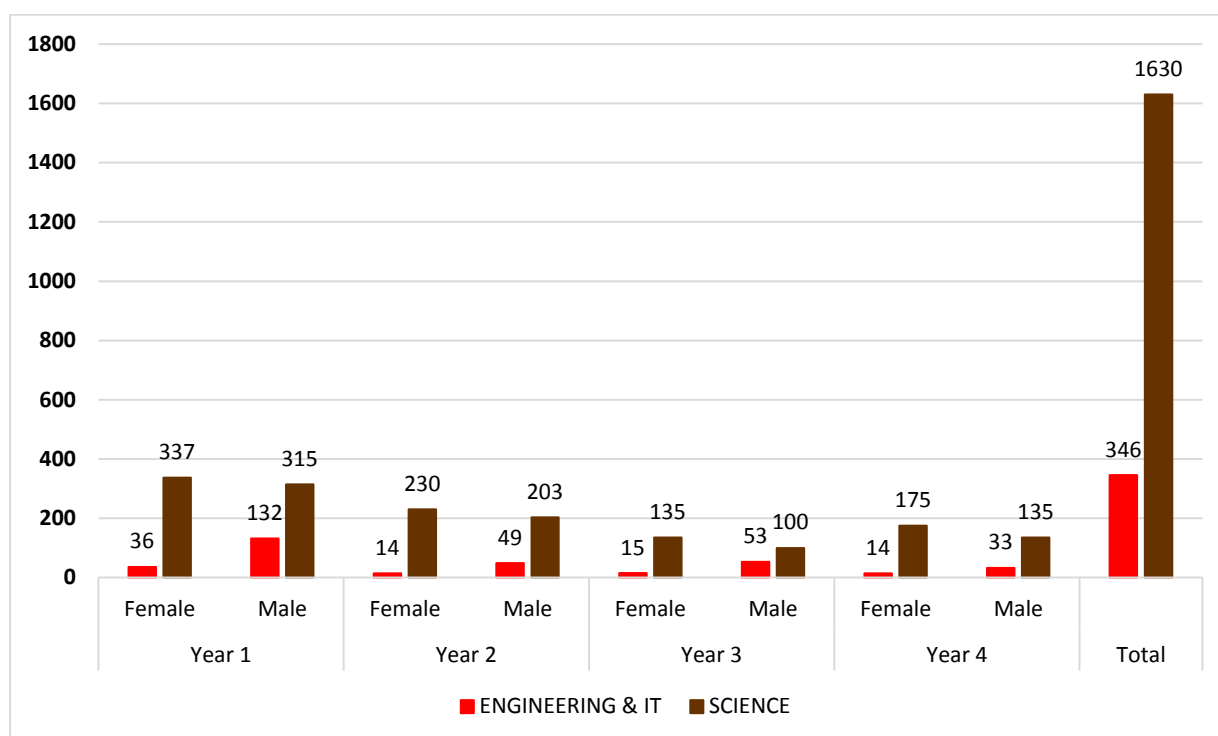


Source: UNAM Student Enrolment Report, 2013

- Engineering and IT which includes bachelor degrees and bridging programmes has 0.7% females and 4.0% males. Science which includes bachelor programmes, diplomas and other has 7.5% females and 10.8% males.
- Gender disparity is an issue. This needs to be addressed in order to move towards gender equity in the industry.
- There is a major difference in the engineering and IT enrolment (18.3%) in comparison to science (81.9%), hence confirming the shortage of skills in this industry sector. The higher science intake for this year in comparison to the 2005-2008 indicates progress in this school, a positive sign for the industry sector.

The figure below provides a breakdown of student enrolment as per school and gender from year one to year four.

UNAM- undergraduate enrolment by school, period of study and gender, 2013



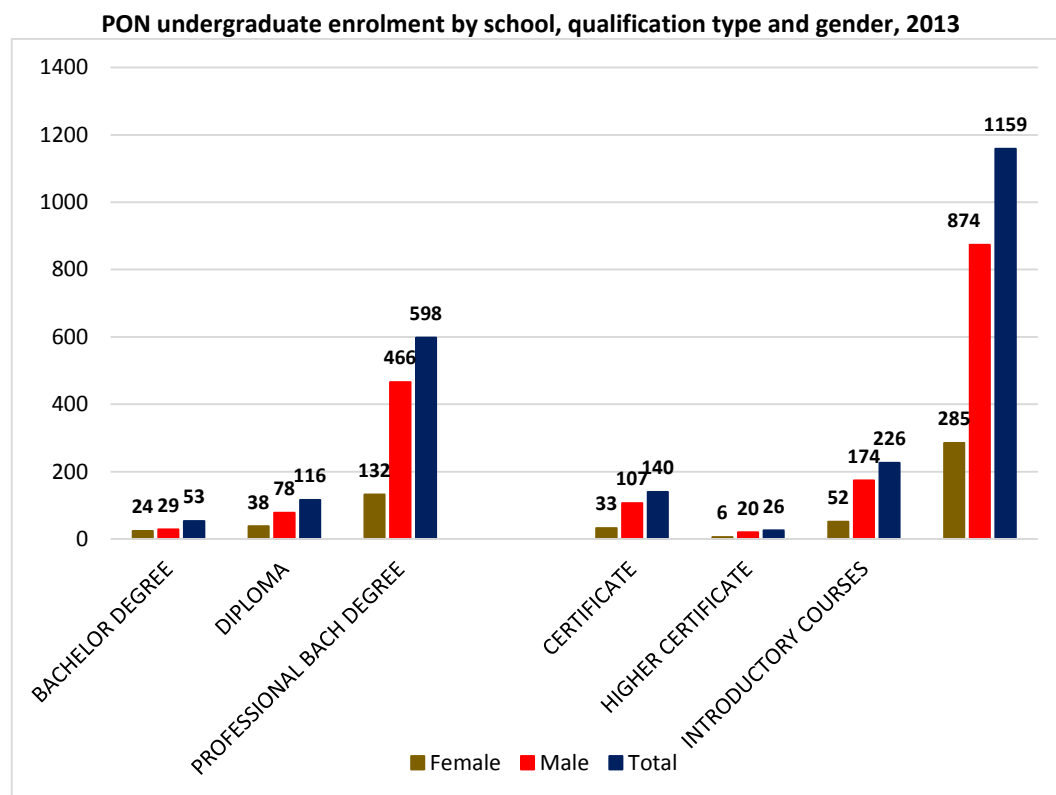
Source: UNAM Student Enrolment Report, 2013

- There are 36 female students in engineering and IT intake in year 1 by year 4 it's down to 14, while male year 1 intake is 132 and by year four is 33.
- The dropout rate from year to year is very high, hence impacting negatively on the throughput rate and increasing the skills shortages in the industry.
- Female science intake in year 1 is 337 and by year 4 it's down to 175, while male year one intake is 315 and by year 4 is 135.
- While there is minimal gender disparity in science programmes, the decline in student numbers from year to year is very high, impacting negatively on the throughput rate and increasing the skills shortages in the industry.
- About 47 students reach the final year of engineering and IT and 310 in the sciences which further highlights the need to increase enrolments.

Polytechnic of Namibia (PoN)

- Polytechnic of Namibia (PoN) enrolled 13 130 students in 2013. A total of 1 159 students, comprising 8.8% of the total student enrolment undertook programmes in the school of engineering.
- The female enrolment is 285 comprising 4% of the total female enrolment, while the male enrolment of 874, compromises 14.9% of the total male enrolment.
- The low enrolments (8.8%) specifically for females indicate a reluctance to take engineering qualifications. This should be addressed as a priority.

The figure below provides a breakdown of undergraduate enrolment by school, qualification type and gender for 2013.

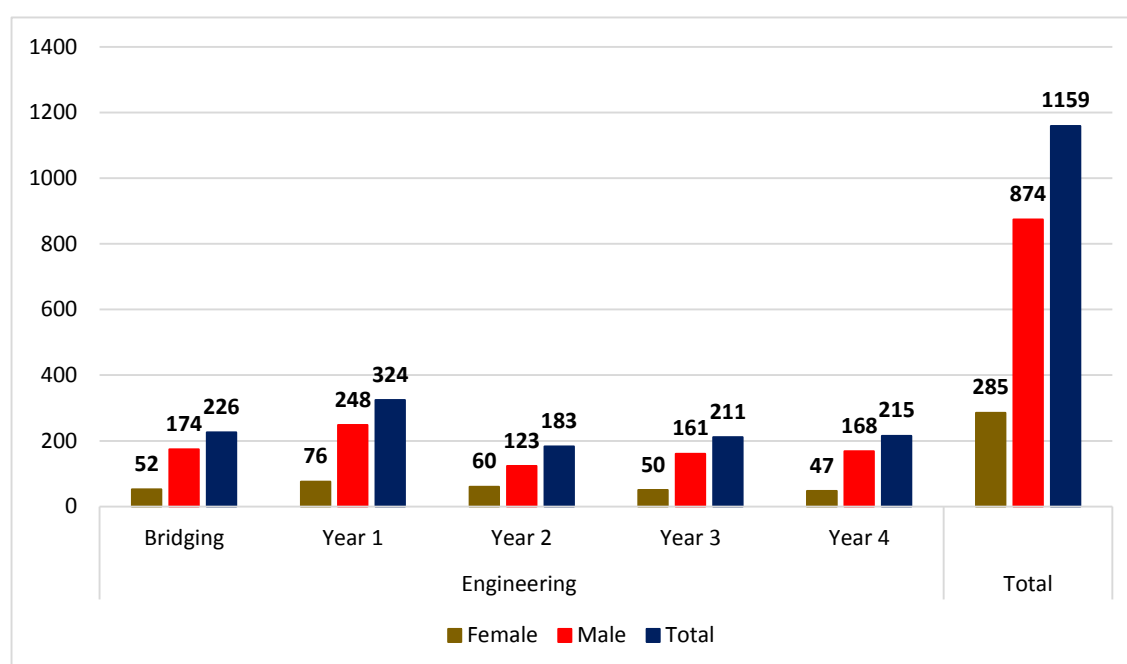


Source: Polytechnic of Namibia, 2013

- Apart from the bachelors degree, there is major gender disparity in male and female enrolment for all other qualifications.
- Female students should be encouraged to take on qualifications offered in the engineering and science fields.

The figure below provides a breakdown of undergraduate enrolment as per school, period of study and gender.

PON- undergraduate enrolment by school, period of study and gender, 2013



Source: Polytechnic of Namibia, 2013

- Female enrolment at the bridging year was 52 (18%) and at year 4 were 47 (16.5%), while male enrolment at the bridging year was 174 (20%) and at year four was 168 (19%).
- Although the enrolment figures in total are low, there is progress to year 4, anticipating a good throughput rate. The same applies for males.

The Findings

- The data from UNAM and PoN does not present an encouraging picture of enrolments and graduate rates of students in engineering and IT and science programmes required by the industry.
- Female enrolments are lower than males in both institutions.
- Due to a lower rate reaching the final year, there's a need to increase enrolments.
- According to David (2013)⁵ at least 26% of graduates who finish their tertiary education end up unemployed. This is according to a tracer study conducted by the National Council of Higher Education (NCHE) in 2011.
- Out of the 5 000 (4700) graduates from UNAM and PoN, 1 500 do not have jobs.
- 60% of PoN graduates have taken up jobs that are not linked to their studies.
- 27% say they have not found employment closely related to what they had studied.
- About 24% of graduates say they have had better prospects in their jobs, which are not related to what they had studied.
- 11.7% of graduates from UNAM, who have completed their respective courses, have not landed any jobs.

⁵ Aurelia David, The Namibian, 2 September 2013.

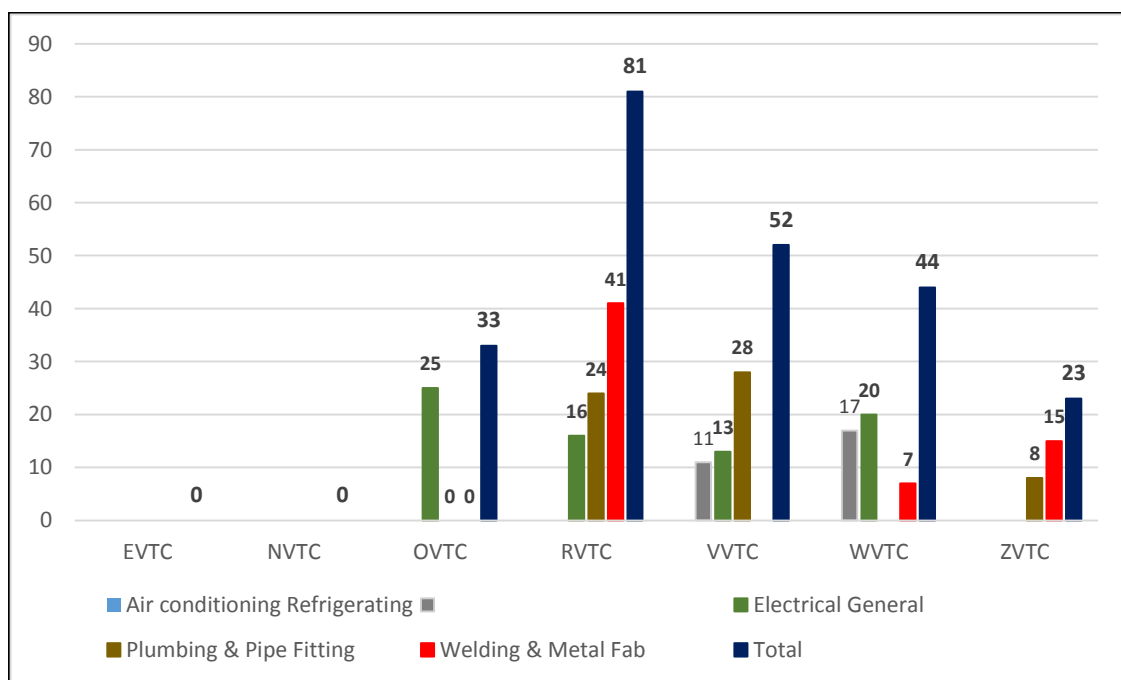
Vocational Education and Training (VET)

- The VET system is implemented with the intention of addressing skills shortages in the country, particularly technical skills at artisan level.
- Vocational Training Centres (VTCs) in Namibia consist of both state and privately managed institutions.
- The NTA currently oversees the VTCs. Until a few years ago, vocational training was not yet in the focus of the Ministry of Education and substantially underfunded. Even though this has changed recently, most vocational training is still carried out informally in the enterprises without any formal diploma issued for the learner or quality standards being set.

Vocational Training Centres (VTCs)

- Graduates of public and private VET institutions generally transition directly to the labour market.
- In addition, Community Skills Development Centres (COSDECs) graduates also seek employment. However, COSDECs offer mainly unaccredited skills programmes and therefore add little value to the energy, water and sanitation industry.
- Enrolments at public VET Colleges for trades in the energy, water and sanitation industry are illustrated for 2013 from data supplied by the NTA below:

Trainees per trade by level 3 at public VTCs, 2013

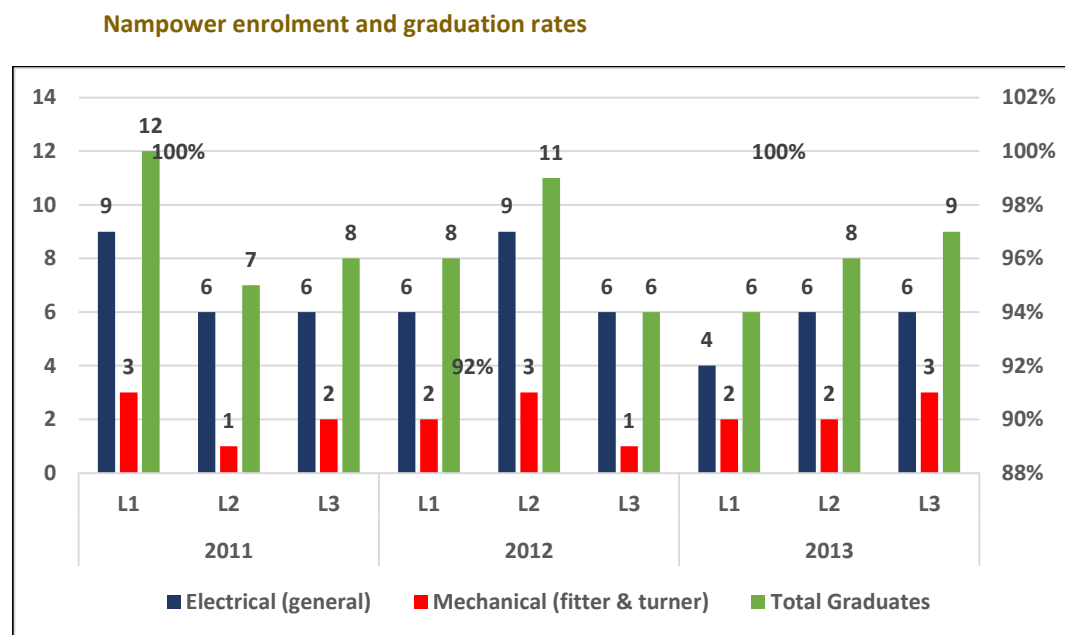


Source: NTA, 2013

The figure above reveals the following:

- the enrolments at the VTCs is very low, with two colleges having no trainees in the trades mentioned and one college having trainees for just one trade;
- the very low trainee enrolments at level 3 is an indication that the graduate throughput rates is also going to be low, hence the shortage of qualified VET graduates entering the labour market;
- this situation further exacerbates the present skills shortage in almost all trades related to energy, water and sanitation ;
- total headcount enrolments is low relative to the outputs of Grade 9 (in the region of 46 389);
- the situation gets worse when enrolments for grade 11 and grade 12 comprising 34 255 and 19 082 are considered;
- demand for VET far outstrips supply. Only about 3% of those who complete grade 10 can gain admission to VTCs. The participation of marginalised and designated groups as well as employed rural and urban youth should be increased⁶ and
- there is insufficient physical capacity for VTC institutions to accommodate students exiting from the general schooling system.

Enrolments and graduation rates of Nampower for trades in the energy, water and sanitation industry are illustrated for 2013 from data supplied by the NTA below:



Source: NTA Database, 2014

- Nampower has the potential to take on a larger number of students on work based programmes and ensure higher graduation rates.
- Therefore a discussion should take place between the NTA and Nampower to support the training centre and fund students.

⁶ Government of Republic of Namibia. ETSIP Report. 2007. P.35.

Private VET Providers

- There are a number of small private training providers offering mainly unaccredited skills programmes. The private VET College sector is about 10% of the size of the public VET College sector.
- The situation is also dire at Private VET Providers. Enrolment figures for 2013 are given below:

Private VET enrolments, 2013

Name of the VTC	Male	Female	Total
Namibia Construction Skills Academy	436	91	527
NATH	47	17	64
Danida Training College	2	13	15
Transnamib	39	0	39
Centre's name Industrial Craft Training Institute	13	0	13
ILSA independent college	90	87	177
Total	627	208	835

Source: NTA Database

- The private sector's role in VET is limited and considerable effort should be made to stimulate involvement.
- Such an initiative should be weighed against the institutional capacity of the NTA to improve the quantity and quality of VET provision.
- It enrolled roughly 835 students with a male to female enrolment ratio of 1:3.
- The private VET College sector is highly undeveloped and cannot support the transition to a knowledge-based economy unless there is a move to grow this sector and increase its absorption capacity.
- Graduate figures for private colleges are not available.

KAYEC Tracer Study (VET)

- A tracer study of 606 graduates was conducted by a VET institution, KAYEC Northern, for the period 2010 and 2012. The purpose of the tracer was to track graduate destinations⁷.
- KAYEC students tend to reside in regions where unemployment is higher than the national averages.

⁷ KAYEC Trust, 2013, Tracer Study

- The tracer study found that 48% of graduates it tracked have gone on to a full vocational training course with a vocational training centre (including NIMT). The destinations of graduates are as follows:

Training being followed by KAYEC graduates

VTC	NAMCOL	College	University	COSDEC	School
48%	17%	15%	12%	8%	2%

Source: KAYEC Tracer Study, October 2013

- While 48% are furthering their vocational training, nearly one fifth (17%) are seeking to improve their school grades through study with the Namibia College of Open Learning (NAMCOL). Notably, some have gone on to university (12%) or college (15%) study. Clearly KAYEC has proved a stepping stone in helping their graduates to extend their academic or vocational qualifications.
- For the 36% who have gone into work, just over half (54%) have found paid employment and 46% have gone into self-employment. While the 54% in paid employment is marginally higher than the national average of those in paid employment, the 46% in self-employment is considerably higher than the 14% who nationally are in self-employment.

NCHE Tracer Study (HET)

- The National Council for Higher Education (NCHE) commissioned a tracer study of graduates from the University of Namibia and the Polytechnic of Namibia who completed their studies in the years 1999 - 2008. The main purpose was to gain information on the current employment and economic status of the graduates, and their assessment of the relevance and quality of their education within their work context. The views of employers of graduates were obtained.⁸
- In total 26% of graduates from UNAM and PoN responded. Forty-three employers were interviewed in both public and private sectors.
- Some of the major findings of the tracer study graduates include:
 - About 50% of graduates obtained employment by applying for a vacant position.
 - 4 out of 5 began the search for employment before graduation. However, nearly 4 out of 5 only obtained work in their second year after completing their studies.
 - Most graduates contacted up to 3 employers before their first employment.
 - However, 23% of UNAM graduates, compared to 15% of PoN graduates contacted only one employer before finding employment.

⁸ NCHE, 2011, Tracer Study

- The field of study and area of specialisation were felt to be the most important factors in obtaining employment.
 - More than 60% of graduates received on-the-job training.
 - Nearly 60% of graduates had not changed their employer since graduation.
 - 78% of UNAM graduates, 70% of PoN graduates, and 92% of those who hold qualifications from both institutions, work for a public employer (including local authorities.)
 - Only 1% of graduates are self-employed.
 - 11.7% of UNAM graduates and 14.4% of PoN graduates are unemployed and seeking employment. This is cause for concern, not least considering the enormous public and private investment in a graduate.
 - There is a tendency for the monthly earnings of UNAM graduates to be slightly higher than those of PoN graduates. This is may be because UNAM graduates on average have higher qualifications than those from PoN.
 - Most graduates considered the course content of their major subjects to be the most useful element of their study programme for their current work.
 - Most graduates feel that they have been able to realise the career that they expected at the time of graduation, that they are using the skills acquired during their studies, and that their position and status is appropriate for their level of education.
 - However, some 60% of PoN graduates have taken up work not linked to their studies; 27% mentioned that they could not find a job closely linked to their studies, while 24% felt that they had better career prospects in their current job. To some extent this speaks of the flexibility of PoN graduates.
- Some of the major findings from employers include:
- Employers do see benefits from the employment of graduates.
 - However, some employers feel that graduates are not adequately prepared for work. They are seen to lack experience of the workplace.
 - Most employers are apparently not satisfied with the level of written English of graduates. In part this may relate to the level of English with which students enter higher education.
 - According to employers, most graduates are interested in further studies, a tendency that they are willing to support financially and in other ways.
 - It seems that a significant proportion of employers do not feel that they have sufficient in-depth contact with institutions of higher learning, although some satisfactory relationships do exist.
 - It appears that higher education institutions are doing little research in collaboration with employers.
- Finally, it must be noted that this was the first attempt to conduct a tracer study of graduates in Namibia. It has been shown that such tracer studies are feasible and valuable for the improvement of higher education.

The Findings

- The VET Sector in Namibia (public and private) is not adequate to meet current and future enrolment needs because it is too small.
- Programmes in the VET sector should resonate with the demand needs of the labour market.
- Since the bulk of the Namibia workforce will need to be trained at VTCs, there is a need for considerable capital expansion.
- An insufficient number of graduates are exiting VTCs.
- The research on tracking should be expanded to all VTCs to get an idea of the relevance of programmes and the confidence of employers.
- There are concerns with the workshop equipment and the quality of trainers expressed in workshops and interviews.

A NIMT model should be considered for other industries which essentially require an adoption of a VTC.

11. STRATEGIC PLAN

The priorities and recommendations for energy, water and sanitation are based on the preceding sections and aligned national strategies and plans.

NO	ACTIONS	SUCCESS INDICATORS	LEAD AGENCY
STRATEGIC PRIORITY 1: BUILDING EFFECTIVE STAKEHOLDER PARTNERSHIPS FOR SKILLS DEVELOPMENT IN THE INDUSTRY SECTOR			
<i>RATIONALE: Stakeholder partnerships are increasingly becoming the adopted approach to meeting industry needs for skilled workers and workers' need for better jobs. Stakeholder partnerships are forged with industry, government agencies, education institutions, labour, and community organisations to focus on the workforce needs in an industry within a labour market. Partnerships address current and emerging occupational needs and skill gaps. It offers a mechanism to focus scarce resources on industries that are major job providers in an area, as well as to focus comprehensively on the workforce skills, from entry level to advanced, required in the economy. Partnerships provide a means for the NTA and VET institutions to engage directly with industry across traditional boundaries better aligning training programmes and resources. Partnerships help to reduce inefficiencies and streamline state efforts by co-ordinating various projects and braiding various funding streams intended for the same purpose.</i>			
1.1.	Promote partnerships and linkages with employer bodies, education institutions, government agencies, and civic groups to respond to industry and local training needs, build better networks and design responsive training interventions.	<ul style="list-style-type: none"> ▪ The NTA develops a policy implementation framework to promote stakeholder partnerships. ▪ Guidelines and training interventions to support the development and management of partnerships are developed and measured. ▪ The number, type and outputs of partnerships are evaluated and recorded. ▪ Agreements are entered with partners on training projects linked to promoting local economic development. 	NTA/VET institutions/Employer Bodies/Labour Unions/Community Groups/Government Agencies/International Donors

NO	ACTIONS	SUCCESS INDICATORS	LEAD AGENCY
1.2.	Establishing and strengthening stakeholder relationships.	<ul style="list-style-type: none"> Support to establish a Co-operative Learning Unit in each public VET institution is provided. Workshops to inform stakeholder of different partnership modalities and develop successful partnerships are held in all regions. 	
1.3.	Information is disseminated to partners to keep them abreast of NTA activities to promote skills development.	<ul style="list-style-type: none"> Information on NTA and ISC activities, training levy, sector skills plan, occupations in high demand and skills gaps in the industry sector are communicated to stakeholders. 	
1.4.	Encourage industry training clusters where large, medium and small firms in a single industry come together and benefit from synergies of association related to shared skills training, instructors, facilities, benchmarking and best practices.	<ul style="list-style-type: none"> NTA facilitates development of industry training clusters. The number of training industry clusters established. 	NTA/DTI
1.5.	Encourage public-private partnerships and investment (PPPs) in the VET sector to increase intake capacity and programme choices.	<ul style="list-style-type: none"> NTA develop a discussion document on PPPs with a view to approval and implementation. 	NTA/Ministry of Education
STRATEGIC PRIORITY 2: Increasing access to occupationally-directed learning programmes to support industry growth			
<p>RATIONALE: To become an industrialised country, Namibia needs to address the problem of skills shortages across all sectors of the economy. The issue of Namibia's skills shortages and mismatches have been well documented since independence. There are considerable skills shortages for middle level artisanal skills and high level professional skills that must be mitigated to transition Namibia to a knowledge-based economy in accordance with Vision 2030. The problem of skills shortages is more pronounced among marginalised groups and in the rural communities. High unemployment, particularly for youth, sits alongside job vacancies pointing to structural unemployment in the labour market. By increasing access to occupationally-directed learning programmes, labour market outcomes of the unemployed, marginalised and youth are improved considerably. Access to learning programmes and recognition of prior learning for employed workers can also improve their skills, productivity and promotional opportunities.</p>			
2.1.	Occupations in high demand and skills gaps of the industry sector should be prioritised to expand access and allocation of resources.	<ul style="list-style-type: none"> Occupations in high demand are mapped to qualifications and career pathways in the industry sector contributing to improved relevance of training and greater mobility and progression. Qualifications and accredited training programmes for occupations in high demand are developed, if they do not exist. Strategies for fast-tracking the development of new qualifications to meet occupational shortages are developed and implemented. The number of students enrolled for occupational training programmes in high demand are increased annually to meet 	ISC/VETCs/COS DECS/NTA/ NQA/Ministry of Education/ Ministry of Labour and Social works/Donor Agencies

NO	ACTIONS	SUCCESS INDICATORS	LEAD AGENCY
		<p>the demand-side needs of the labour market.</p> <ul style="list-style-type: none"> Accredited short skills courses geared towards addressing skills gaps (top up skills) of employees are developed. 	
2.2.	Relevant apprenticeships and traineeships should be developed with the support of industry for occupations in high demand currently not registered under the apprenticeship and traineeship scheme.	<ul style="list-style-type: none"> A campaign to promote apprenticeship and traineeship in firms is devised. Competency standards for new apprenticeships and traineeships are developed. Performance of apprentices and trainees monitored and evaluated. A national databank of instruments for assessment and moderation of artisan trade tests and traineeship programmes is developed. A national database of registered assessors and moderators is developed. Number of apprentices and trainees in VET institutions is increased annually. 	
2.3.	Traineeships and apprenticeships at all public VET Centres will have a liaison officer whose job will be to ensure that the role of the trainee or apprentices both at the workplace or training centre are monitored.	<p>The VET institutions are required to deliver the following:</p> <ul style="list-style-type: none"> Theoretical training to trainees or apprentices is provided at VETC. Assessment process of trainees or apprentices undertaken. Ensure all trainee or apprentices have log books and that supervisors at the workplace sign off the logbook. All traineeship and apprenticeship contracts are in place. Provision of traineeships and apprenticeships in firms are increased. 	
2.4	Capacity of COSDECs is improved to offer accredited training programmes.	<ul style="list-style-type: none"> An improvement plan is developed to upgrade COSDECs to offer accredited training programmes. The capacity of COSDECs is expanded to accommodate a diverse student population. 	
STRATEGIC PRIORITY 3: Improving the efficiency and effectiveness of the VET sector			
<p>RATIONALE: The VET sector has a contributory role to play in transforming Namibia into an industrialised nation with improved quality of life for all Namibians. VET institutions should be geared to address occupational shortages in the country, particularly for technical, technological and employability skills at artisanal level. Currently the VET system is small, underfunded, undifferentiated with poor quality outputs. In this respect it is not meeting the growing needs of students, employers, workers, and marginalised sections of society. Most of the VET institutions are faced with the problem of where demand for places exceeds the supply-side capacity of institutions. There are a large number of young people that should be accommodated in VET institutions and become equipped with the requisite knowledge and technical skills for productive employment and self-employment. In addition to expansion of the VET sector, access should be made for employed workers wanting to enrol on training programmes at VET institutions whilst in employment. Equally important is the need to align the VET sector to the country's overall developmental agenda with links to various strategies such as Vision 2030, NDP 4 and the National Human Resource Development Plan. This will enable the VET sector to contribute more effectively to the goal of inclusive growth and development, and contribute to reducing unemployment and poverty.</p>			
3.1.	Expand capacity (institutions and infrastructure) to	<ul style="list-style-type: none"> An audit of VET institutions earmarked as key providers of industry training is 	

NO	ACTIONS	SUCCESS INDICATORS	LEAD AGENCY
	provide training to address occupations in high demand and skills gaps, enabling improved productivity, economic growth and the ability of the workforce to adapt to changes in the labour market.	<ul style="list-style-type: none"> undertaken to establish what improvement, upgrading and expansion is needed. Approval and funding for such upgrading and improvements are obtained. An audit of potential institutions to become training providers is undertaken to create the required training capacity to meet occupational demand. Funding for upgrading and improvements for such institutions is obtained. 	NTA/Ministry of Education/ISC/V ETC/COSDECs
3.2.	Expand student access and increase the range of training programmes at existing VET institutions in trades and occupations that are critical for economic growth and industry competitiveness.	<ul style="list-style-type: none"> Student intake at existing VETC facilities is increased using a range of delivery modes (full-, part-time, distance and blended). Increase the number of accredited private training providers in the VET sector for national qualifications. A baseline of current training by firms in the industry should be established and a 3 year stretch targets of the number of workers in firms that should be trained by VET institutions should be set. 	
3.3.	Promote differentiation in the VET sector in terms of programme mix and target population.	<ul style="list-style-type: none"> Grade 9 learners, employed workers, youth and unemployed adults should be accommodated by VET Centres and COSDECs and progressively increased annually. 	
3.4.	Develop training programmes to grow the pool of VET instructors and improve the subject knowledge and competencies of existing VET instructors.	<ul style="list-style-type: none"> An audit to establish the number and profile of existing VET instructors is undertaken to determine capacity constraints. Establish what upgrading and retraining they require to meet CBET and other requirements to be registered as competent instructors with the NTA. Create the capacity to provide train-the-trainer programmes for those trainers requiring retraining and upgrading. Number of new VET and existing VET instructors that underwent training. 	NTA/Ministry of Education/ISC/V ETC/COSDECs
3.5.	Improve the capacity of VET managers to run institutions effectively and efficiently.	<ul style="list-style-type: none"> Professional development programmes are offered in: leadership, organisational development, performance management, strategy, marketing, finance, human resources, client relationships management and finance. The number of VET Managers trained are increased annually. 	

STRATEGIC PRIORITY 4: Supporting workplace-based skills development in firms in the industry sector

RATIONALE: Planning and implementing skills development in the workplace is essential to identifying current and future workforce needs in firms. The business environment is dynamic, competitive and can change quickly. Firms that support skills development of employees are in better position to grow their business, improve productivity, support job creation and economic development. Skills development motivates employees to do better in the workplace and support business objectives. For policy-makers and education institutions to develop training solutions that meet the needs of firms, employers should communicate workforce training needs to supply-side institutions in the labour market. This will contribute

NO	ACTIONS	SUCCESS INDICATORS	LEAD AGENCY
significantly to building the capacity of the VET sector to deliver training programmes that align to workforce needs and ensure work ready graduates that have both the skills and knowledge required by employers.			
4.1.	Encourage firms to invest in upgrading the skills of their employees above 1% compulsory training levy.	<ul style="list-style-type: none">▪ A baseline is established of training activity in firms in the industry.▪ Number of firms offering training to employees is increased annually.▪ Number of employees receiving training is increased annually.▪ Number of firms spending in excess of 1% of payroll on training is increased annually.	NTA/Firms
4.2.	Develop the capacity of individual firms to engage systematically in workforce skills planning and implementation.	<ul style="list-style-type: none">▪ The NTA develops a workforce skills planning programme firms to undertake the following:<ul style="list-style-type: none">○ Identify workforce training needs○ Align business objective to skills development○ Develop a workplace skills plan and training report○ Advise firms on top-up skills, occupations in high demand, accreditation, sourcing training providers, apprenticeships and traineeships, RPL and the use of the training levy○ Appointing s skills development facilitator▪ The programme is delivered in all regions annually.	
4.3.	Promote skills development in small businesses.	<ul style="list-style-type: none">▪ A national database of small businesses supported with skills development is established and the impact of training reported on.▪ NTA through skills planning research identify the skills needs of small and emerging businesses in their industry and promote relevant training programmes through incentives.	
STRATEGIC PRIORITY 5: Addressing unemployment and employability skills to eradicate poverty and build sustainable livelihoods			
RATIONALE: High unemployment, particularly for youth, is a major challenge for Namibia. The other challenge is high levels of poverty among the population. To transform Namibia into an industrialised country with improved living standards it is necessary to eradicate poverty, high unemployment and underdevelopment. Skills development provides opportunities for the unemployed and marginalised to acquire employability and self-employment skills. The training of workers in the informal economy on basic and generic skills (such as literacy and numeracy) as well as entrepreneurial skills facilitate the transition from self-employment in the informal economy to micro-enterprise development in the formal economy.			
5.1.	The Skills Fund is effectively used to address unemployment, develop employability and entrepreneurship skills, and build sustainable livelihoods.	<ul style="list-style-type: none">▪ Develop and implement training projects that target the unemployed, marginalised and rural communities to secure employment and build sustainable livelihoods.▪ Numerical targets to reach vulnerable groups are set annually.▪ NGOs working in local communities are supported.	NTA/NGOs/VET C/COSDECs

NO	ACTIONS	SUCCESS INDICATORS	LEAD AGENCY
		<ul style="list-style-type: none"> ▪ Link programmes such as TIPEEG with skills development. ▪ Training activities to improve employability and entrepreneurship skills are designed and offered. 	
5.2.	Support the development of low skill, low wage workers for skills development and career advancement	<ul style="list-style-type: none"> ▪ Number of training projects focused on low skill, low wage workers implemented. ▪ Number of worker given recognition of prior learning. ▪ 	
STRATEGIC PRIORITY 6: Establishing institutional research capacity for national skills planning			
<p>RATIONALE: There is a need to build institutional skills research capacity and improve labour market diagnosis within the NTA, Industry Skills Councils and VET Centres to analyse skills imbalances and make appropriate funding allocations. The NTA has an important role in conducting industry skills research, gathering statistics and disseminating findings to the public. Their close contact with government agencies, industries and VET institutions puts them in a good position to skills trends, undertake national training needs studies, develop baseline labour market indicators and postulate solutions. Strong research capacity will improve the capacity of decision-makers to determine industry skills needs and guide education and training investments effectively and efficiently. By establishing institutional research capacity, an evidence-based policy-making culture will be developed in the skills development environment.</p>			
6.1.	Develop a three year Research Strategy and Implementation Plan (2014-2017) that will include the following: institutional research aims and objectives; research activities; capacity-building interventions; information management; establishment of a research committee; and communication and dissemination of information.	<ul style="list-style-type: none"> ▪ Research strategy and implementation plan approved by NTA Board. ▪ One national skills conference per year. ▪ One tracer study and one employer survey every two years consecutively. ▪ A sector skill plan per industry sector is updated annually. ▪ Occupational mapping analysis per industry is undertaken. ▪ Two industry sector workshops are held annually. ▪ Number of staff research training interventions. ▪ Number of research partnerships developed. ▪ Research Committee established. ▪ Number of research internships recruited. 	NTA/ISC/Board
6.2.	Strategic planning in VET institutions and COSDECS are responsive to labour market shortages	<ul style="list-style-type: none"> ▪ The research skills of VET education managers are improved to analyse training needs in local labour markets. ▪ VETCs and COSDECs conduct employer surveys and tracer studies annually. 	
6.3	Industry skills research is required to inform sound decision-making, monitor industry labour market trends, and measure the impact of interventions and funding allocated.	<ul style="list-style-type: none"> ▪ Research on relevant areas are commissioned and conduct as agreed by the ISC and distributed to stakeholders. 	