Deloitte.

Proposed Greentech Special Economic Zone at Atlantis

Feasibility Report

Final Report

Commissioned by the Department of Trade and Industry

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the dti
THE DEPARTMENT
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List of terms and abbreviations

AADD	Average Annual Daily Demand
ACSA	Airports Company of South Africa
ASEZ	Atlantis Special Economic Zone
AWRMS	Atlantis Water Resource Management Scheme
B-BBEE	Broad-based Black Economic Empowerment
BPO	Business Process Outsourcing
CAD	China-Africa Development
CBD	Central Business District
CDE	Centre for Development Enterprise
CFL	Compact Fluorescent Light bulb
CIPC	Companies and Intellectual Property Commission
CoCT	City of Cape Town
CSP	Concentrated Solar Power
CST	Concentrated Solar Thermal
CTIA	Cape Town International Airport
CTSDF	Cape Town Spatial Development Framework
DCC	Divisional Council of the Cape of Good Hope
DEA&DP	Department of Environmental Affairs and Development Planning
DFI	Development Finance Institution
DoE	Department of Energy
dti	Department of Trade and Industry
ECAMP	Economic Areas Management Programme
EEDSM	Energy Efficiency and Demand Side Management
EGS	Economic Growth Strategy
EIA	Environmental Impact Assessment
ELIDZ	East London IDZ
EMPr	Environmental Management Programme
EPRI	Economic Policy Research Institute
EPZ	Export Processing Zone
EST	environmentally sound technologies
FEED	Front End Engineering Design
FET	Further Education and Training
FIAS	Foreign Investment Advisory Service
GBCSA	Green Building Council of South Africa
GDP	Gross Domestic Product
GEEF	Green Energy Efficiency Fund

GHG	Greenhouse Gas
GTMEC	Greentech Manufacturing Evaluation Committee
HP	High-pressure
HVAC	Heating Ventilation and Air Conditioning
ICT	Information and Communication Technology
IDC	Industrial Development Corporation
IDM	Integrated Demand Management
IDP	Integrated Development Plan
IDZ	Industrial Development Zone
IPAC	Immovable Property Adjudication Committee
IPAP	Industrial Policy Action Plan
IRP	Integrated Resource Plan
ISC	Institute for Sustainable Communities
ITP	Integrated Transport Plan
LC	Local Content
LED	Light Emitting Diode
LCOE	Levelised Cost of Electricity
LDZ	Low-carbon Zone
LNG	Liquefied Natural Gas
LP	Low-pressure
LSM	Living Standard Measure
MCEP	Manufacturing Competitive Enhancement Program
MIP	Manufacturing Investment Program
MTEF	Medium-term Expenditure Framework
MNC	Multi-national company
Mtpa	Million tons per annum
MV	Medium Voltage
MVA	Megavolt ampere
MYPD	Multi-year Price Determination
NDP	National Development Plan
NDRC	National Development and Reform Commission
NEMA	National Environmental Management Act
NEMWA	National Environmental Management Waste Act
NERSA	National Energy Regulator of South Africa
NLTA	National Land Transport Act
NNR	National Nuclear Regulator
NPC	Not for Profit Company
NQF	National Qualification Framework
NT	National Treasury
NWA	National Waste Act

OECD	Organisation for Economic Cooperation and Development
OEM	Original Equipment Manufacturer
PAYE	Pay as You Earn
PICC	Presidential Infrastructure Coordinating Commission
PPA	Power Purchasing Agreement
PPP	Public Private Partnership
PSDC	Penang Skills Development Centre
PSDF	Provincial Spatial Development Framework
PV	Photovoltaic
R&D	Research and Development
REIPPP	Renewable Energy Independent Power Producer Procurement
RFP	Request for Proposal
SABS	South African Bureau of Standards
SACU	Southern African Customs Union
SADC	Southern African Development Community
SAIA	South African Insurance Association
SANRAL	South African National Roads Agency Limited
SANS	South African National Standards
SAPVIA	South African Photovoltaic Industry Association
SAREBI	SEDA Atlantis Renewable Energy Business Incubator
SARETEC	South African Renewable Energy Technology Education Centre
SAWEA	South African Wind Energy Association
SEDA	Small Enterprise Development Agency
SESSA	Sustainable Energy Society of South Africa
SEZ	Special Economic Zone
SIC	Standard Industry Classification
SIP	Strategic Infrastructure Project
SMME	Small Medium and Micro Enterprise
StatsSA	Statistics South Africa
SWH	Solar Water Heater
TEU	Twenty-foot Equivalent Unit
TFR	Transnet Freight Rail
TISA	Trade and Investment South Africa
TNPA	Transnet National Ports Authority
UN	United Nations
UNEP	United Nations Environment Programme
UPZ	Urgent Potective Action Planning Zone
VAT	Value-Added Tax
WCIF	Western Cape Infrastructure Framework
WCG	Western Cape Government

WtE	Waste-to-Energy
WWF	World Wildlife Fund
WWTW	Wastewater Treatment Works

Executive Summary

I. Introduction

In 2014 the Department of Trade and Industry (dti) commissioned Deloitte to undertake a prefeasibility, strategy and feasibility study for the proposed Atlantis Special Economic Zone. The purpose of this feasibility report is to investigate the viability of establishing a greentech SEZ in Atlantis, a suburb of the City of Cape Town (CoCT). The study also considers how the proposed SEZ might best be configured to achieve the stated objectives of key stakeholders and to maximise the associated economic and social benefits.

This document provides an overview of the proposed Atlantis SEZ (ASEZ) including the history of the area, progress made in establishing a greentech hub to date, the rationale for the ASEZ, a summary of key market analysis conducted at prefeasibility phase. The report continues with an overview of the technical aspects of the feasibility study, the proposed legal and governance framework and finally an assessment of the financial and economic viability.

II. Background

Special economic zones

In 2012 the dti announced that it would replace its Industrial Development Zone (IDZ) programme with a more inclusive model of industrial facilitation in the form of the Special Economic Zones. The dti notes that the purpose of SEZs is to support and accelerate industrial development by facilitating targeted investment in certain manufacturing and tradable service activities. The SEZs are also envisaged as a mechanism to promote regional development, exploit existing technological and industrial capacity and attract foreign and domestic investment.

The SEZ bill and policy was released for public comment in 2012 and applications for designation as an SEZ were invited by the dti in 2013. After a process of extensive consultation, the SEZ Act was gazetted in May 2014.

History of Atlantis, development of a greentech park and progress in attracting investors

The concept of establishing a green technology (greentech) industrial park in Atlantis was borne out of a City of Cape Town (CoCT) initiative in 2011 to promote the revitalisation of this industrial node. The suburb of Atlantis was established during the 1970's by the Apartheid government as an industrial centre and a community for the coloured population of Cape Town under the infamous Group Areas Act.

In order to attract industry and residents to Atlantis the government introduced various incentives to attract manufacturing firms via an elaborate system of relocation tax credit. In its heyday in the early-to-mid 1980s there were approximately 50 industrialists in Atlantis employing people drawn from nearly 8 000 households. These industries included large manufacturing concerns such as Tedelex and Atlantis Diesel Engines.[1]

[1] Department of Water Affairs (2010), *The Atlantis Water Resource Management Scheme: 30 years of Artificial Groundwater Recharge*.

Manufacturing activities in Atlantis declined with the termination of the incentive programmes and the defence manufacturing contracts from the mid-1980s. The withdrawal of incentives significantly reduced the attractiveness of the area and while Atlantis has since been through a series of mini-economic booms and busts the trend decline in the economy of the area persisted.

In late-2011 the council of the City of Cape Town provided support for an initiative to establish a greentech industrial park in Atlantis and approved the release of two large parcels of vacant city-owned land for this purpose. The CoCT also approved a number of incentives to attract investors to the identified sites in the area.

In 2014, GreenCape - working together with the CoCT and WCPG - was successful in securing its first investor to the sites earmarked for the greentech industrial park. Gestamp, a Spanish wind tower manufacturer purchased a portion of Site 1 in May 2014. Gestamp is in the process of building its plant and will be producing components for utility-scale wind projects that are currently being commissioned in South Africa as part of the Renewable Energy Independent Power Producers Procurement (REIPPP) programme.

III. Demand for greentech in Atlantis

After an extensive analysis of the greentech market in South Africa and the potential of Atlantis to attract a share of the firms that will serve that market, we concluded that demand would be sufficient to support the development of a small-scale greentech SEZ.

Atlantis is better suited to manufacturing of green technologies and materials than provision of greentech services (e.g. research and development, installations, waste services etc.). This is partly because it was originally established as an industrial node and still has ample existing industrial infrastructure and land zoned for industrial use. It is also because Atlantis is still relatively far from the city centre and tertiary education institutions is not particularly well located to serve the commercial and residential market for greentech services in the suburbs of Cape Town.

The demand for local manufacturing of green technologies is largely contingent on government support – this includes direct government procurement of greentech, enabling policy and regulation, programmes and standards and localisation requirements. The increasing focus on and clear support for the green economy in national, provincial and local government policy - including NDP, Climate change white paper, carbon tax policy paper, Western Cape “green is smart’ green economy strategy framework and CoCT Economic Growth Strategy provide a good foundation for the creation of a greentech SEZ.

The demand for locally manufactured components for utility-scale renewable energy in South Africa is driven by the REIPPP programme which sets out the allocations for renewable energy generation technologies and provides opportunities for investment through a competitive bidding process. Local content thresholds and targets stipulated within the REIPPP bidding process are generating demand for locally manufactured components and related services.

For the commercial, industrial and residential market key government programmes include the Eskom IDM programme, the Department of Energy (DoE) solar water heater roll-out plan, the SANS building standards and the 12L income tax allowance. Uncertainty around the status and support available via these programmes has negatively affected suppliers and manufacturers of compact fluorescent lamps (CFLs), LED light emitting diodes (LEDs), heat pump, solar water heaters (SWHs) and other greentech industries. It is envisaged that the SEZ entity would work with other stakeholders in government to ensure better continuity in types of support provided. In the commercial, industrial and residential market the rising cost of electricity and falling relative cost of green technologies will continue to play a role in driving uptake independent of government support.

The immediate (next 3 years) high-potential opportunities for Atlantis include the manufacturing of selected photovoltaic (PV) module components, wind turbine blades and towers, solar water heaters and basic components of CFL and LED lights. These activities, with the exception of lighting components are all directly supported through targeted government initiatives and would likely have setup without SEZ incentives. The purpose of the SEZ therefore would be to attract these activities to a relatively under-utilised industrial node and to promote the 'clustering' of these activities to foster greater collaboration and development of greentech activities in future.

The opportunity for the ASEZ is likely to improve over the medium-to-long term (beyond 2018) because of increased Integrated Resource Plan (IRP) allocations and movements in demand drivers, such as rising electricity prices or falling technology costs.

IV. Summary of SWOT analysis

A SWOT analysis was performed across six themes including, attracting investors, financial, labour, policy, land availability and location. A summary of the key strength, weaknesses, threats and opportunities for the Atlantis SEZ is provided in Figure 1.

Figure 1 Summary SWOT

Strengths	Weaknesses
• Strong support for the greentech sector in government policy, plans and standards. Initiatives that direct support local manufacturing of greentech include the REIPPPP and DOE Solar water heater programme while other taxes, incentives and targeted subsidies drive market demand and uptake. • CoCT has made two large sites available to SEZ entity to lease to SEZ tenants at very competitive prices • CoCT already provides a range of incentives for firms to invest in Atlantis (e.g. fast-tracked development approvals, fee exemptions from building plan applications) • Ample existing industrial property (632 195m^2) which is underutilised • Atlantis is well located to service REIPPPP projects within the Western Cape and Northern Cape. Close to large metropolitan area which provides natural markets for greentech products and services.	• Challenges in execution of green policies, targets and incentives that creates uncertainty for investors. Specifically , uncertainty around IRP allocations to renewable energy and support for key programmes such as Eskom IDM and DoE solar water programme which have been put on hold. • Atlantis remains relatively remote from the urban centre and port compared (50km) to other industrial areas in Cape Town -a disadvantage identified by both existing firms and potential investor • Some of the buildings in Atlantis are in need of significant refurbishment and have been built with materials no longer in use (e.g. Asbestos) • Atlantis suffers from socio-economic issues including crime, business robberies and high unemployment but these issues also prevalent in other areas of Cape Town and South Africa
Threats	**Opportunities**
• Demand and uptake and local manufacturing of greentech is heavily reliant on government support, the discontinuation and\or stalling of key programmes is a threat. • Small scale SEZ may not be able to realise economies of scale in service provision and investment promotion • Lack of cooperation or resistance from existing firms in Atlantis to SEZ if they feel they have not benefitted or have been adversely affected. • Private land and property owners may inflate rental prices in a bid to take advantage of SEZ designation status • Budget cuts for electricity transmission infrastructure upgrades may pose a risk to future electricity supply in Atlantis	• The greentech SEZ entity can play a role in motivating for increased government support for greentech in terms of enabling regulation, incentives, localisation strategies, improved implementation of green economy initiatives etc. • SEZ entity could lease and refurbish existing buildings to save cost and contribute to revitalisation of Atlantis • A number of high quality tertiary institutions who already specialise in greentech research and R&D • The SEZ could be used to support the further development of the existing manufacturing cluster in Atlantis • Positive spill over effects may occur if sources of natural gas are obtained for use in or around the Atlantis SEZ

V. Spatial Planning and technical considerations

A broad range of Provincial and CoCT sectoral, integrated, and/ or spatial policy and planning frameworks support the focus and spatial location of the proposed Atlantis SEZ.

Because the proposed Atlantis SEZ forms part of an existing serviced industrial are, most of the overarching spatial requirements for the initiative are already in place. New layout, infrastructure design, and township establishment activities are therefore not required. The area was originally planned as an industrial estate and the distribution of land uses and provision of infrastructure in the area support industrial development. The area identified for the SEZ is clearly identifiable as a defined area of industrial activity.

The CoCT has already made sufficient land available to the SEZ entity to accommodate expected demand. There is also ample city and privately owned land available to accommodate considerable future growth of the SEZ if needed. Atlantis is somewhat unique in that there is also ample existing industrial property (some 632 195m^2) and much of this is currently underutilised.

The most important spatial planning decision in relation to the proposed Atlantis SEZ appears to be where and in what form to develop. Gestamp and a wind blade manufacturer both require very large custom designed manufacturing spaces. The two sites made available by the CoCT are ideal for their purposes. The majority of firms indicated they would prefer to lease sites within an already developed and serviced industrial park. The issue is how to provide for these firms and particularly smaller users who don't have the ability to lease space on a long-term basis and customise it.

One option is to build a new industrial park; another is to refurbish existing vacant or underutilised space. Building a new industrial park (with flexible, modular spaces which can readily accommodate a range of space requirements and phased as demand grows) provides the opportunity to consolidate all SEZ activities in close proximity with the industrial area and provide for a clearly "identifiable" SEZ. It appears that from the financial modelling that refurbishing existing industrial space within Atlantis to accommodate smaller users seeking already developed space may however provide a cheaper alternative. Refurbishment would also contribute to upgrading of existing industrial property in the area.

It is recommended that smaller users and the OSS (at least during initial years in the life cycle of the SEZ) be clustered together in a purpose built industrial park. Both shorter and longer term expected user demand for a future large user and the smaller users could be accommodated on site 1. In this way, a clearly identifiable SEZ facility is provided and the SEZ entity is assured full flexibility to negotiate user agreements related to site 2 in future. Site 2 is large in extent and very few, if any, development-ready industrial sites of a similar extent remain in the CoCT's ownership. Ideally, this site should not be "parcelled" into smaller land units but rather be kept in reserve should a major manufacturer (and employer) in future require such a land holding in Cape Town. The proposed concept lay-out for site 1 requires minimal changes to the local road network.

Pursuing a 4-Green Star rating (as determined by the Green Building Council of SA) for buildings in the Atlantis SEZ can result in a dramatic reduction in building heating, cooling, ventilation and lighting costs, both capital and operational. As part of the 'green demonstration' effect, it would be desirable if buildings built and refurbished by the SEZ entity and its tenants strive to meet some minimum green building standards.

In terms of the greenfield sites identified by the CoCT, both can accommodate a range of users with different and perhaps unique space requirements and can be "parcelled" easily to accommodate different users and a very large range of building configurations; and both are flat in slope, enabling easy provision of manufacturing space (requiring large flat surfaces). In terms of the CoCT zoning/ land use provisions, both sites have the necessary land use rights in place to permit green industry enterprises and environmental authorisation is in place to undertake the activities envisaged for the proposed SEZ.

Most of the required bulk infrastructure is also in place. Overall bulk water availability on the greenfield sites identified by the CoCT should be adequate to provide for both conservative and moderate development scenarios. Bulk waste water and storm water infrastructure should also be adequate. Regional landfill facilities catering for different waste classifications are situated in the vicinity of the Atlantis and have sufficient capacity to accommodate demand under both scenarios.

The Atlantis area is one of the key industrial freight centres within the Cape Town Metropolitan area and well integrated with regional freight movement networks. Investigations to ascertain the extent of local road improvements which could be required as a result of large users and the industrial park envisaged to comprise the SEZ were undertaken. These include, minor improvements to intersections and turning radii to cater for large users such a wind blade manufacturer. It is suggested that the SEZ entity budget approximately R8 million for associated improvements.

The 4 MVA electricity available to the two sites identified by the CoCT should be sufficient to accommodate demand over the 2014-2017 period. The expected 2018-2030 up-take on the two sites could require an additional ±1 MVA, but planned improvements to electricity supply in Atlantis. Roughly R80 million has already allocated by the CoCT to bulk electricity upgrades and this should be sufficient to accommodate longer term needs.

A Disaster Risk Assessment has been prepared focusing on elements of disaster risk that are not covered by existing research and reports, and covering "potential fatal flaws", "critical consideration", "general considerations", and "insignificant" elements. It recommends that SEZ-wide area-based disaster risk and operational planning (across the entire disaster risk management continuum from prevention and mitigation, to early warning, response and recovery) should be considered as opposed to site-specific risk management.

The gap analysis undertaken as part of the preparation of a high-level logistics plan for the SEZ identified two core logistics strategies for further work: cost reduction/minimisation (specifically smaller users cooperating in order to share logistic costs), and the implementation of green supply chain practices.

There are currently no high speed broadband services available to Atlantis Industria businesses. The CoCT is however currently reviewing its 2014/15 broadband investment priorities and is considering funding a project to constructing seven Atlantis fibre rings (R12m) and\or providing a "redundant" connection to Atlantis, meaning that there are two separate and independent routes for connectivity to ensure service continuity if the one would malfunction (R11m). The reviewed expenditure plan is awaiting approval.

VI. Legislative framework and governance structure

Recommended entity and process for application

The MEC for Finance and Economic Development will apply for designation as an SEZ on behalf of the Western Cape Provincial Government. As the applicant for designation is the Province, the SEZ entity must be a Provincial Government Business Enterprise in terms of the SEZ Act. A Provincial Government Business Enterprise is –

- a juristic person under the ownership control of a provincial executive;
- has been assigned financial and operational authority to carry on a business activity;
- as its principal business, provides goods or services in accordance with ordinary business principles; and
- is financed fully or substantially from sources other than a Provincial Revenue Fund or by way of a tax, levy or other statutory money.

The SEZ Act does not specify what form the Provincial Government Business Enterprise should take. Two possible forms of the SEZ Entity that were considered were a Non-Profit Company (NPC) and a State Owned Company (SOC). While there is no specific legal preference for either a SOC or a NPC it was decided that the NPC was the preferred option.

Governance Structure

The MEC for Finance and Economic Development will apply for designation as an SEZ on behalf of the Western Cape Provincial Government. Once an SEZ license has been granted, the licensee should seek the necessary PFMA approvals as set out in the Annexure 3 and then register a NPC. This should be done in a way that meets the requirements of both the Companies Act (specifically the objects of the NPC) and the section 1 definitional requirements of a Provincial Government Business Enterprise in the PFMA. The SEZ Board should also be appointed by the Licensee.

Once this has taken place, the NPC can start to function as the SEZ entity. The process of registering the NPC as a Provincial Government Business Entity in Schedule 3D should also begin at this point. An SEZ operator should also be appointed. Whether this process is done “in house” or as an open tender is unclear at this point and will hopefully be determined by the SEZ regulations to be published in due course. It is recommended that an open tender is used as this is a broader interpretation of the wording of the SEZ Act. The agreement between the SEZ entity and the operator should clearly state whether the operator can bind the SEZ entity to future contracts or not, as this will impact the liability of the SEZ entity.

An SEZ entity must be established by the holder of an SEZ license to manage the SEZ. The licensee will appoint an SEZ board of directors for the efficient governance and management of the business affairs of that SEZ entity and must provide the resources and means necessary to manage and operate the SEZ. The SEZ board could be constituted of representatives from the Province, City of Cape Town, dti as long as the Province maintains “ownership control” in terms of the PFMA. In terms of the Companies Act is that there should be a minimum of three board members. The licensee also reserves the right to appoint a private sector representative(s) with technical expertise in relevant to the SEZ to the board.

VII. Commercial model

Key principles for the Atlantis SEZ commercial model

The key principles for the design of the Atlantis SEZ commercial model are as follows:

- **Size and extent of the Atlantis SEZ -** The Atlantis SEZ is envisaged as a relatively small-scale greentech SEZ when compared to existing IDZs such as Dube Tradeport and Coega or city-wide greentech SEZs Boading in China or Masdar City in the United Arab Emirates
- **Sector focus and eligibility for SEZ incentives -** The WCG proposes that all greentech firms and their direct suppliers that locate within the boundaries of the ASEZ will qualify for fiscal and other SEZ incentives. Non-qualifying enterprises located within the SEZ will still benefit from a range of public infrastructure improvements and services.
- **Delivering SEZ services cost-effectively -** We have estimated that 20 greentech firms will be operating before the end of 2030. Given the relatively small-scale of the proposed Atlantis SEZ one of the key principles will be to provide infrastructure and services in a cost-effective manner by making use of existing infrastructure in the area.

The rationale for the extended demarcation is to provide the SEZ with a broader reach and enable it to act as a catalyst for the upliftment of the entire Atlantis industrial area. As such, not all companies within the Atlantis SEZ boundaries will qualify for SEZ incentives. But both non-qualifying enterprises (which include all the existing firms in Atlantis Industria) and qualifying enterprises will be able to co-locate within the SEZ.

In addition to leveraging existing institutions and infrastructure, we have also proposed that the ASEZ provide selected services to both qualifying and non-qualifying enterprises within Atlantis Industria in order to increase both the impact and beneficiaries of the ASEZ and to realise economies of scale in service delivery.

Sources of funding for ASEZ infrastructure and options for facilitation of private sector investment

It is clear from the case studies and interviews conducted as part of the Atlantis SEZ funding models and sources report[2] that national government does not intend to replicate the infrastructure funding models implemented previous IDZs where substantial grant-funded investments were made in respect of both top structures and onsite infrastructure in the absence of commitments by investors.

Atlantis SEZ's onsite and public infrastructure spend requirements are likely to be less onerous than that of many of the new SEZs as it is located in a developed area where much of the bulk infrastructure is in place and a number of brownfield sites could potentially be incorporated into the SEZ. The most likely funder of onsite and public infrastructure within the Atlantis SEZ is the SEZ Fund that is administrated by the dti. Given the uncertainty around the number of tenants that will locate in Atlantis SEZ, private sector developers are unlikely to be willing to take on significant development risk in respect of onsite infrastructure unless it receives material guarantees or capital grants to mitigate the development risk. The dti will only fund 60% of infrastructure provided and the remainder will need to be funded from commercial loans taken out by the SEZ entity and the SEZ entity cash flow. The CoCT is expected to fund offsite bulk infrastructure required and may fund high-speed broadband infrastructure.

[2] Contained in the Atlantis SEZ strategy document, 2014

Activities and services to be provided by the Atlantis SEZ entity and SEZ Operator

The core activities of the proposed ASEZ entity and its operator will include:

- Marketing the SEZ and its facilities to attract investment by greentech firms
- Managing, developing and facilitating the lease of land and buildings within the SEZ
- One-stop-shop services and investor facilitation and aftercare
- Provision and upgrading of public infrastructure and services (e.g. security, street cleansing, environmental upgrading)
- Development of a green identity for the Atlantis SEZ through provision of green infrastructure and services
  - provision of green logistics services
  - provision of waste management and\or minimisation services
- Provision of range of value-adding services including:
  - facilitation of skills development and upgrading in the area
  - facilitating the collaboration of greentech firms
  - small and medium enterprise incubation and development through SAREBI

Other potential services that have been investigated include:

- provision of ICT infrastructure and services

Revenue model and sources

The dti will not fund the operations of the SEZ and it is envisaged that after initial support from Provincial Government operational expenditure will be fully or substantially recovered by the SEZ entity through revenue from services and activities provided to firms in the SEZ.

It is envisaged that the SEZ entity and\or operator will be able to earn revenue chiefly through:

- the rental of properties
- the collection of a levy for the provision of public infrastructure and services.

We have assumed that all firms in Atlantis would be willing to contribute to broader area improvements which may include top-up security services, street cleansing and environmental upgrading. These types of ‘top-up’ services would typically be provided elsewhere in the City of Cape Town under the auspices of the Special Ratings Area policy and levies would be collected by the city in the form of additional property rates.

One possible option is that the CoCT collect revenues on behalf of the SEZ entity\operator to provide these area wide services within the existing SRA framework. Alternatively the SEZ entity\operator would need to collect and administer levies itself but this may be more difficult to enforce outside of existing SRA frameworks.

Non-qualifying firms in the Atlantis area cannot be expected to contribute to SEZ specific services which may include investment promotion and market of SEZ incentives and benefits, greentech collaboration activities and greentech skills development etc. Additional fees may need to be levied on qualifying enterprises to cover the costs of these services or alternatively they will need to funded out of provincial government grants initially and over time out of general revenues.

As mentioned, one of the key sources of income for the SEZ entity will be income generated from the lease of land and existing, refurbished and\or newly developed industrial property in the Atlantis Industria Area. The four lease\property development models that we feel are most appropriate for the ASEZ are: lease of greenfield land, back-to-back leases, anchor tenant lease, greenfield property development**.** These are described in the sections that follow:

- **Lease of greenfield land** – SEZ entity leases greenfield sites from the CoCT and leases it on to SEZ tenants who require greenfield (undeveloped sites) such the wind tower and wind blade manufacturers
- **"Back-to-back leases"**– the SEZ entity will lease developed property (buildings) from existing Atlantis Industria property owners and will lease the buildings onto SEZ tenants with the same terms and lease period (e.g. 10 years)
- **Anchor tenant lease** – SEZ entity leases property from Atlantis Industria property owners (e.g. 10 to 20 years), undertakes refurbishment of the property(ies) at its own expense (or dti funded) and makes space available to SEZ tenants on a shorter term leases (and at higher rentals)

We have also explored an option where the SEZ entity would lease land from the CoCT in order to develop a portion or portions of the greenfield sites:

- **Greenfield property development** - In this arrangement the ASEZ entity leases the required amount of land from one of the two CoCT greenfield sites for a period of at least 30 years. The ASEZ entity then leases the land to the property developer (public or private) for construction of a new facility. The property developer then independently secures finance for the construction of its property or facility. The SEZ entity can also act as the property developer, however, due to the relatively small amount of anticipated revenue income the SEZ entity would have to utilise a combination of funding sources, including dti grant funding, development finance institution low interest loans or commercial loans.

VIII. Financial viability

The financial viability of the SEZ was considered in terms of four different development options:

- Low road, refurbishment
- Low road, new build
- High road, refurbishment
- High road, new build

The key difference between the "Low road" and "High road" options is that in the "Low road" none of the 10 smaller firms establish themselves in the SEZ because of a lack of immediate, suitable and marketable space. In the "High road" options, additional capital to develop marketable space to attract the small users is required.

The options also differ in terms of the decision whether to refurbish existing industrial property in Atlantis or whether to build new facilities. The cost of refurbishing brownfield sites at R2 818/m^2 is estimated to be approximately half of the cost to develop greenfield sites at R5 636/m^2 excluding the provision of additional on-site bulk infrastructure associated with new developments at R1 305/m^2.

We assumed that the dti would grant fund 60% of all onsite and public infrastructure and 50% of the large-user top structure. We assumed that the WCG would provide grant funding for operations amounting to R10 million a year for the first 5 years or R38 million in net present value terms which amounts to roughly 20% of operating expenditure over the life of the project.

The results of the assessment of financial viability are summarised in Table 1.

Table 1 Summary of financial assessment of four development options over 20 year period

	Low road – Refurbishment	Low road – New build	High road – Refurbishment	High road – New build
	NPV (ZAR) millions	NPV (ZAR) millions	NPV (ZAR) millions	NPV (ZAR) millions
Capital expenditure (capex)	145	147	423	623
Dti grant funding of capex	87	88	227	335
Dti grant funding % of total capex	60%	60%	54%	54%
Operating expenditure	173	170	173	183
WCG grant funding opex	38	38	38	38
WCG grant funding % of opex	22%	22%	22%	21%
Revenue	286	286	491	489
Project return (cumulative cash flow)	39.4	39.3	77.1	-10.1

Capital expenditure required for establishment of SEZ

Significantly lower total capital expenditure is required for the low road options than for the high road options but the SEZ is also able to attract fewer tenants because the SEZ does make readily marketable space available to smaller tenants seeking brownfield property. In terms of the two high road options, the difference between the cost of refurbishment and new build is roughly R200 million. The high-road refurbishment option can therefore be viewed as a less capital intensive way to provide suitable accommodation for tenants seeking brownfield property.

Financial viability of the options - project return over 20 year period

The net present value for each of the options has been calculated based on the cash flows generated by the project over a 20 year period. All options with the exception of 'high-road new build' are financially viable based on their cumulative discounted future cashflows. The 'high road – refurbishment' option is the most attractive option as it has the potential to generate the most net revenue over the period with an discounted net future cash flows of R77.1 million. The 'high road-new build' option makes a net loss of R10 million over the period and would require additional grant funding (or be able to realise higher rentals than what we have assumed) in order to achieve a positive project return.

Affordability – short-term funding gap

Under the current assumption on grant funding available, none of the four options are able to generate sufficient cash flows at the beginning of the project and will require additional funding to support the SEZ during this period. The low road options are only experience funding shortfalls in the first two years at an average of R39.5 million for both years. This represents the total amount the province or dti would need to provide in additional grant funding to support the SEZ under these options. Thereafter, the SEZ entity under the low road scenario generates sufficient income to generate a funding surplus.

The least affordable option is the high-road new build option as it requires both significant capital expenditure and grant funding in order to setup the SEZ. The cash flows generated from the rental of the properties and collection of management fees for the first 6 years is insufficient for the project to be self-sustaining. This option does however eventually achieve cash break even in its 13th year of operation. A total of R 243 million in additional provincial grant funding would be required to plug the shortfall in the first 6 years.

The high-road refurbishment option represents a reasonable middle ground. It also generates a funding shortfall in the first 6 years however at a value of R 123 million this is recouped in the 10th year of operation.

IX. Economic viability of the options

The key economic impacts associated with each option are summarised in Table 2**.** Around 720 full-time permanent jobs are created in the 'low road' scenarios and 1060 permanent jobs in the 'high road' scenarios. The overall capital expenditure incurred per permanent job created is between roughly R200 000 in the 'low road' scenarios and R590 000 in the 'high road new build' scenario.

While the 'low road' options are more capital efficient in term of jobs created they do result in lower overall jobs because we have assumed it would not be possible to attract smaller firms to the area if the SEZ doesn't act as an anchor tenant and provide suitable facilities.

The 'high road refurbishment' option is significantly more capital efficient than 'high road new build' but results in the same number of overall jobs – in other words the same employment outcomes can potentially be achieved with less capital investment going the refurbishment rather than new build route.

The cost-effectiveness of refurbishment will need to be weighed against the benefits of building a new green-star rated industrial park (with flexible, modular spaces which can readily accommodate a range of space requirements and phased as demand grows). The new industrial park will provide an opportunity to consolidate all SEZ activities in close proximity with the industrial area and provide for a clearly "identifiable" SEZ. Refurbishment would have the benefit of upgrading of existing industrial property in the area but it may not be possible to consolidate all users in one space.

Activities relating to the construction and refurbishment of infrastructure will contribute between R168 million in the low road and R704 million in high road to GDP over the 8 year construction phase. The higher the construction spending associated with the option, the higher the associated impact on GDP. Activities relating to ongoing SEZ operations will contribute roughly R8.7 million annually under all options to GDP.

Table 2 Summary of quantifiable economic impacts of the SEZ

	Low road – Refurbishment	Low road – New build	High road – Refurbishment	High road – New build
Number of firms that setup in SEZ	10	10	20	20
Total direct jobs created (permanent)	720	720	1 060	1 060
Total annual construction jobs (direct, indirect and induced)	76	77	221	325
Capital invested in infrastructure for each direct permanent job created	R 201 389	R 204 167	R 399 057	R 587 763
Annual GDP impact (construction, during 8 year period), R million	21	21	60	88
Annual GDP impact (operations), R million	8.7	8.7	8.7	8.7
Total GDP impact (construction) over 8 years	168	168	480	704

The establishment of the SEZ will also be associated with a number of additional economic benefits including:

- **The creation of greentech manufacturing and services cluster in the Western Cape** - while some greentech firms may have setup in the absence in the SEZ and its incentives, the SEZ will facilitate clustering of firms in this sector and efficiencies and benefits of collaboration typically associated with clustering. Some firms that would not otherwise have considered investing in South Africa may also be attracted to South Africa because of the clear support for the development of a local greentech sector.
- **Support the renewable energy generation build** - The ASEZ is a good location for manufacturers who intend to supply goods and services to REIPPP programme renewable energy generation projects in the Northern and Western Cape.
- **Attracting FDI and domestic private investment -** When multi-national companies enter a new market, they bring with them technology transfers, new employment opportunities, transfers of best practices or competencies, entrepreneurship, access to markets and an increase in demand for goods and services produced by local firms. Atlantis could receive between R600 million and R650 million in foreign direct investment in the period 2014 to 2017, including the investment already committed by Gestamp (roughly R300 million). The provision of SEZ infrastructure, activities and incentives will also assist domestic private sector investors to participate in the greentech sector.
- **Potentially increase the utilisation of existing infrastructure in Atlantis and promoting urban renewal -** Increased activity may make better use of existing infrastructure, especially in the case of refurbished brownfield properties.
- **Positive impact on trade balance through import substitution opportunities –** the SEZ will help to support locally produced greentech projects that will replace components that may otherwise have been imported. Import substitution (provided the products aren't sold at significant additional cost to the SA consumer) will increase the amount of income and wealth generated within the South African economy which may otherwise have been lost to other markets.

1. Introduction

1.1. Purpose of this Report

In 2014 the dti commissioned Deloitte to undertake a prefeasibility, strategy and feasibility study for the proposed Atlantis Special Economic Zone. The purpose of this feasibility report is to thoroughly investigate the viability of establishing a greentech SEZ in the suburb of Atlantis. The objective of the study was also to consider how the proposed SEZ might best be configured to achieve the stated objectives of key stakeholders and maximise the associated economic and social benefits.

This document provides an overview of the proposed Atlantis SEZ (ASEZ) including the history of the area, progress made in establishing a greentech hub to date, the rationale for the ASEZ, a summary of key market analysis conducted at prefeasibility phase. The report continues with an overview of the technical aspects of the feasibility study, the proposed legal and governance framework and finally an assessment of the financial and economic viability.

1.1.1. Special economic zones

A Special Economic Zone (SEZ) is an economic development tool to promote national economic growth and export by using targeted support measures to attract foreign and domestic investments and technology[3]. Traditionally SEZs geographically delineated and fenced- in areas that allowed for the duty- and tax-free import of raw and intermediate materials for processing and re-export. Modern forms of SEZs are not exclusively export focused and can encompass larger areas and support a wider range of economic activities or have a specific technology or sector focus. The typical SEZ policy package includes, “import and export duty exemptions, streamlined customs and administrative controls and procedures, liberal foreign exchange policies and income tax incentives.”[4]

In 2012 the Department of Trade and Industry announced that it would replace its Industrial Development Zone (IDZ) programme with a more inclusive model of industrial facilitation in the form of the Special Economic Zones. The dti notes that the purpose of SEZs is to support and accelerate industrial development by facilitating targeted investment in certain manufacturing and tradable service activities. The SEZs are also envisaged as a mechanism to promote regional development, exploit existing technological and industrial capacity and attract foreign and domestic investment.

The SEZ bill and policy was released for public comment in 2012 and applications for designation as an SEZ were invited by the dti in 2013. After a process of extensive consultation, the SEZ Act was gazetted in May 2014.

[3] SEZ Act
[4] FIAS (2008) Special Economic Zones – Performance, Lessons Learned and Implications for Zone Development

2. Background

2.1. Location

Atlantis is located approximately 40km north of the central business district (CBD) of Cape Town, 19 kilometres north of Melkbosstrand and 76km south of Saldanha. It lies between the N7 route to Namibia and the R27 West Coast road (Figure 2).

Figure 2: Location of Atlantis

Source: GreenCape (2014) Atlantis Greentech Industrial Park

2.2. History of Atlantis

Atlantis was established during the 1970's by the Apartheid government as an industrial centre and a community for the coloured population of Cape Town. This was in accordance with the provisions of the Group Areas Act which, at that time, forced the residential separations of South Africans according to race. The local government at the time, the Divisional Council of the Cape of Good Hope commonly referred to as DCC, was tasked to build a town that could provide housing for approximately 500 000 people in six interlinked towns.[5] However, only one town known as Wesfleur was developed and over time has become known as Atlantis. The policy rationale for the development of Atlantis was purportedly to build a coloured town that would help to ease the over population in Elsie's River. In 1976 Atlantis was declared a National Growth Point under the governments "decentralised initiative".[6]

[5] Department of Water Affairs: The Atlantis Water Resource Management Scheme: 30 years of Artificial Groundwater Recharge 2010

[6] ACCES Sanitation Case Study Atlantis, South Africa 2012

In order to attract industry and residents to Atlantis, which was far from Cape Town at that stage, the government introduced various incentives to attract manufacturing firms via an elaborate system of relocation tax credit. These included firms that were part of the apartheid government's defence arms manufacturing projects, textile, and automotive parts manufacturers. The transport of people and goods to Cape Town was greatly subsidised.

Manufacturing activities in Atlantis declined with the termination of the incentive programmes and the defence manufacturing contracts in the mid-1980s. A number of companies closed factories and permanently relocated. Some of the smaller branch plants that chose to remain in Atlantis battled to remain competitive within the changing South African and global economic environment and eventually closed down in the early nineties. These firms tended to be in sectors that were highly impacted by cheaper imports into the South African market. The withdrawal of incentives significantly reduced the attractiveness of the area, contributing to the long-term decline of the Atlantis economy.

2.2.1. Recent developments

The *Atlantis Business Retention & Expansion* (BR&E) report, March 2012, states that "whilst the numbers of firm closures during the 1980s and 1990s were significant, and substantial job losses were incurred, the Atlantis economy as a whole remained dynamic evidenced by the fact that of the 91 firms interviewed for the BR&E study, 43 established during the same period." These firms were not dependent on incentives being offered but located primarily for market-competitive reasons, including a favourable business climate linked to land availability and prices.

Some of the notable recent investments in Atlantis include the establishment of the Hisense plant in 2013. The Tellumat factory will be closing down in 2014 due to the unforeseen termination of a key international contract, but Gestamp, a Spanish wind tower manufacturer has invested in a new facility at Atlantis and is due to commission and begin production in 2014.

Atlantis Foundries, which was established by the Industrial Development Corporation in 1978 as Atlantis Diesel Engines, remains the 'anchor tenant' has been recognised as one of the country's top-performing manufacturing plants. Established to produce diesel engines for the South African market as part of the apartheid government's strategy of inward-facing industrialisation, it was acquired by the Daimler Chrysler group in 1999 and now produces automotive castings and machines cylinder blocks and crankshafts, predominantly for the export market. Premier Helen Zille in her state of the province address noted that ''Atlantis Foundries has also become one of the top performing plants in the country". It employs 1,170 people mostly from Atlantis and surrounding communities. All modern freightliner trucks in America use Atlantis Foundries engine blocks, which are the most modern and technically sophisticated engines available overseas. In 2013, the foundry surpassed its sister plant in Germany when it comes to quality.[7]

2.2.2. Outlook

The demand for industrial property in Atlantis remains relatively low compared to Cape Town's more central industrial nodes which include Airport Industria, Epping, Montague and Killarney Gardens, Paarden Eiland and South Bellville among others. This is evident from significantly lower rental rates and land value.

[7] State of the Province Address, Western Cape Premier Helen Zille, February 2014

Vacancy rates in Atlantis for developed property currently stand at about 5% which is slightly higher than the Western Cape average of 1.5%[8]. Rental rates for existing industrial floor space currently range between R15m^2 and R19m^2 as compared to the Western Cape average of R31.50m^2 and up to R50m^2 in premier industrial parks such as Montague Gardens.

Atlantis currently offers the lowest rental rates on industrial property and some of the least expensive industrial land (vacant and developed) on the Cape Peninsula. Data from the CoCT's Economic Areas Management Programme (ECAMP)[9] suggest that Atlantis, in general, exhibits average industrial location potential, with a significant concentration of conventional industries coupled with extensive, cheap industrial land. These positives are weighed down by its geographic remoteness to logistics gateways, regional markets, skilled workers and consumers.

2.3. Understanding and defining the green economy and greentech industry

The proposed focus of the Atlantis SEZ is the greentech industry. In this section we have provided a brief overview of the concepts of the 'green economy' and 'greentech' industry and 'resource-efficient low-carbon production' as well as definitions of the terms as they are used in the remainder of this report.

The term 'green economy' was coined about 20 years ago, and represents the promise of a new economic growth paradigm that is more sensitive to the impact of development on the earth's ecosystems and that can also contribute to poverty alleviation.[10]

The following United Nations Environment Programme (UNEP) working definition of the green economy is one of the most widely acknowledged[11]:

Table 3 Definition of a Green Economy

Definition of a Green Economy
"A green economy is one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities."

Source: UNEP, 2011

UNEP suggests that in practical terms a green economy is one whose growth in income and employment is driven by public and private investments that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services. And, in its simplest form**, a green economy** can be thought of as one which is **low carbon**, **resource efficient** and **socially inclusive**.[12]

[8] SAPOA, Industrial Property Report, October 2013. Interview with Atlantis Realtors, Rolf Franke, 19 June 2014

[9] A diagnostic model which consolidates a wide range of raw City data (together with open source and proprietary data) into actionable information about changing area-specific business conditions

[10] "Working towards a balanced and inclusive green economy", United Nations, 2011

[11] "Green Economy Report: Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication", UNEP, 2011

[12] What is the Green Economy", UNEP, available at: www.unep.org

The mobilisation of green technologies and nurturing of green technology innovation has been identified as one of key means of practically enabling the green economy. UNEP notes that technological innovation in product design, production processes, service systems and organisational management has played, and always will play, a major role in reducing negative environmental and social impacts and improving resource efficiency.

According to UNEP the term 'cleantech' became popular with the investment community in the last decade and refers most often to an asset class of climate friendly or renewable energy technology. They note that the terms cleantech and greentech are used interchangeably today and broadly refer to cleaner or environmentally sound technologies (ESTs) and the systems and processes around them.[13]

The greentech industry cannot be defined in terms of the conventional standard industry classification (SIC) system and there is also no unique or universally accepted definition of the term. The UN however recommends the following broad definition of greentech used originally to describe environmentally sound technologies in Agenda 21, their 1992 plan to achieve sustainable development[14]:

Greentech includes technologies that "protect the environment, are less polluting, use all resources in a more sustainable manner, recycle more of their wastes and products, and handle residual wastes in a more acceptable manner than the technologies for which they are substitutes. Furthermore, greentech refers not just to the 'individual technologies', but total systems which include know-how, procedures, goods and services, equipment as well as organizational and managerial procedures."

The following definition of greentech, a slight adaptation of the UNEP definition of environmentally sound technologies will be used to describe the sector in this report:

Table 4 Definition of greentech

Definition of Greentech
Greentech refers to technologies that limit or prevent harm to the natural environment relative to conventional alternatives because they: • **are less polluting and\or** • **use all natural resources in a more sustainable manner and\or** • **recycle more of their wastes and products and\or** • **handle residual wastes in a more acceptable manner** Furthermore greentech refers not just to the 'individual technologies', but total system around these which include know-how, procedures, goods and services, equipment as well as organisational and managerial procedures.

Source: Based on "Working towards a balanced and inclusive green economy", United Nations, 2011.

Examples of greentech services and products are provided in Figure 3. This taxonomy is by no means exhaustive and simply provides examples of the types of services and products that are typically referred to as greentech and could be classified as such, in terms of the definition provided above.

[13] "Working towards a balanced and inclusive green economy", United Nations, 2011

[14] UNEP international environmental technology sector, available at: www.unep.org "Working towards a balanced and inclusive green economy", United Nations, 2011

Figure 3 Greentech taxonomy - examples of greentech products and services

	Utility-scale	Non-residential self generation	Residential self generation
Renewable energy generation	• Solar PV/CPV • Solar CSP • Biomass • Biogas • Hydro &ocean • Wind • Geothermal	• Solar PV • Solar CSP • Biomass • Biogas • Micro-Hydro • Wind • Geothermal	• Solar PV • Solar water heaters • Biomass (heat) • Mini-Wind
Energy efficiency	• Geothermal heating • Heat pumps • Energy efficient lighting and sensors • Smart meters • Smart grids with demand side management	• Building design and insulation • Waste heat recycling • Energy efficient heaters and air conditioning • General energy efficient consumer electronics	
Transport	• Biofuel and Biodiesel • Congestion reducing technology and infrastructure • Batteries • Energy efficient car motors and	• assembly/production • Energy efficient (environmentally friendly) vehicle parts • Energy efficient public transport services	
Materials and chemicals	• Bio-based fabrics, plastics and other environmentally friendly materials • Environmentally friendly chemicals (bio-chemistry)		
Environmental and waste services	• Environmental protection and emissions reduction technology • General waste (incl. water) recovery technology or processes • Recycling and waste treatment technology • Biogas and landfill gas production		

Source: Deloitte analysis based on several sources [15]

2.4. Progress to-date in establishing the greentech hub at Atlantis

In 2011 the CoCT constituted an intergovernmental technical task team (consisting of representatives of both WCG and the national department of economic development) to develop a framework to promote the revitalisation of Atlantis. The initiative was in response to a severe socio-economic crisis in the area which had been exacerbated by the recent closure of several factories and loss of almost 900 jobs.

The establishment of a greentech manufacturing hub at Atlantis was identified as one of the potential medium to long-term interventions that could be undertaken to revitalise the area. It was noted that both a re-engineering of the existing business clusters and support for future-focused sectors would be required. The 'greentech' sector was identified as one that was future-focused.[16]

At its Council Meeting in September 2011, the CoCT provided its support for an initiative to establish a Greentech Manufacturing Cluster in Atlantis. The CoCT noted that the cluster would be positioned to take advantage of the multi-billion rand investments in utility-scale renewable energy investments driven by the DoE and its REIPPP programme. It was anticipated that as a result of this programme, a number of manufacturers (including contractors, subcontractors and service providers) of wind and solar energy generating equipment, would need to secure land to establish manufacturing plants.[17]

In a proposal to the Mayoral Committee on the Green Industrial Hub at Atlantis in 2011, GreenCape noted that it would seek to attract the following anchor tenants:

- A wind blade manufacturer

[15] ("How can we meet the worlds environmental challenges and ensure economic prosperity", Siemens, "Definition of Clean Tech" - Innovation Policyworks,2013; "GreenTech made in Germany 3.0", 2012)

[16] Draft Atlantis Revitalisation Framework, Intergovernmental Technical Task Team, September 2012

[17] City invites green technology manufacturers to apply for land in Atlantis Green Hub, media release, NO. 486 / 2012, 11 June 2012

- A wind tower manufacturer
- A wind turbine manufacturer
- A PV manufacturer
- A PV inverter manufacturer

It was noted, that the City's Property Management Department would facilitate the location of 'green' industry manufacturers on City-owned land in Atlantis at highly competitive rentals. The land-earmarked was undeveloped and the initiative was aimed at the rapid release of land in Atlantis Industria for the establishment of greentech industries.[18]

In December 2011 the CoCT Council approved a land release procedure for this initiative whereby land was allocated for purchase or lease within a short timeframe and at very competitive land prices, to interested parties qualifying in terms of greentech criteria. Two vacant portions of undeveloped land, approximately 29ha and 38ha respectively, within the existing Atlantis industrial area were allocated by the City for this purpose.

Establishment of the greentech hub has been part of the City's 'Atlantis Revitalisation Framework' and Atlantis has been identified as a focus area in the Cape Town Spatial Development Framework. Establishing a Green Manufacturing Hub forms part of this strategic intent as reflected in the City's recently approved Integrated Development Plan (IDP).

2.4.1. Sites identified by the CoCT for the greentech industrial park

In early 2012, the CoCT advertised in local and national newspapers inviting greentech manufacturers, contractors and service providers that qualify, to apply for industrial land in Atlantis to establish manufacturing plants.

The sites identified for the 'greentech park' consist of two land parcels within close proximity representing nearly 75 hectares land available for development. The first abuts Dassenberg Road and the second Neil Hare Road. Both properties are zoned General Industrial and are wholly owned by the City of Cape Town. The land is fully serviced with utilities and offer good access to the major highway infrastructure and port opportunities.

Descriptions of the properties are provided in Table 5. The site diagrams are illustrated in Figure 4 and aerial photographs of the site are provided in Figure 5 and Figure 6.

[18] City supports green technology with new project in Atlantis, media release NO. 606 / 2011, 06 September 2011

Table 5 Description of greentech park sites

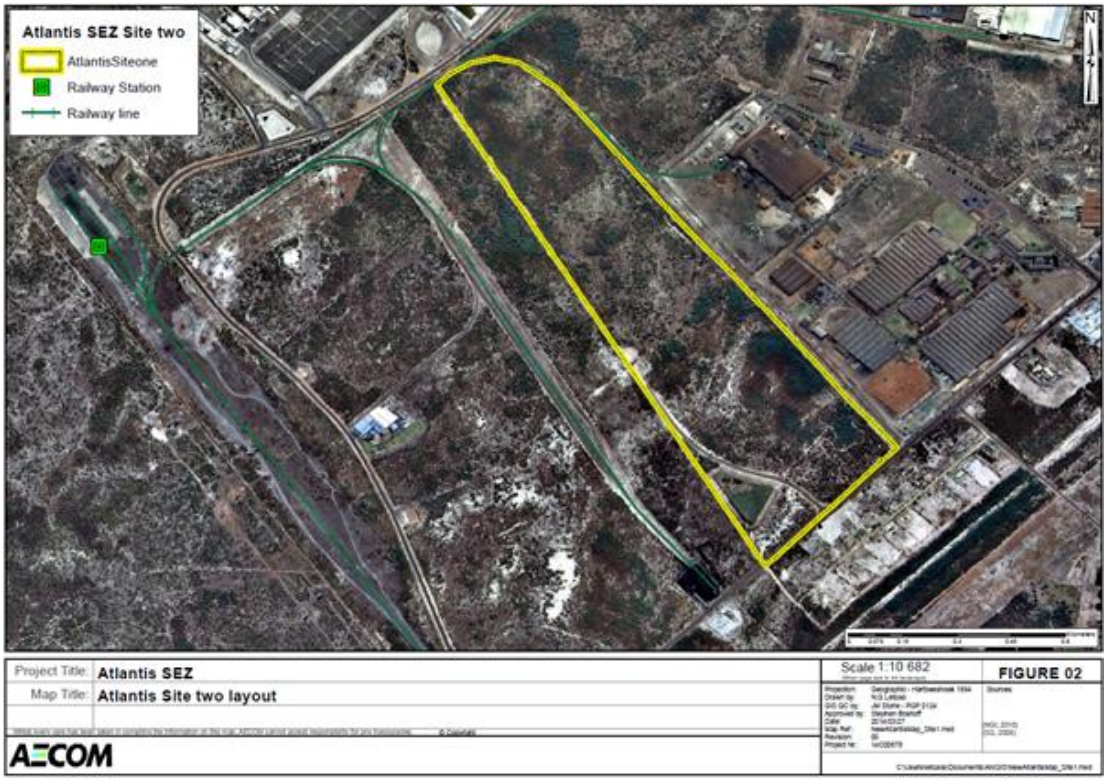
	ERF	APPROXIMATE EXTENT	LOCATION	ZONING
1.	Site 1 - Portion Cape Farm CA 1183 and Cape Farm 4 portion 93	±29,99 hectares	Dassenberg Road/ John van Niekerk Road	**General Industrial**
2.	**Site 2 - Portion Cape Farm CA 1183 portion 4 portion 1**	**±38,65 hectares**	**Neil Hare Road**	**General Industrial**

Source: AECOM analysis

Figure 4 Site diagrams

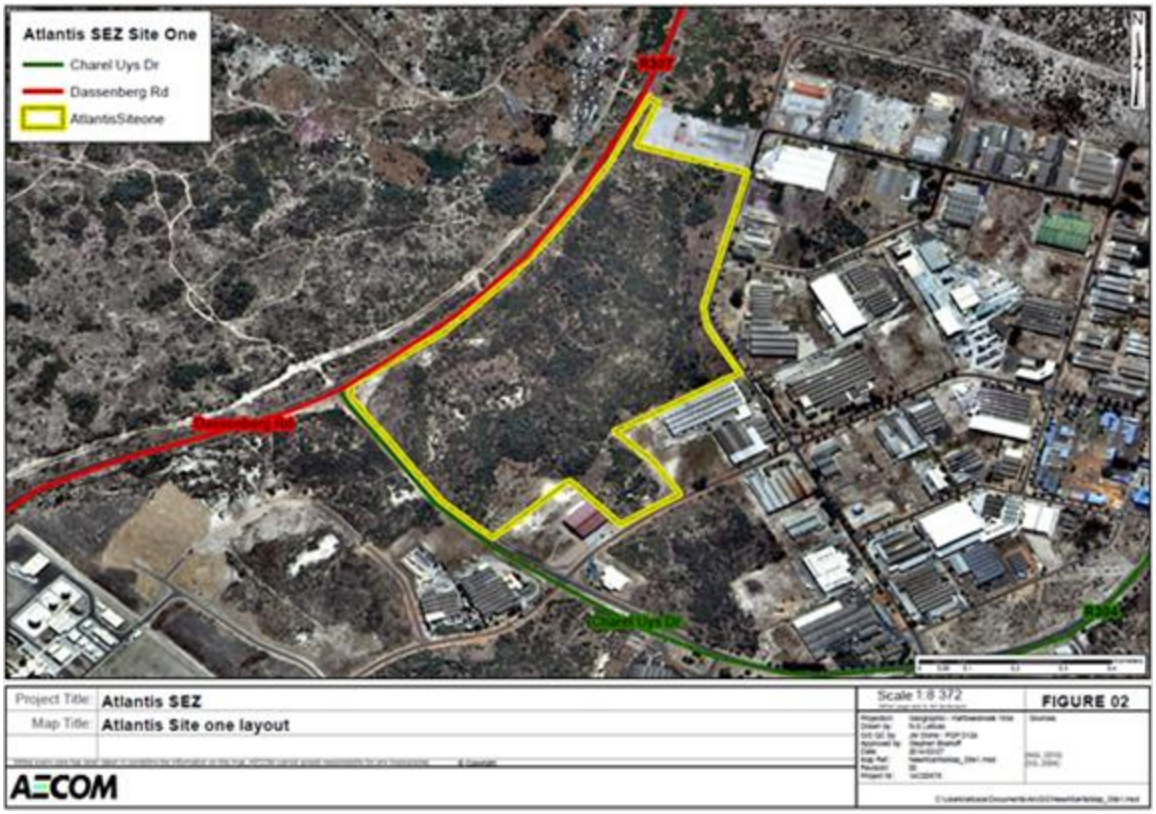
Source: AECOM analysis

Figure 5 Site 2 - Portion Cape Farm CA 1183 portion 4 portion 1



Source: AECOM analysis

Figure 6 Portion Cape Farm CA 1183 and Cape Farm 4 portion 93



Source: AECOM analysis

2.4.2. Incentives and support currently provided

The city currently offers potential investors a number of incentives to invest in the area identified for the greentech park.[19] These include:

- Land offered at very competitive prices for purchase or lease
- A quick application process for developers
- Environmental authorisation in place
- 'One-stop shop' support and information provided by the GreenCape initiative
- Small business support and incubation through the SEDA Atlantis Renewable Energy Business Incubator (SAREBI)
- Access to a range of existing CoCT incentives available to firms investing in Atlantis

2.4.2.1. Land disposal and lease arrangements

The Atlantis Greentech Industrial Park provides attractive leasing and disposal rates for prospective tenants and developers as presented in Table 6. This includes:

- Leases in multiples of 5 years up to 30 years.
- Periods of rental review can be negotiated to give security of tenure while retaining the principle of market related rental.
- Option to purchase after a period of 5, 10, 15 years or upfront.

Table 6 Atlantis Greentech Industrial Park leasing and disposal rates

Extent	Rate/m²	Market Value Disposal ('000s)	Monthly Rental ('000s) utilising 8% return on land value	Rate in Rand (Rental)
0 - 500m²	180	R 90	R 0.6	R1.20/m²
501m² - 1 000m²	180-165	R90 – R165	R 0.6 – R1.1	R1.20/m² - R1.10/m²
1 000m² - 5 000m²	165-150	R165 – R 750	R1.1 – R5	R1.10/m² - R1.00/m²
5 001m² - 10 000m²	150-120	R750 – R1 200	R5 – R8	R1.00/m² - R0.80/m²
10 001m² - 50 000m²	120-100	R1 200 – R5 000	R5 – R33	R0.80/m² - R0.67/m²
50 001m² - 70 000m²	100-80	R5 000 – R5 600	R33 – R37	R0.67/m² - R0.53/m²
70 000m² - 100 000m²	80 -65	R5 600 – R6 500	R37 – R43	R0.53/m² - R0.43/m²
100 001m² - 150 -000m²	65-50	R6 500 – R7 500	R43 – R50	R0.43/m² - R0.33/m²
150 001m² - 200 000m²	50-40	R7 500 – R8 000	R50 – R53	R0.33/m² - R0.27/m²
200 001m² - 250 000m²	40-35	R8 000 – R8 750	R53 – R58	R0.27/m² - R0.23/m²
250 001m² - 300 000m²	35-30	R8 750 – R9 000	R58 – R60	R0.23/m² - R0.20/m²
300 001m² - 350 000m²	30-27	R9 000 – R9 450	R60 – R63	R0.20/m² - R0.18/m²
350 001m² - 386 500m²	27-25	R9 450 ± R9 700	R63 – R65	R0.18/m² - R0.17/m²

Source: Atlantis Greentech Industrial Park, Application Form - APPLICATION A01P/2011/12

2.4.2.2. Quick Application process

There is a clear, transparent application process in place for those businesses interested in applying for a site. It involves submitting an application form to the Greentech Manufacturing Evaluation

[19] Atlantis Green Technology Industrial Park Information Brochure, Arup and GreenCape, 2014

Committee (GTMEC), who then provide a recommendation to the Immovable Property Adjudication Committee (IPAC). IPAC which meets weekly will either approve or decline the disposal or lease.

2.4.2.3. Environmental authorisation

Environmental Authorisation and exemptions were awarded for both sites in January 2013 so that investors will be able to develop the sites immediately on lease or purchase.

2.4.2.4. Investment support provided by GreenCape

The GreenCape Initiative is a Sector Development Agency established by the Western Cape Provincial government and The City of Cape Town in November 2010. The GreenCape Initiative was established to unlock the manufacturing and employment potential in the Green Economy in the Western Cape. Through partnerships with Wesgro, Provincial Government and academia, GreenCape provides 'one-stop shop' information and investment facilitation support.

2.4.2.5. Small business support and incubation through SAREBI

SAREBI is a small business incubator located in Atlantis with the goal of growing and nurturing small and medium enterprises operating within the "Green Economy". SAREBI provides business support, facilitation of access to markets and access to finance as well as technology transfer and joint ventures.

SAREBI is in the process of identifying candidates for incubation - it is envisaged that successful applicants will be established in the incubator facilities which include recently refurbished factory floor space and will receive full support from incubator staff and enjoy shared services and resources. This will enable companies to focus on their core business.

It is envisaged that SAREBI will be a feeder for both upstream and downstream opportunities in the Atlantis Greentech Industrial Park. SAREBI is funded by the CoCT and dti.

2.4.2.6. CoCT incentives available to firms investing in Atlantis

The CoCT offers a range of additional incentives to firms investing in the broader Atlantis area including the site identified for the Greentech Park[20].

These include:

- Fast-tracked development approvals in respect of land use and building plan applications
- Fee exemption from land use and building plan application fees
- Development contribution deferral/debt write off which applies in respect of both civil and electrical DCs where enhanced development rights granted
- A municipal electricity tariff subsidy - "Time of Use" tariff for Atlantis pegged at 2012/2013 level (thus no increase for the 2013/2014 financial year)

2.4.3. Success in attracting investors to-date

In 2014, GreenCape working together with the CoCT and WCG was successful in securing its first investor to the sites earmarked for the greentech industrial park. In May 2014, Gestamp Corporation (Gestamp), a Spanish wind tower manufacturer purchased a portion of Site 1. They will be producing components for utility-scale plants mostly in the Northern Cape and Western Cape to meet the

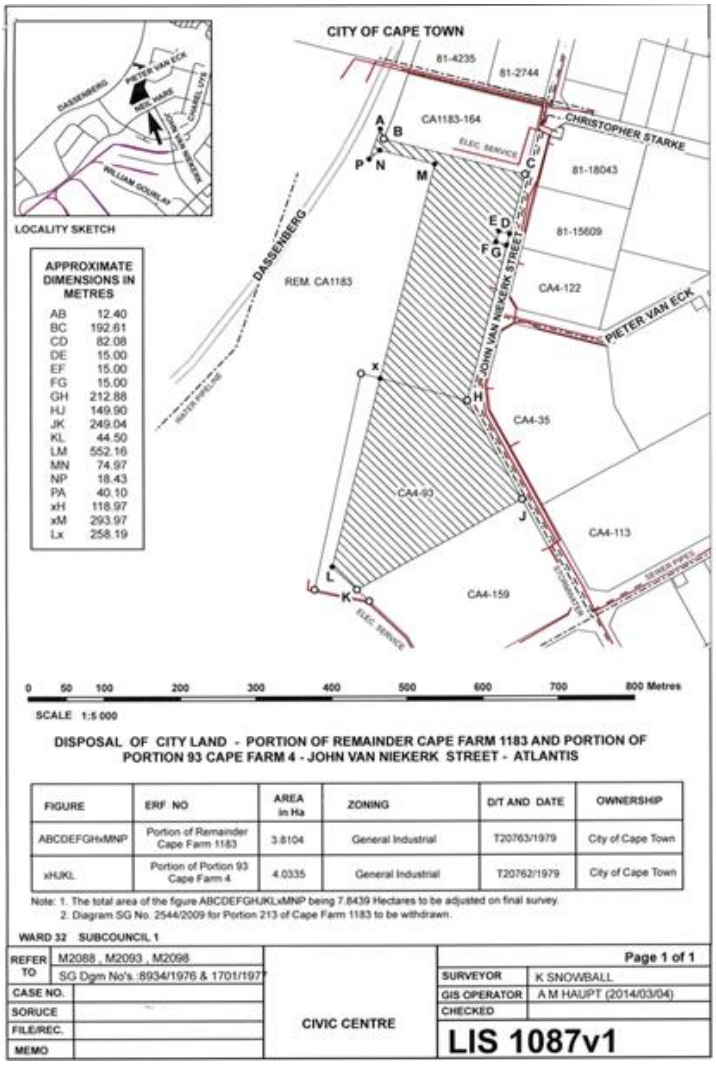
[20] City of Cape Town, Atlantis Investment Incentives: 2013/14

requirements of independent power producers that were successful in the Renewable Energy Independent Power Producers Procurement (REIPPP) programme bid rounds 2 and 3. Gestamp was a successful bidder in round 2 and will be developing Noblesfontein wind farm in the Northern Cape in its entirety. Beyond the REIPPP bid rounds Gestamp envisages it will export wind towers to the African and Middle Eastern Market.

Gestamp have purchased the eastern 1/3rd of what is referred to as site 1 (Portion Cape Farm CA 1183 and Cape Farm 4 portion 93) measuring 7.8ha in extent, as illustrated in

Figure 7. Gestamp will be investing in the development of a R200 million wind tower manufacturing facility on the site (their total investment will be in the order of R300 million).

Figure 7 Land Portion purchased by Gestamp



Source: CoCT

GreenCape noted that it also played a role in attracting the investment of a number of component manufacturers for the REIPPP programme utility-scale renewable projects to the City of Cape Town[21].

[21] Personal Communication with Mike Mulcahy, Operations Manager at GreenCape, 3 July 2014

These firms include the following:

- SMA Solar Technology (producers of inverters and system monitors located in Centurion and Cape Town)
- Jinko Solar (producers of PV modules located in Epping)
- SARETEC (providers of specialised renewable energy training located in Belville)
- AEG Power Solutions (producers of solar inverters and combiner boxes located in Milnerton)

While a number of these firms considered the sites identified for a greentech industrial park in Atlantis they chose to locate at other sites in the Cape Town metropolitan area. This, GreenCape notes, was chiefly because they preferred to rent floor space in suitable existing brownfields industrial property. Should developed industrial property (or upgraded existing facilities) be made available as part of the proposed Atlantis Special Economic Zone (ASEZ), together with SEZ incentives, Atlantis could well become the preferred location for these types of greentech investors in future.

2.4.4. Comments and observations on the current strategy and evolution towards an SEZ

The concept of establishing the greentech hub was borne out of the Atlantis Revitalisation Framework and as such, the spatial planning objectives and focus on Atlantis as the site for the green hub have been inherent to the concept since its inception.

The concept of the 'greentech park' as it stands is focused on capturing a share of the domestic utility-scale renewables market and suppliers to this market. The undeveloped 'greenfield' sites and incentives provided have been designed to capture the interest of these relatively large-scale capital-intensive manufacturers. This concept, which has been successful in attracting at least one firm in this category of investors to Atlantis, will need to be adapted to suit the broader objectives of the SEZ as a policy tool. This is particularly true if the SEZ is aiming to attract a broader range of greentech and/or manufacturing activities.

It is also clear that the CoCT and WCG recognised the concept of greentech hub as an opportunity to capture a share of a growing and future-focused manufacturing industry for the Western Cape economy. The focus on a growing manufacturing sub-sector is strategic, particularly given that the regional manufacturing sector had been in decline and was particularly hard-hit when the South African economy entered recession in 2009.

The Atlantis revitalisation framework also sought to 're-engineer' the existing sectors which include textiles, food –processing, consumer electronics and automotive amongst others. In interviews with existing firms in Atlantis it is clear that the majority of manufacturers are focused on the domestic market and are therefore constrained by growth in the domestic and regional market and ability to compete with imports. In general these firms noted that they were not able to compete in the international export market given a number of factors including the fact that South Africa is geographically remote from major markets, our local market is relatively small and does not provide sufficient economies of scale in production and labour is relatively costly. The notable exceptions are Atlantis Foundries and CA Components who produce largely for export and Swartland that exports 50% of output.

3. Rationale for the Atlantis SEZ

3.1. Introduction

The rationale for the use of special economic zones as a policy tool varies and typically differs between developing and developed countries. In developing countries SEZs and particularly export processing zones are typically used to:

- boost the competitiveness of manufacturers and service providers and reduce business entry and operating costs
- realise agglomeration benefits of concentrating an industry in geographic place
- promote economic reform in support of exports when the country has an anti-export bias and strong protectionist trade measures in place
- attract foreign direct investment
- test new policies and approaches before introducing them more widely

In developed countries SEZs most often seek to:

- Enhance trade efficiency and manufacturing competitiveness
- Attract foreign direct investment as is the case in Japan
- Revitalise economically distressed urban and rural areas- often the motivation in enterprise-zone style programmes in Europe and the USA

3.2. Primary goals and desired outcomes for the Atlantis SEZ

A clear understanding of the primary objectives and desired outcomes for the proposed Atlantis SEZ is crucial in that it informs recommendations on the overall design, commercial and operating structure, and monitoring and evaluation of strategic outcomes. Since SEZs gained popularity as a policy tool, their forms and objectives have become increasingly wide-ranging. In light of this it is also necessary to have a clear view of the primary objectives of the Atlantis SEZ in order to evaluate it against relevant 'good practice' examples that have similar objectives.

The key rationale for the SEZ must be evaluated from the perspective of key project stakeholders - CoCT and WCG who submitted the application for designation.

The primary objectives of establishing an SEZ with a greentech focus at Atlantis are:

- To grow the greentech sector in the Western Cape and South Africa
- To further the CoCT's objective of revitalising Atlantis as a key industrial node in the region

In achieving these objectives, CoCT and WCG would hope to create employment, enable smart green economic growth, to revitalise the area and attract foreign direct investment and domestic investment. These can be thought of as the desired outcomes.

Key stakeholders also recognised that in working towards these objectives and in support of the outcomes the CoCT and WCG would need to ensure that certain key enablers were in place. This would include providing supporting infrastructure, developing and strengthening institutional arrangements between government academia and business to support the vision of 'green is smart' growth and more general to continue to work towards creating an enabling environment for business to flourish.

Figure 8 Primary goals and desired outcomes for the Atlantis SEZ[22]

Source: Deloitte analysis

[22] Based on input from a workshop held with representatives of GreenCape and the WCG on 28 May 2014

4. SWOT Analysis

The comparative advantages of Atlantis as a site for the proposed greentech SEZ and the key challenges it faces are summarised in terms of the SWOT analysis (strengths, opportunities, weaknesses and threats) provided in Table 7.

Table 7 SWOT analysis for proposed Atlantis greentech SEZ

Incentives - attracting investors			
Strengths	**Weaknesses**	**Opportunities**	**Threats**
CoCT already provides a range of incentives for firms to invest in Atlantis (e.g. fast-tracked development approvals, fee exemptions from building plan applications)	Atlantis suffers from socio-economic issues including crime, business robberies and high unemployment but these issues are also prevalent in other areas of CoCT and South Africa	Opportunity to engage with National Treasury to improve design of proposed fiscal incentives.	Fixed term of the proposed 10 year corporate income tax incentive may be insufficient to attract investors who join the SEZ later and\or are longer term investors.
CoCT has made two sites available to SEZ entity to lease to SEZ tenants at very competitive prices		Opportunity to introduce other targeted incentives at local\provincial government level.	May be difficult to compete on level playing field with other SEZs where grant-funding has historically been substantial.
GreenCape, a sector development agency and the South African Renewable Energy Business Incubator (SAREBI) in Atlantis have already been established to facilitate development of and investment in the Green economy			
Policy support			
Strengths	**Weaknesses**	**Opportunities**	**Threats**
Government plans and standards that directly support local manufacturing of greentech e.g. REIPPP programme, DOE Solar water heater programme.	Challenges in execution of green policies, targets and incentives that creates uncertainty for investors. Specifically, uncertainty around IRP allocations to renewable energy and support for key programmes such as Eskom IDM and DoE solar water programme which have been put on hold.	The greentech SEZ entity can play a role in motivating for increased government support for greentech in terms of enabling regulation, incentives, localisation strategies, improved implementation of green economy initiatives etc.	Demand and uptake and local manufacturing of greentech is heavily reliant on government support, the discontinuation and\or stalling of key programmes is a threat.
Government interventions to promote greentech uptake include market-mechanisms such as the proposed carbon tax, incentives such as section12L energy efficiency tax incentive, subsidies, building standards and direct procurement.			
Increasing focus on and clear support for the green economy in national, provincial and local government policy - including NDP, Climate change white paper, carbon tax policy paper, Western Cape “green is smart’ green economy strategy framework and CoCT Economic Growth Strategy etc.			

Financial and economic viability			
Strengths	**Weaknesses**	**Opportunities**	**Threats**
Property rentals at R15-R19/m2 are half the WC average of R32/m2		Market analysis suggests that demand sufficient to support a small scale greentech SEZ and CoCT	Small scale SEZ may not be able to realise economies of scale in service provision and investment promotion
Land at an average of R150m2 and developed property at R900-R2000/m2 is inexpensive		Existing industrial properties could be utilised instead of developing new facilities to save costs and reduce waste	Risk of a low return on property investment given that rentals over the past decade have remained unchanged in real terms (inflation adjusted)
Existing institutions, such as GreenCape, Wesgro or TISA (division of the dti) which can be leveraged to reduce cost of ASEZ activities		Existing firms in Atlantis can benefit from and contribute to SEZ services. The SEZ could be used to support the further development of the existing manufacturing cluster in Atlantis while maintaining a focus on greentech and commitment to the 'green economy' more broadly	Lack of cooperation or resistance from existing firms in Atlantis to SEZ if they feel they have not benefitted or have been adversely affected.
			Private land and property owners may inflate rental prices in a bid to take advantage of SEZ designation status
Labour and skills			
Strengths	**Weaknesses**	**Opportunities**	**Threats**
Adequate pool of unskilled semi-skilled labour in Atlantis, high-skilled labour also available in broader Cape Town area	Training provided by the local West Coast FET College does not currently align with firm needs	There is a local West Coast FET College - this presents an opportunity is to upgrade the college and improve courses to better align with local firm needs	Potential skills shortage as greentech manufacturing is a relatively new skillset in South Africa
	Although on the outskirts of the City of Cape Town Metropolitan, the urban minimum wage applies in Atlantis, making it less competitive than nearby 'rural areas' for low-skilled labour-intensive activities such as clothing manufacturing	A number of high quality tertiary institutions who already specialise in greentech research and R&D	
Land availability and cost			
Strengths	**Weaknesses**	**Opportunities**	**Threats**
Ample vacant land in Atlantis zoned for industrial use to provide for future expansion - 100 to 150ha		There is a third site which could also be used in the future for the SEZ, however, additional land assessments are still required	
Two existing city-owned greenfield sites (67ha) where environmental authorisation has already been obtained for development by greentech firms will be made available to SEZ.		Cheap land available to build new identifiable 'green-rated' SEZ buildings in a clearly identifiable greentech industrial park.	
Two city-owned greenfield sites are already adequately serviced with bulk water and sewerage and city is willing to make two sites available to SEZ entity to lease to tenants at very competitive prices			
Infrastructure			
Strengths	**Weaknesses**	**Opportunities**	**Threats**

Ample existing industrial property, - 632 195m2 of existing developed industrial property which is underutilised.	No one identifiable government owned industrial property that would be suitable for refurbishment by SEZ entity	SEZ entity could lease and refurbish existing buildings to save cost and contribute to revitalisation of Atlantis	Budget cuts for electricity transmission infrastructure upgrades may pose a risk to future electricity supply in Atlantis
	Some of the buildings in Atlantis are in need of significant refurbishment and have been built with materials no longer in use (e.g. Asbestos)		
Location			
Strengths	**Weaknesses**	**Opportunities**	**Threats**
Access to both the Saldanha (110km) or Cape Town (50km) ports	Atlantis remains relatively remote from the urban centre and port compared (50km) to other industrial areas in Cape Town -a disadvantage identified by both existing firms and potential investors	Atlantis is situated on an identified future city growth corridor (between Blaauwberg and Atlantis) so will become less remote from the urban centre	
Atlantis is well located to service REIPPP programme projects within the Western Cape and Northern Cape. Close to large metropolitan area which provides natural markets for greentech products and services.	Demand for property in Atlantis remains relatively low compared to other industrial nodes in greater Cape Town.	The SEZ could in future be designated as a wider-scale "West-Coast economic growth corridor" to unlock greentech opportunities that are tied to particular locations outside of Atlantis	
Removed from city traffic and congestion		Located near offshore gas field and there have been proposals to land either domestic gas or LNG near Atlantis. There may be positive spill-overs for ASEZ if natural gas becomes available.	

5. Market analysis –assessing the greentech opportunity for the ASEZ

5.1. Introduction

The Atlantis SEZ has been envisaged by the City of Cape Town and Western Cape Provincial Government as a hub for the delivery of a range of greentech products and services. Most of the effort in sizing the market for the proposed ASEZ was therefore spent on developing a granular understanding of the specific opportunity for Atlantis in the greentech sector. Because the detailed findings of the market analysis conducted have already been presented in the prefeasibility report, we have attempted to summarise only the key findings in this report.

While the envisaged focus of the Atlantis SEZ was green technology, we also explored whether value could be added to this concept – whether the SEZ framework and incentives could be used to unlock additional opportunities for industrial and\or economic development in the area in order to maximise economic benefits.

The opportunities identified included considering an extended sector focus to support existing or emerging clusters, the expansion of the SEZ along the West Coast corridor and the potential emergence of a natural gas supply linked to the SEZ.

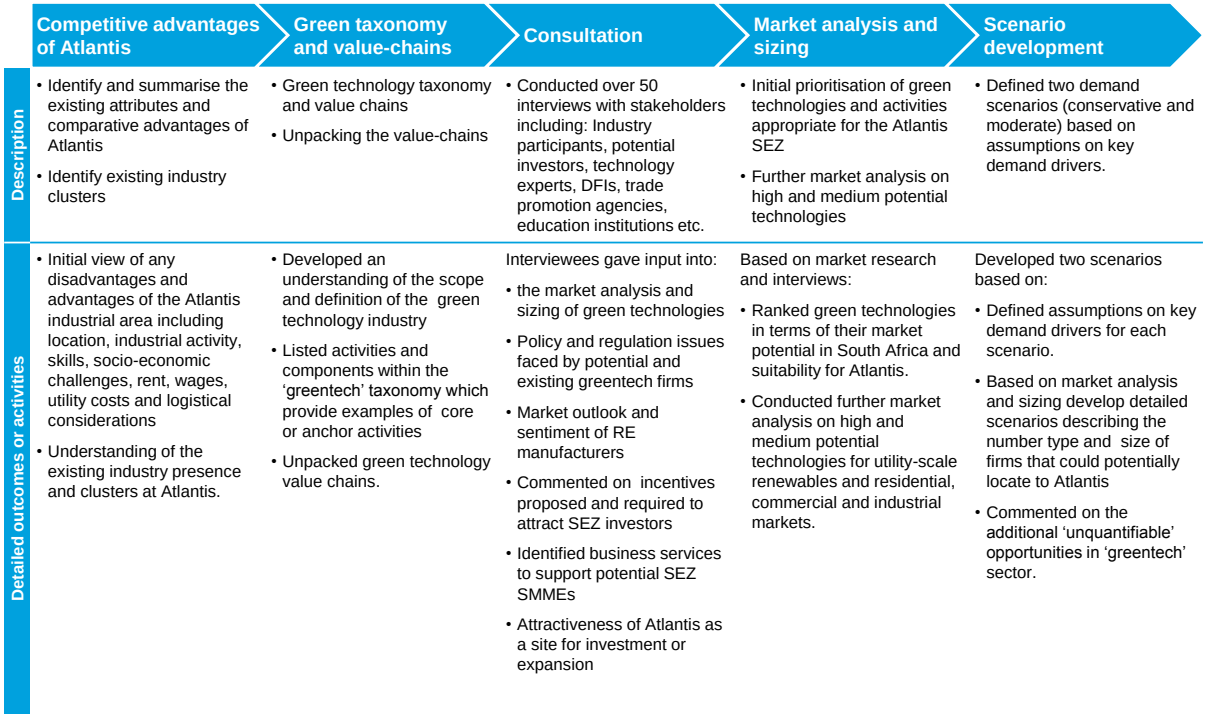
5.2. Overall approach to greentech market sizing and scenario development

Our overall approach to sizing the potential greentech market for the Atlantis SEZ is illustrated in Figure 9 below. The first step was to develop an understanding of the current landscape at Atlantis in order to identify the competitive advantages[23] that the site has to offer to potential investors in the proposed special economic zone. The findings of this analysis were presented in the prefeasibility report.

Given that green technology had already been identified as the proposed focus of the SEZ, we focused on developing a sound understanding of the greentech industry and the types of economic activities that a typical definition would encompass and produced the high-level 'taxonomy' for green technology illustrated in the prefeasibility report. We also researched the industry value-chains for each of the major categories of green technology and developed detailed value-chains. The process included extensive stakeholder consultation and engagement to derive insights into a number of areas.

[23] According to traditional economic theory regional comparative advantages include factors that are inherent to a region and cannot be easily changed including land, location, natural resources (minerals, water), labour and population size. In Michael Porter's work these 'factor conditions' are just one category of the factors which affect 'competitive advantage'. Others include demand conditions, related and supporting industries, firm strategy, structure and rivalry. This analysis focused on traditional comparative advantages but some sources of competitive advantage were also assessed.

Figure 9 Market sizing approach



Source: Deloitte analysis

Based on interviews and initial market research we developed a view of the high-and medium-potential green technologies. We conducted further market research on only these technologies for the proposed Atlantis SEZ. In general the high-potential activities were found to be the manufacturing or partial manufacturing of technologies supported directly by government through initiatives such as solar water heaters and renewable energy technologies under the renewable energy independent power producer procurement (REIPPP) programme.

Using the insights gained from the market sizing process we developed two Atlantis SEZ uptake scenarios – conservative and moderate. The first scenario reflects a conservative view which assumes uptake from only those investors who already demonstrate interest in Atlantis and who are involved in producing high-potential technologies. The second scenario, the moderate scenario, assumes that some market opportunities are targeted sooner than expected due to improved market conditions and the approval of supporting policies currently under discussion and with a high probability of being enforced within the next two to four years.

5.3. Identification of high priority green technologies for the Atlantis SEZ

In order to assess the feasibility of the proposed Atlantis greentech SEZ, we had to determine which of the greentech suite of activities Atlantis could viably attract in the short term given:

- The demand for the activity in South Africa and potential export markets
- Whether local industry can competitively produce the good or service for the local and\or export market
- The proposed dti incentives and existing City of Cape Town incentives
- The advantages and limitations of the Atlantis business environment

To evaluate the greentech activities in terms of the considerations above, we developed a simple two-axis framework for activity prioritisation Figure 10.

Figure 10 Description of prioritisation approach

Source: Deloitte analysis

On the vertical axis we ranked each activity in terms of its viability in the SA context – this encompasses an assessment of the demand for the activity in South Africa and its potential export markets and the extent to which South African producers can competitively produce it given the proposed dti and City of Cape Town incentives. On the horizontal axis we assessed the extent to which Atlantis could feasibly attract the activity given its location, business environment and other attributes.

With respect to the viability of the activity in South Africa, the first major component is the demand for greentech products and services. For example, in South Africa national policies that mandate and incentivise the use of green technologies is one of the main drivers influencing demand.

The second major factor affecting the viability of producing the product or service in South Africa is the effect of global competition. This depends on differences in productivity (i.e. the costs of production) between South African producers and their global counterparts. In general, products which are relatively simple to produce, expensive to transport (when considering imports into South Africa) and require readily accessible local inputs will face less global competition. In considering this factor, we also take into account the proposed dti and City of Cape Town incentives, which in some instances, may be sufficient to overcome differences in productivity.

With respect to the advantages and limitations of the Atlantis business environment (the horizontal axis), we consider attributes of the local labour supply, adequacy of infrastructure and relative cost of doing business in Atlantis and compare these to the needs of each business activity.

5.4. Summary of key greentech market sizing findings and conclusions

A summary of our overall ranking and prioritisation of greentech activities for the proposed ASEZ is provided in Figure 11. The high-opportunity activities (and in some cases specific components) are highlighted in the top-right quadrant while medium-opportunity activities are in the bottom-right quadrant.

For the **residential, commercial and industrial market** our key conclusions were as follows:

1. Atlantis is suited to manufacturing activities
    - Atlantis is better suited to manufacturing of green technologies and materials than provision of related services (e.g. Research and development, installations, waste services etc.). This is a function mainly of its location – its relative isolation from the CoCT urban centre and ample existing industrial infrastructure.
2. Government support and rising electricity prices drive demand

The demand for local manufacturing of green technologies this segment is contingent largely on:

- Direct government support for uptake of the end-product policy, programmes and standards, coupled in some cases with additional localisation requirements. Key programmes being the Eskom IDM programme, the DoE solar water heater roll-out plan, the SANS building standards and the 12L income tax allowance.
- The rising cost of electricity
- Falling cost of green technologies.

3. While demand has increased the outlook is uncertain
    - Two of the most successful government-support uptake programmes are on hold - the Eskom IDM programme is on hold due to funding constraints and the DoE solar water heater programme will soon be re-launched in a new format
    - This has negatively affected suppliers and manufacturers in CFL, LED, heat pump, SWH and other energy efficient and renewable energy industries who were servicing the commercial and industrial sectors.
    - While some alternative funding may become available in the short-term it is likely the programme will be discontinued when Eskom's coal-fired plants come online. The rising cost of electricity and falling relative cost of green technologies will continue to play a role in driving uptake independent of government support[24].
4. Local manufacturers primarily serve the domestic and regional market
    - The majority of existing local manufacturers supply the domestic and regional (SADC) market. Opportunities for expansion are therefore limited by growth in this market.
    - It is difficult to compete in the international export market because of a combination of one or more of the following factors - geographic remoteness of SA from key international markets, the relative cost and productivity of labour, the domestic\regional market is small and doesn't provide sufficient economies of scale in production.
    - Exceptions in niche areas – CA components in Atlantis for example supplies natural gas\biogas engines to Europe on contract.
5. Commercial & Industrial market is the larger opportunity

[24] Andrew Etzinger, head of IDM at Eskom

- While the household market has a higher number of potential users, the commercial and industrial market represents the larger opportunity for manufactures of green technology in South Africa.
- Demand is driven by the rising cost of grid electricity prices and falling cost of green technologies.
- The business case for self-generation or energy efficiency initiatives is much clearer in these segments due to much higher overall energy consumption and longer operating hours within this segment and high opportunity costs of power outages or rising electricity costs.

6. Result – the high-opportunity and medium-opportunities greentech activities for Atlantis

- The high-potential opportunities identified were the manufacturing of SWHs and basic LED components, including assembly of LED lights. We expect both of these markets to receive continued government support (through rebates and standards) and note that growth in these markets will potentially support the establishment of new entrants or expansion of existing firms to Atlantis.
- The other market opportunities which we identified for the Atlantis region include the manufacturing or assembling of heat pumps, building insulation, solar batteries, smart meters and roof top PV. Again, due to shipping costs and size requirements, assembling and manufacturing for the commercial and industrial market provides the greatest opportunity for additional manufacturing activities in Atlantis.
- The medium-potential technologies are future opportunities because they are typically contingent on some additional government support in terms of enabling regulation, standards or funding or growth in the regional market. These include Rooftop PV (which depends on progress in embedded generation) and/or larger local markets to breach the tipping points for local investments into additional manufacturing activities in the country.

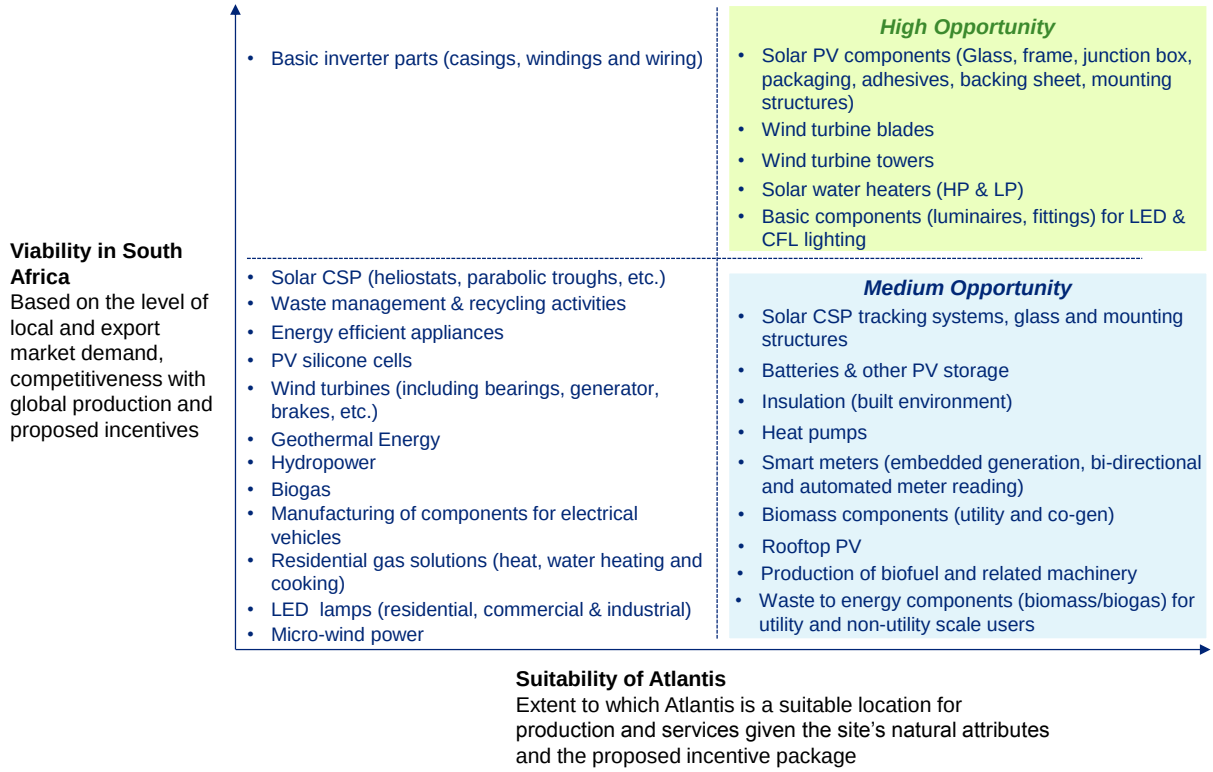
There are a wide range of greentech products and services in the residential, commercial and industrial market. These greentech solutions span across all the categories within the greentech 'taxonomy'. The technologies which we assessed as providing the greatest short-to-medium term opportunities for manufacturing in Atlantis are solar water heaters, heat pumps, rooftop PV, components of inverters, LED and CFL luminaires, building insulation and components of waste to energy technologies.

As electricity prices increase and technologies improve over time, local demand could sustain additional manufacturing in other technologies such as PV silicone cells, advanced components of inverters and heat pumps, electrical cars and their components, bio-fuels, batteries and other storage solutions, small scale waste heat recovery and other industrial solutions to reduce resource usage.

A number of existing greentech manufacturers and service providers have already indicated that a greentech SEZ in Atlantis would be an attractive location to operate from. In addition to the short term tangible opportunities already identified, the proposed greentech Atlantis SEZ would also provide future local and international greentech firms with a location that consists of fiscal incentives and an easier and more productive environment to do business from, depending on individual needs.

Local and international demand for greentech products and components will continue to grow thus increasing the likelihood of demand from firms wishing to gain access to the ASEZ property and incentives. We foresee demand for ASEZ eligibility growing on the back of increasing electricity prices, growing consumer awareness, increasing support for embedded generation, rising income levels, improving environmental awareness and falling technology prices.

Figure 11 Overall greentech opportunity prioritisation



Source: Deloitte analysis

For the utility-scale renewables market our key conclusions were as follows:

The IRP allocations and REIPPP programme together with local content requirements is the key driver of demand within the utility-scale market, especially within the wind, solar PV, CSP, biomass and biogas technologies. These technologies are capable of providing power to the national grid while also providing opportunities for additional local manufacturing in the proposed ASEZ.

The local manufacturing opportunities differ for each technology in terms of both timing and complexity. For instance within the wind energy market the fabrication of the wind blades and towers is already taking place in South Africa and Gestamp has already started building their plant in Atlantis. For the local CSP technology market it may take several more years before firms in South Africa start producing more advanced components such as curved mirrors or energy storage solutions. For now though the current opportunities in CSP occur within the manufacturing of solar trackers, steel and aluminium frames, flat plate glass and mirrors and other BOP components.

Overall:

The immediate (next 3 years) high-potential opportunities for Atlantis include the manufacturing of selected PV module components, wind turbine blades and towers, solar water heaters and basic components of CFL and LED lights. These activities, with the exception of lighting components are all directly supported through targeted government initiatives and would likely have setup without SEZ incentives. The purpose of the SEZ therefore would be to attract these activities to a relatively under-utilised industrial node and to promote the 'clustering' of these activities to foster greater collaboration and development of greentech activities in future.

The medium-opportunity activities represent future opportunities for the ASEZ to attract because growth in these markets is still contingent on additional government interventions (in terms of regulation, standards or direct support) or movement in other key demand drivers (e.g. falling cost of the technology or higher energy prices).

5.5. Greentech demand scenarios

5.5.1. Our approach – from market sizing to scenario development

Having identified high-potential and medium-potential greentech opportunities for Atlantis in both the utility-scale and broader residential, commercial and industrial market we estimated the size, number and nature of the firms that would likely setup in the ASEZ to take advantage of each of the identified opportunities. These estimates provide the basis for two demand scenarios –'conservative' and 'moderate'.

The assessment of the type, nature and number of firms representing each high and medium greentech opportunity was based on primarily on information obtained during interviews with potential investors, existing greentech firms and other industry experts at institutions including the IDC, SAREBI at Stellenbosch Centre for Renewable Energy Studies. For some of the identified technologies we were able to estimate the number of firms that would be required to support tangible future demand. Gestamp was included in all scenarios.

We split each scenario into two periods with the high-potential greentech opportunities translating into investment in the first period (2014 – 2017) and the medium-potential opportunities likely to translate into investments in the second period (2018 – 2030). The 2030 end-date was chosen to coincide with the end of the long-term planning horizon set by government in the Integrated Resource Plan (which provides guidance on future allocations to utility-scale renewables) and the National Development Plan.

5.5.2. Description of demand scenarios and assumptions

5.5.2.1. Conservative scenario – description and assumptions

This is the low-road scenario. Government support for greentech is a key driver of demand and we assume no further support beyond what is currently committed to the development of renewable energy and energy efficiency technologies over the period 2014 to 2030. We have also assumed that only investors that expressed a keen interest in locating in the ASEZ during this period will do so. Key assumptions of this scenario are laid out in the prefeasibility document.

5.5.2.2. Moderate demand scenario – description and assumptions

In the moderate scenario we assume that the demand for greentech improves primarily due to increased support by government and stronger enforcement of energy efficiency standards but also due to an increase in the cost of electricity which drives independent uptake of energy-efficient technologies. We have assumed that greentech investors beyond those directly identified for Atlantis and some investment by those in adjacent clusters. We assume that an additional 30% of firms will setup to take advantage of greentech opportunities that we have not been able to specifically identify. Key assumptions of this scenario are laid out in the prefeasibility document.

5.5.3. Assessment of likely uptake under the conservative and moderate demand scenarios

An overview of the type, nature and size of firms that the ASEZ could feasibly attract under 'conservative' assumptions is provided in Table 8 and under 'moderate' assumptions in Table 9.

Under the conservative scenario we estimate that the ASEZ could attract 12 firms in the first 3 years and an additional eight firms in the following period. The moderate scenario assumes a marginally higher and earlier interest by firms wishing to invest in the Atlantis SEZ compared to the conservative scenario. For instance in the moderate scenario we anticipate that a PV module manufacturer will show interest in the SEZ within the next two years and begins operating before the end of 2017. Also, due to a slightly higher than anticipated uptake in the demand for SWHs we foresee the market being able to support an additional SWH manufacturer and assembler in the short term.

Table 8 Conservative scenario

	Description.	2014 – 2017	2018 – 2030
Green Tech and directly related			
Green Technology	Wind	Gestamp (wind tower manufacturer) 1 x Wind blade manufacturer	
	Solar PV		1 x Low-iron glass manufacturer 2 x PV module manufacturer
	CSP		1 x CSP trackers
	Solar Water Heaters	1 x Manufacturer 2 x SMME SWH assembly & installation	
	Energy Efficiency	1 x Energy efficient lighting	
Suppliers to Green Tech	Larger Suppliers		2 x Steel structures 1 x Inverter parts and assembly
	SMMES	1 x Cabling and cabling services 1 x Basic steel structure (e.g. ladders and small platforms) 1 x Specialised painting services (Gestamp) 1 x Specialised painting services (wind blades) 1 x Small electrical components and kits, incl. lights 1 x Specialised logistics	1 x Aluminium frames & structures

Source: Deloitte analysis

Table 9 Moderate scenario

	Description	2014 – 2017	2018 – 2030
Green Tech and directly related			
Green Technology	Wind	Gestamp (wind tower manufacturer) 1 x Wind blade manufacturer	
	Solar PV	1 x PV module manufacturer	1 x Low-iron glass manufacturer 2 x module manufacturer
	CSP		1 x CSP trackers
	Solar Water Heaters	2 X Manufacturer 3 x SMME SWH assembly & installation	2 x SMME SWH assembly & installation
	Biomass		1 x Biomass components
	Energy Efficiency	1 x Energy efficient lighting	1 x Batteries for storage 1 x Building insulation 1 x Heat pump
Suppliers to Green Tech	Larger suppliers		2 x Steel structures 1 x Inverter parts and assembly
	SMMES	1 x Cabling and cabling services 1 x Basic steel structure (e.g. ladders and small platforms) 1 x Specialised painting services (Gestamp) 1 x Specialised painting services (wind blades) 1 x Small electrical components and kits, incl. lights 1 x Specialised logistics	1 x Aluminium frames & structures 1 x Packaging

Source: Deloitte analysis

Differences in the scale and impact the greentech SEZ could have under conservative and moderate scenarios in terms of number of greentech firms and suppliers, direct permanent jobs created per year and the required industrial floor space are outlined in Table 10.

In the conservative scenario the wind blade manufacturer and Gestamp represent the two large manufacturers employing 550 workers and requiring 41 000m^2 of industrial floor space. In the moderate scenario we assume an additional ten greentech firms will set up over the 17 year period (2014 to 2030) increasing our overall estimate of total direct and permanent jobs created by 380 and increasing required floor space of 32 000m^2. These ten firms represent six medium greentech firms, three small greentech firms and one additional small greentech supplier. No additional large manufacturers were assumed to set up in the moderate scenario above those already identified in the conservative scenario. In both of our demand scenarios presented here the proposed Atlantis SEZ would be considered a small scale greentech SEZ.

The majority of foreign direct investment will likely be attracted by the two large anchor tenants, Gestamp and the wind turbine blade manufacturer. According to our market research and interviews with manufacturers this investment could be in the range of R500 million for each scenario. If international PV module manufacturing firms make investments of R50 million each then an additional R100 million and R150 million in FDI could be attracted in the conservative and moderate scenarios respectively.

Table 10 Size of likely uptake, conservative and moderate scenarios

	Conservative				Moderate			
Firm Size	Large	Medium	Small	Total	Large	Medium	Small	Total
No. greentech firms	2	5	3	9	2	11	6	18
No. of greentech suppliers	-	3	7	10	-	3	8	11
Direct permanent jobs created per year	550	370	140	1 060	550	690	200	1 440
Industrial floor space required, m^2	41 000	30 500	9 100	80 600	41 000	60 500	11 100	112 600
FDI, million	R500	R100	-	R600	R500	R150	-	R650

Source: Deloitte analysis

5.5.4. Conclusions on greentech demand

Our analysis of the greentech market in South Africa and the potential of Atlantis to attract a share of the firms that will serve that market suggest that demand will be sufficient, even under the more conservative scenario, to support the development of a small-scale greentech SEZ.

In the short-term (2014 to 2017) the ASEZ would focus on trying to attract manufacturers of SWHs and components for wind and solar PV as well as basic LED/CFL lighting components and/or assembly. The SEZ would also focus on supporting a number of SMME greentech suppliers focusing on servicing the larger anchor tenants such as Gestamp or a wind blade manufacturer. We acknowledge that these activities, with the exception of lighting components are all directly supported through targeted government initiatives and would likely have setup without the provision of SEZ incentives.

However, the SEZ would play a role in regional development in that it would likely attract these activities to a relatively under-utilised industrial node and to promote the 'clustering' of these activities to foster greater collaboration and development of greentech activities in future.

The opportunity for the ASEZ is also likely to improve over the medium-to-long term (beyond 2018) because of increased IRP allocations and movements in demand drivers, such as rising electricity prices or falling technology costs. In the medium term the ASEZ could potentially attract two large greentech firms and 14 medium and small firms with a host of smaller suppliers creating 1 440 direct and permanent jobs once fully realised. The majority of these positions could be filled by Atlantis residents thereby contributing to the upliftment of people in the area.

Overall the current market demand is capable of sustaining a small scale greentech SEZ in Atlantis, particularly if the SEZ entity adopts and incremental approach to investment based on realised demand. If additional demand from neighbouring countries or other international markets for South African made products increases or new local markets such as co-generation and embedded generation are unlocked, then this would only further increase the viability and potential of the proposed Atlantis greentech SEZ.

5.6. Summary of the broader opportunity for the ASEZ

Our analysis of the greentech market in South Africa and the potential of Atlantis to attract a share of the firms that will serve that market suggest that demand will be sufficient, even under the more conservative scenario, to support the development of a small-scale greentech SEZ.

However we also explored whether still more value could be added to this concept – how the SEZ framework and incentives could potentially be used to unlock additional opportunities for industrial and\or economic development in the area and to maximise the benefits in terms of attracting investment and job creation.

The opportunities identified include:

- **Extended sector focus to support existing or emerging clusters**– the SEZ could be used to support the further development of the existing manufacturing cluster in Atlantis while maintaining a focus on greentech and commitment to the 'green economy' more broadly.
- **West Coast SEZ corridor** - Designating the SEZ as a wider-scale "West-Coast economic growth corridor" to unlock greentech opportunities that are tied to particular locations outside Atlantis and to use the SEZ as a catalyst for a broader West Coast regional development initiative.
- **Emergence of a natural gas supply** – Understanding the positive spill over effects from the likely emergence of a natural gas supply in Atlantis through either local production or imports could have on the proposed ASEZ and understanding how it can support the business case.

5.6.1. Key conclusions on the broader opportunity

Key project stakeholders including the CoCT and WCG felt that in the short-term the geographic and sector focus of the proposed SEZ should initially be limited to Atlantis Industria and greentech activities.

In the medium-term the Atlantis SEZ, once a proven concept, could consider applying to be designated as a 'West Coast corridor 'to unlock a range of other greentech and possibly 'low-carbon resource-efficient activities' along this corridor. These could include but are not limited to, landfill sites, small-scale biogas or biomass, co-generation opportunities, biomass pellets production, biofuel production, greentech installers and maintenance, energy audits and any other greentech firms who supply the medium firms on the corridor or who need to be close to a commercial/residential hub

Another way in which in the SEZ could consider broader opportunities once established would be to extend its greentech sector focus to include resource-efficient low-carbon manufacturers. This could support the growth and development of the existing manufacturing clusters in Atlantis while retaining the SEZ's 'green' identity and focus.

Interviews held with firms in Atlantis suggest that for those firms who are able to serve a broader and growing export market in Africa, SEZ incentives may indeed tip the business case in favour of incremental expansion into new product lines and markets. The SEZ employment tax incentive could provide an opportunity to attract new low-skill labour intensive manufacturers to Atlantis where growth in the domestic and broader regional market is also supportive.

However it was noted that the concept of 'resource-efficient low-carbon' manufacturing is not as clearly defined as greentech and while there are several international guidelines emerging, there may be increased administration in assessing on what grounds a firm may qualify as a resource-efficient low-carbon manufacturer.

On the subject of natural gas it was noted that post 2020 there is the possibility of excess gas being available for a range of end-users at prices lower than other forms of power, including electricity and diesel. At this stage, however, it is difficult to predict what the relative price of natural gas will be. Nevertheless, should the gas be competitively priced relative to grid electricity it could attract a range of energy consumer and intensive users to locate/re-locate to Atlantis and firms already established in Atlantis would benefit from a cleaner, potentially cheaper source of energy.

6. Technical aspects

6.1. Geo-technical investigation of land portion

6.1.1. Geo-technical considerations

A geotechnical desk study of the two sites identified for greentech industry was undertaken focusing on site geology, site geohydrology, typical founding conditions, excavation conditions, and materials utilisation potential.

Key conclusions of the study are:

- The site is most likely underlain by naturally deposited generally sandy aeolian and alluvial soils. Generally, the near surface soils can be regarded as generally very loose to loose, improving in consistency with depth.
- Groundwater is likely to be located at depth at this site due to the assumed thickness of the sandy 'permeable' soils at the site. Groundwater is not expected to be problematic at the site. Moisture within the respective soil horizons will fluctuate seasonally.
- Hand labour and suitable earthmoving plant can be used for excavation purposes. Suitable battering of the side slopes will be required for areas in cut. In terms of long term slope stability, all cut slopes should be constructed to gradients not greater than 1v:2.0h and should allow for the inclusion of a suitable erosion blanket and planting. Suitable wind erosion measures will also be required in the drier summer periods during construction.
- In terms of the material utilization potential the sandy transported soils are suitable as use as structural fill and as G7 selected subgrade once suitably compacted. Due to the variability in the clay/silt content within the transported soils, careful selection of suitable material may be required on site. Due to the fine grained nature of the site soils, soil moisture content needs to be carefully controlled.
- In general, founding conditions for structures are regarded as unfavourable for conventional founding at shallow depth and will require improvement to ensure competent founding conditions. The naturally deposited transported soils at depth are suitable to support structures up to a minimum bearing pressure of 175 kPa.
- The strength characteristics of the sub-soils can only be adequately assessed with a site specific geotechnical investigation aimed at the assessment of the sub-soils using intrusive investigative techniques such a trial pitting. Should heavy structural loading of the sub-soils be anticipated then investigation of the subsoil characteristics at depth will be required to assess the risk of adverse settlement. Small rotary diameter boreholes (with Standard Penetration Tests) would be recommended for a deeper assessment of the sub-soils.

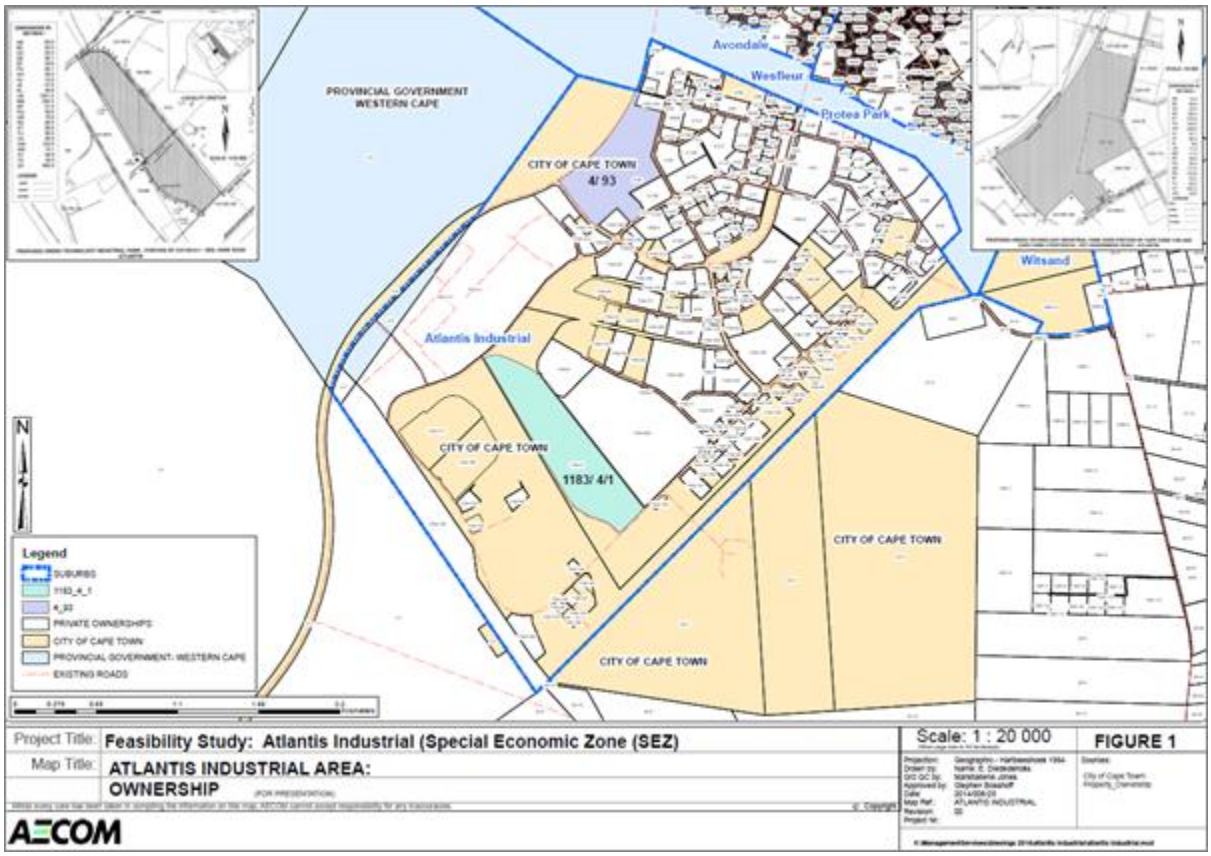
Subject to the specific measures outlined above related to excavation, material utilisation, founding, and the strength characteristics of sub-soils, there are no significant geotechnical considerations which should detract from the feasibility of the proposed SEZ. The full geotechnical desktop study has been provided separately.

6.2. Land availability, suitability, and planning,

6.2.1. Land availability

It is expected that the two sites made available to greentech manufacturing enterprises by the CoCT are sufficient in size to accommodate demand from qualifying enterprises (this aspect is discussed in more detail in section 6.5.1). Nevertheless, as indicated in figure 12, the CoCT owns numerous other large and smaller erven other distributed throughout the Atlantis Industrial area. Therefore, should growth of the SEZ exceed anticipated demand, ample CoCT owned land is available.

Figure 12 Land Ownership in Atlantis Industrial Area (CoCT)



6.2.1.1. Development context

In general terms, the spatial structure of Atlantis comprises a rectangular area, some 2.5km wide and 5-6km long stretching south-north some 10km from the coast and 40km north of Cape Town. The two halves of the rectangle are respectively reserved for residential areas (in the north), and industrial use (in the south). An undeveloped buffer zone divides the residential and industrial areas. A south-north route, Charel Uys Drive, connects the residential and industrial areas.

The Atlantis CBD is located in the middle of the residential area, and is surrounded by “cellular”, internally focused communities with public facilities (e.g. schools, places of assembly) at the centre of these. In keeping with “modernist” town planning practice, the neighbourhood/ local road network is curvilinear – with frequent cul-de-sacs – in an attempt to force most movement onto the main road network. Linear open space systems traverse the area, but remain largely undeveloped, “lost” (undeveloped) space. Most of the residential area is zoned for single dwelling use (albeit erf sizes are relatively small in line with the originally intended “worker” status of the community) with general residential use (intended for apartments) along busier routes or at major intersections. Parts of the residential area – specifically towards the north – remain undeveloped.

The industrial area to the south shows a gradation of erf sizes from the north to the south with larger erven to the south. Clearly the original intent of this layout was for larger industries – those with potentially the most adverse impact (e.g. in terms of industrial vehicular movement) – to locate in the south, furthest from residential areas. The northern part of the industrial area is most developed while large tracts of vacant land occur to the south. The inner industrial area is served by a continuous ring road – Neil Hare Road – which intersects with Charel Uys Drive. A major route, Dassenberg Road, serves the industrial area to the west. Dassenberg Road also intersects with Charel Uys Drive.

As a planned industrial estate, the “sunk” infrastructure of the area has been designed to standards suitable to accommodate further industrial development. The overall “square” shape of the industrial area makes it clearly identifiable as a defined area of specific land use. Internally, the area provides a range of erf sizes, accommodating the needs of different manufacturing activities.

Atlantis Industrial contains a very high extent of industrial floor space; some 4 074 461m² of “bulk” is provided for in the zoning scheme of which 632 195m² (16%) – on 137 land parcels – is developed. In terms of land, some 39.5% of available industrial land is developed with 1 567 175m² remaining vacant.

The average value of improved industrial property is above the city average while the m² cost of vacant industrial land (R160) is regarded as cheap compared to the city average. Between 2005 and 2013, 33 vacant industrial land parcels were sold for an overall value of more than R77 million. This rate and value of sales is regarded as high compared to the rest of the city.

6.2.1.2. Land suitability

As part of the established industrial area, there are no non-industrial activities adjoining the identified sites that would be negatively impacted upon by the proposed green industry uses. Both sites are located in the western and southern part of the industrial area which is less developed and comprise of larger erven (suitable to large space users such as Gestamp). The less developed nature and larger erven of the western and southern part of Atlantis also enables more flexibility – if needed – in the configuration/ re-alignment of infrastructure and land units to accommodate the specific and different needs of users. Further, although removed from residential areas within Atlantis, both sites are readily accessible to labour settlement areas.

In terms of physical attributes, both sites:

- Are large in extent, enabling accommodating of a range of users with different and perhaps unique space requirements.
- Have a relatively simple shape/ configuration (square or rectangular), enabling easy “parcelling” of land to accommodate different users and a very large range of building configurations.
- Are flat in slope, enabling easy provision of manufacturing space (requiring large flat surfaces).

- Are currently vacant, with no previous structures to be removed or contaminants related to earlier activities requiring remedial removal/ clean-up.

6.3. Detailed Land use zoning, site planning and design density, building design

6.3.1. Zoning and environmental considerations

6.3.1.1. Zoning

The General Industry Subzone GI zoning of the sites identified for the SEZ permits to greentech industries identified through market segmentation and sizing. In making the land available specifically for the SEZ, the City has further limited use rights on the land in that only applicants who comply in terms of one or more of the following categories will qualify for evaluation, i.e, companies that:

- have been awarded power purchase agreements.
- Are Supplying components to utility scale renewable energy installations.
- Manufacture/ supply energy efficient equipment.
- Manufacture/ supply green technology.
- Specialise in the construction and/ or management and/ or maintenance of renewable energy installations.
- Manufacture and/ or repair components for primarily green manufacturing industries.
- Are involved in research and experiments in respect of renewable energy.

It is acknowledged that a specific green technology activity may require further deviation from the applicable zoning regulations, for example in relation to building height, setbacks, floor area, or coverage. In these cases, departures from the provisions of the zoning scheme could be applied for. Given the City's specific support for the Atlantis SEZ, such applications would in all likelihood be supported.

6.3.1.2. Environmental context and approvals

Atlantis forms part of the transition zone of the Cape West Coast Biosphere Reserve. The area has a Mediterranean climate, with warm summers and cool winters. Rain occurs mainly in winter. Wind direction in summer is predominantly south-westerly and south-easterly, and in winter north-westerly. Situated on a coastal plain, the area comprises mainly unconsolidated quartz sand sediments deposited to an average of 25m deep on shale bedrock of the Malmesbury Group. The area is gently sloping and largely lacking in rivers and streams but productive springs are located at Silwerstroom and Mamre.

As part of the Cape Floristic Region the area contains a high percentage of endemic and threatened plant species. Previous studies (Ankerlig Power Station Conversion and Transmission Integration Project, Western Cape, Final Scoping, March 2008), indicated that it is doubtful that any Red Data invertebrate taxa occur in the area. Out of 67 mammal species in the broader area, eight are endemic. Two hundred and one bird species occur in the area, 15 of which are red-listed and 44 regional endemic or near endemic.

The Atlantic coastline presents an area of natural amenity with unique views of Table Mountain. Portions of the coastline and inland areas are susceptible to the effects of sea level rise which may impact on coastal development and infrastructure. Vast areas of rural land are located in the broader area including extensive farms and smallholding areas. Whilst portions are actively farmed, a large proportion is the subject of private sector land banking and development speculation.

The Blaauwberg District – with Atlantis at its north – is viewed as a major growth axis of the City. However, given its environmental value, it is imperative that high conservation worthy remnants is protected and that ecological corridors are provided to allow for the movement of fauna and flora. Atlantis itself has been identified as within the urban edge of the City of Cape Town – suitable for further urban development. The area as a whole is largely surrounded by designated core conservation and agriculturally significant land. The current urban edge of Cape Town "proper" is further to the south of Atlantis. However, over the long term it is expected that this edge will be adjusted to integrate Atlantis with development along the City's west coast (the proposed "Wescape" development is situated to the south of Atlantis).

A favourable environmental authorisation for use of the two sites identified by the CoCT by green technology manufacturing enterprises was received from the Department of Environmental Affairs and Development Planning (DEA&DP) on 16 January 2013 by virtue of the powers conferred on it in terms of the National Environmental Act 1998 (Act No. 107 of 1998) and the Environmental Impact Assessment Amendment Regulations, 2010. The EIA process for the two sites found that both erven contain natural vegetation in medium habitat condition. These erven do not, however, form part of the City of Cape Town's Biodiversity Network. The vegetation type is classified as Cape Flats Dune Strandveld (West Coast subtype) and is nationally endangered. It is also endemic to Cape Town and can only be conserved within the City's borders.

In order to mitigate the effect of the conservation requirements in respect of the endangered vegetation on the properties the City has recently resolved to acquire an alternative site, the Klein Dassenberg site, as an off-site biodiversity offset site which will enable the minimum conservation thresholds for the relevant vegetation types to be met and will compensate for the loss of endangered vegetation on the subject properties.

As a result the development of the subject properties will not be constrained by any requirements regarding conservation of any endangered vegetation and the vegetation may be removed.

Some additional actions and possible approvals that may be required on designation of the SEZ include:

- The draft Environmental Management Programme (EMPr) need to be amended when needed to ensure compliance with the conditions contained within the environmental authorisation or further applications. During this process, the EMPr is to be reviewed and made site specific, ensuring compliance with the requirements of NEMA Section 24N.

- Chapter 4 of the National Water Act (NWA) refers to the use of water and eleven uses are described in Section 21 of the Act. Two of these "uses" clearly fall within the realm of artificial recharge, namely "storing water", and "the intentional recharging of an aquifer with any waste or water containing waste". Other uses such as "altering the bed, banks, course or characteristics of a watercourse", could be applicable in the case of a bank filtration artificial recharge scheme. Based on the definitions as contained in the NWA, artificial recharge can therefore be considered a water use. Therefore waste water emanating from the bio retention facility may require a water use license. Furthermore, the basic assessment indicates that a (man-made) retention pond has been identified on site. Should this pond perform the functions of a wetland, it may be classified as such. The NWA does not differentiate between natural and man-made wetlands, and as such any activity occurring within 500m of a wetland may require a water use license.
- The removal of endangered plants prior to the commencement of construction related activities requires a permit from *inter alia* CapeNature. This is not a long lead item and will not significantly impact upon the development. The small population of the endangered *Ruschia indecora* should, where possible, remain undisturbed (in situ) and be incorporated in the landscaping, thereby receiving protection; alternatively, these must be used as part of the greater site landscaping.
- Section 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) requires developers to notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development. A Notice of Intent to Develop has been submitted to Heritage Western Cape as part of the basic assessment. The environmental authorisation requires that a qualified archaeologist be appointed should heritage artefacts be discovered on site during earth works/development.

6.3.2. Site planning and design

6.3.2.1. Land usage

Market segmentation and market sizing investigations for the Atlantis SEZ have indicated that:

- Over a ten-year period another large enterprise – possibly a wind blade manufacturer – requiring a large landholding and floor area similar to Gestamp (some 7.2ha and ±20 000m²), could locate within the Atlantis SEZ
- During years 1-3 between 1.6-2.4ha (8 000m²-12 100m² of floor space) and during years 4-10 an additional 2-5.5ha (10 000m²-27 500m² of floor space) would be required to accommodate smaller users in an industrial park. Further, the Atlantis SEZ would require an One Stop Shop (OSS), estimated to be at least 500m² in floor area

There are two options for accommodating a further large space user: either on site 1 (part of which is used by Gestamp), or on site 2. Gestamp has taken up some 7.8ha of the 29.9ha site 1 with the remainder left undeveloped. Site 2 measures 38.7ha in extent and is completely undeveloped.

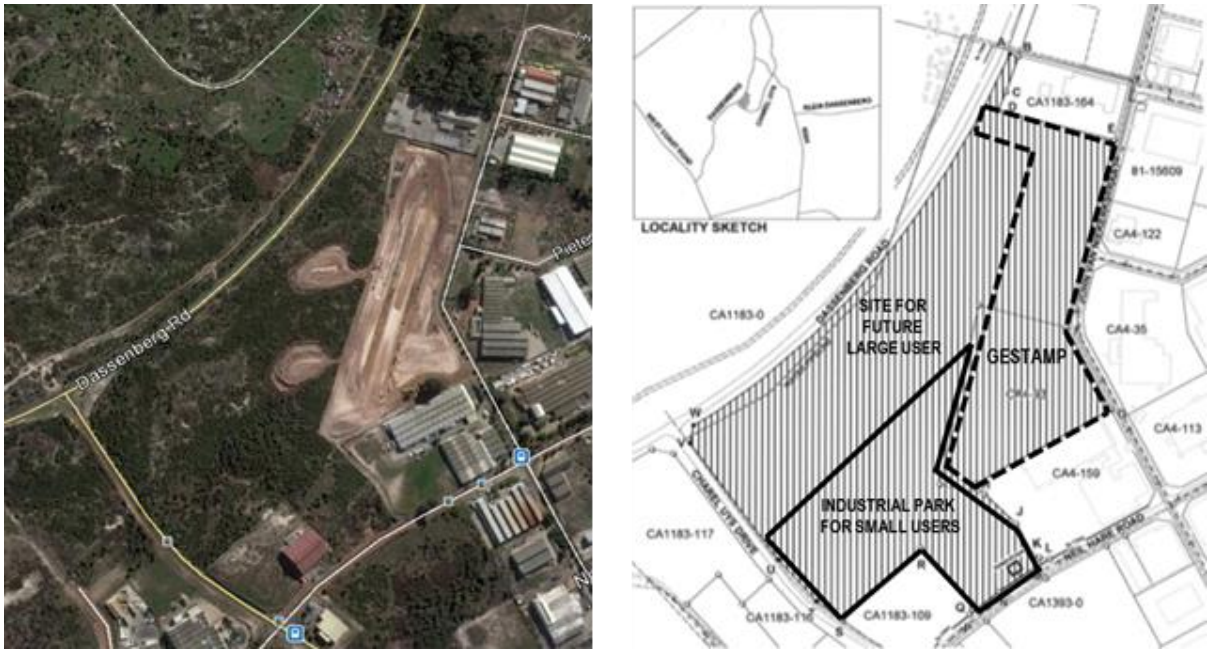
It follows that there is sufficient space available to accommodate a further large user with similar space needs to Gestamp on site 1. Site 2 is large in extent and very few, if any, development-ready industrial sites of a similar extent remain in the CoCT's ownership. Ideally, this site should not be "parcelled" into smaller land units but rather be kept in reserve should a major manufacturer (and employer) in future require such a land holding in Cape Town. If for operational reasons the remainder of site 1 is not suitable for the next large user, such a user could be located on site 2.

Two broad options appear possible for accommodating smaller users. The first is to refurbish existing space within Atlantis Industrial. The second is to build new purpose-built accommodation for small users on a portion of one of the two sites identified by the CoCT for green manufacturing enterprises. Accommodating smaller users in existing refurbished buildings would appear advantageous from a larger Atlantis Industrial urban renewal perspective – in line with various CoCT initiatives. However, building anew provides various advantages in terms of a facility which is purpose designed (to meet both user and "green" standards), carefully phased as need arises, and the "identity" of a first phase SEZ.

A new industrial park could be located on site 1 or 2. Assuming a 10 year maximum need of some 8ha for smaller users, the remainder of site 1 should be sufficiently large to accommodate both a further large manufacturer and the industrial park. Again, in this way the SEZ entity is assured full flexibility to negotiate user agreements related to site 2 in future

Figure 13 indicates how the 10-year projected SEZ demand could be accommodated on site 1.

Figure 13 Proposed SEZ Site (AECOM site planning study)



6.3.2.2. Site lay-out and design

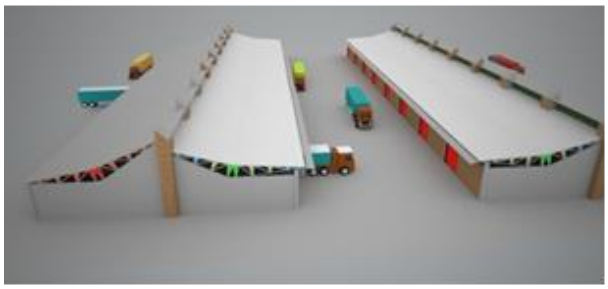
It is likely that a further large space user (similar to Gestamp) will require purpose designed space, responding to specific assembly processes. A site lay-out was therefore not prepared for a further large user.

A concept site lay-out and design (refer to Figure 14) has been prepared for an industrial park accommodating the anticipated 10-year demand for smaller Atlantis SEZ users. The lay-out pursues:

- A grid-like movement structure enabling easy movement from and to the surrounding route network as well as between and through buildings.
- Building orientation to maximise natural light.
- Appropriate yard/service space to individual units.
- Space for a possible taxi-rank, market facility (for small traders, depending on demand), and recycling facility, at the main entrance/exit.

- Consolidated recreation space (and possible urban agriculture opportunity) in association with the OSS in the centre of the development.
- Modular buildings (based on a grid design which could be easily converted/ adapted to accommodate larger or smaller units depending on the specific needs of users, and phasing of the development based on demand), repeated in rows.

Figure 14 Potential ASEZ Industrial Park Design (AECOM site planning study)



6.3.2.3. Green building

Consistent with the proposed SEZ's focus on manufacturing to support green infrastructure and products, it is believed appropriate for the SEZ entity to pursue green buildings to accommodate its own operational needs (the OSS), as well as manufacturers.

The Green Building Council of South Africa (GBCSA) uses the Green Star South Africa (SA) rating system to provide an objective measurement for green buildings in South Africa and to recognise and reward environmental leadership in the property industry. Currently, there is no GBCSA rating tool which can assess industrial developments. However, the SEZ entity, can obtain GBCSA approval to develop a project specific rating tools for SEZ accommodation.

South Africa is pioneering building criteria beyond traditional green considerations to assess the social and economic elements of building projects, and how these contribute to broader national development and sustainability objectives (including poverty alleviation, unemployment, and poor health), through the GBCSA's voluntary pilot socio-economic Category (SEC) for Green Star SA rating tools. Given the broader urban renewal context of the proposed Atlantis SEZ, it would be appropriate for the SEZ entity to incorporate these criteria in developing a SEZ specific building rating

6.4. Completion of civil engineering studies

The following detailed engineering studies may be required once the exact nature, extent, and form of SEZ related development is known:

- Investigation of the subsoil characteristics at depth should heavy structural loading of the sub-soils be anticipated
- If Council considers it necessary, a transport or traffic impact statement or assessment
- If Council considers it necessary, a stormwater impact assessment and/or stormwater management plan
- The detail capacity of the water reticulation network in the vicinity of the two sites identified
- The detail capacity of the wastewater reticulation network in the vicinity of the two sites identified
- The detailed electricity needs of SEZ users and electricity distribution between the two sites identified

6.4.1. Water sources

Bulk water sources for Atlantis include the:

- Witzands well-field/ boreholes (potential capacity of15 Ml/d)
- Silwerstroom well-field/boreholes (potential capacity of 6 Ml/d)
- CoCT Bulk supply system (potential capacity of 25 Ml/d)

The Average Annual Daily Demand (AADD) for Atlantis residential and industrial water use is respectively 4 168.1 Kl and 8 521.7 Kl. Thus, both the residential and industrial water needs of Atlantis could potentially be met through its groundwater supply, recharged through the Atlantis Water Resource Management Scheme (AWRMS) which replenishes 30% of groundwater through recycling stormwater and treated domestic effluent. During the recent rehabilitation programme of the well-fields, the whole of Atlantis's water needs was supplied through the CoCT bulk water supply system.

6.4.2. Bulk water infrastructure

Bulk water infrastructure in Atlantis comprises:

- Two 20 Ml Melkbos reservoirs, supplied via the 700 mm diameter Melkbos supply pipeline, in turn supplied via its connection to the 1 500 mm diameter Voëlvlei pipeline
- A 500 mm pipeline which supplies water from the Melkbos reservoirs to the Witzands well-field

- A 400 mm and 450 mm diameter pipeline which supplies bulk water further northwards from the Witzands well-field
- Two pumpstations located at the Witzands well-field (Witzands A and B pumpstations). Witzands A pump-station pumps bulk water via a 400 mm diameter pipeline to the 10 Ml and 40 Ml Pella reservoirs, and Witzands B via a 450 mm diameter pipeline to the 10 Ml and 20 Ml Hospital reservoirs
- Pumpstations pumping water from the Silwerstroom well-field to the 10 Ml and 40 Ml Pella reservoirs
- Aquifer extraction from the Witzands and Silverstroom well-fields is chlorinated prior to the point where it meets up with the bulk water supply

For the purpose of developing the two sites identified for the greentech manufacturing, the overall bulk water availability should be adequate.

6.4.3. Bulk wastewater infrastructure

The Wesfleur Wastewater Treatment Works (WWTW), located south-east of Atlantis, serves waste water needs of Atlantis. All industrial wastewater is treated and employed with urban stormwater to recharge the groundwater supply. Wesfleur WWTW has a combined existing residential and industrial capacity of 14 Ml/d. The WWTW currently receives an inflow of approximately 10 Ml/d, and therefore has 4 Ml/d spare capacity. The Wesfleur WWTW can potentially be extended to have a combined treatment capacity of 25 Ml/d. For the purpose of developing the two sites identified for the Atlantis SEZ, the Wesfleur WWTW currently has spare capacity.

6.4.4. Stormwater

The existing bulk stormwater system of Atlantis consists of a comprehensive network of pipes, canals and stormwater detention ponds, which collect and convey stormwater runoff in a south-westerly direction. Stormwater is discharged towards natural low lying areas where it infiltrates the sandy soils. In this way, the bulk stormwater system can be considered as independent from the stormwater infrastructure of the greater city area.

Atlantis Industrial is drained by two bulk stormwater systems located along the northern and southern edges of the area. The catchment for the northern stormwater system extends to the north eastern edge of the industrial area, near the location of the first site proposed as part of the SEZ. Stormwater runoff collected in this system drains in a south-westerly direction towards a pond located along the western outskirts of Atlantis, from where the stormwater is discharged to a natural depression located west of the pond.

The catchment for the drainage system along the southern edge of Atlantis extends to the residential area located in the eastern parts of Atlantis and also includes the southern parts of the Atlantis industrial area. This system conveys stormwater in a south-westerly direction towards a natural depression approximately 2 km south-west of Atlantis.

The natural drainage direction of both sites proposed for the SEZ is in a general south-westerly direction. Site 1 drains to the corner of Charel Uys Drive and Neil Hares Road, the latter which is drained by a 450 mm diameter pipe which forms part of the stormwater system along the northern boundary of Atlantis. Site 2 drains towards an existing municipal stormwater detention pond located at the south-western corner of the site, which forms part of the stormwater system along the southern edge of Atlantis. Existing bulk stormwater infrastructure provides sufficient access to both of the sites.

6.4.5. Solid waste infrastructure

At present, if not reclaimed or recycled, all solid waste generated by Atlantis is either disposed at the CoCT owned Vissershok South Landfill or the privately owned EnviroServ Vissershok Landfill. In future, two new sites will be commissioned within close proximity to the proposed SEZ. The Vissershok North Landfill – an extension of Vissershok South – is scheduled to open in 2015. The exact location of the new Regional Landfill is still to be confirmed but is expected to be in the region of Kalbaskraal (some 15 km east of Atlantis) and be operational by 2018.

The classification of the various landfill sites are as follows:

- The Visserhok South Landfill is licensed as a H:h site, a containment landfill which accepts hazardous waste with hazard ratings 3 and 4. The site had a life expectancy of three years left in 2013
- The Vissershok North Landfill is licensed as a G:L:B^+ site, a general waste, large sized landfill with leachate generation. It is envisaged that the classification of this site be amended to H:h once the existing informal settlers on the site have been relocated. The site is expected to be commissioned in 2015 and have a service life of 10 years
- The EnviroServ Vissershok Landfill is privately owned and licensed as a H:H site, a containment landfill which accepts all hazardous waste
- The Regional Landfill is envisaged to be licensed as a Class A site in terms of the new National Environmental Management Waste Act, 2008 (Act No. 59 of 2008), a landfill which accepts Types 1,2,3 and 4 Waste

6.4.6. Waste service delivery

The CoCT does not provide a waste collection service to industries. Industrial and health care entities must have a contract with a legitimate private sector service provider that is able to provide a service according to the nature of the waste that must be collected, treated, recycled, and/or disposed. The minimum service level requirement for collection by external entities is once per week.

The CoCT offers no waste minimisation services to industries. Although in general terms removal of recyclable waste by the City from the source is part of the municipal service, the waste enters the “waste beneficiation stream” once removed from the waste stream and from that point forms no longer part of the municipal service. The City has elected to control and regulate, rather than provide these services. For example, the City developed and maintains a recycler’s database to facilitate market exposure of those involved in providing the public and/or businesses with recycling or waste minimisation related services.

6.4.7. Transport

Atlantis is located between the N7 freeway route to Namibia and the R27 West Coast freeway. Klein Dassenberg Road, the R304, and Dassenberg Road are primary arterials which provide access between Atlantis and the western and eastern freeways.

The Atlantis area is one of the key industrial freight centres within the Cape Town Metropolitan area. Although traditionally dislocated from the rest of the city, Atlantis Industrial has locational advantages for manufacturing activities sensitive to “urban” transport movements (e.g. large vehicles not readily mixed with city traffic). The regional freight movement networks consist mainly of the following corridors:

- Atlantis to Namibia (N7 - Road Network)

- Atlantis to Cape Town (R27 & N7 or Rail Network)
- Atlantis to Port of Saldanha (R27 & N7 - Road Network)
- Atlantis to Cape Town International Airport (R27, R300, N7 & N2 - Road Network)

Abnormal loads are mostly transported via the N1 and N7, where infrastructure permits such movements. The major attractors and generators of abnormal loads are the Koeberg Nuclear Power Station, transformers to electricity sub-stations, the yacht building industry, freight movement between the Port of Cape Town and the west coast and the wind turbine industry and wind farms. The South African National Roads Agency Limited (SANRAL) is in the process of upgrading National Route 7 (N7) in a phased manner.

There are two provincial overloading control stations located along the strategic freight route between Cape Town and Saldanha, on the N7 at Vissershok and at the intersection of TR85/1 and the R27 near Saldanha.

There are two well-maintained ports in the Western Cape significant to the Atlantis area; the Port of Cape Town and the Port of Saldanha Bay. The Port of Cape Town is located 50 km from Atlantis and is the major seaport in the region for general cargo import and export. It is also the second busiest container port in South Africa and is fully equipped to handle all types of general break-bulk and containerised cargo via specialised terminals. Other than the freight handling facilities, the port also provides dry docking facilities as well as a dedicated ship repair quay. The Port of Cape Town is served by well-developed inland road and rail transport infrastructure. The Port of Saldanha is a common user port and South Africa's largest natural anchorage and the port with the deepest water. It is located 60 nautical miles northwest of Cape Town or about 110 km from Atlantis. The Port of Saldanha handles predominately iron ore and crude oil.

Cape Town International Airport is located about 60km from Atlantis and is the only major commercial airport in the region and therefore the focus of all air freight operations. The airport is well serviced with a complete range of support agents, clearing and forwarding and transport services. Investigations are in progress to increase the capacity of the airport.

6.4.8. Public transport

The City is implementing its MyCiTi bus rapid transit service in phases. The west coast route has now been extended to include Atlantis, the informal settlements of Du Noon and Jo Slovo Park, and the industrial area of Montague Gardens. This route has considerably improved labour mobility in and out of Atlantis. MyCiTi bus stations are located in close proximity to the sites identified for the SEZ.

The City is also pursuing the increased responsibilities for the rail mode of public transport as provided for in the National Land Transport Act (NLTA). In parallel, the City is investigating the feasibility of a new commuter service from Cape Town CBD to Du Noon/Atlantis (on an existing freight line).

6.4.9. Electricity

Atlantis Industrial and the erven identified for the proposed SEZ fall within the municipal electrical supply area of the CoCT. The whole Atlantis area is serviced by means of a single Eskom 80MVA firm supply step-down substation, which distributes to numerous CoCT substations located within the residential and industrial areas of Atlantis. This substation is currently running at capacity. However, it is understood that Eskom intends to:

- Upgrade capacity of the feeder bay that supplies electricity from Koeberg to Atlantis from 90MW to approximately 130MW
- Construct a second 80MVA substation for - and for the account of - the CoCT to meet growing demand for electricity in Atlantis (the construction of the second step-down substation will take three to four years once the necessary plans and approvals have been agreed between Eskom and the CoCT)

The CoCT's Medium Term Income and Expenditure Framework make provision for a significant contribution to improve electricity supply to Atlantis.

A representative of the CoCT Distribution System Development service has confirmed that each of the sites identified for the proposed SEZ can currently be serviced up to a maximum of 2MVA. The Supply Authority has indicated that while 2 MVA is readily available for use, electrical demands in excess of 2MVA will trigger upgrades to the existing infrastructure and the construction of an indoor substation.

Gestamp has required 1.6 MVA of the 2MVA available on site 1. A future large user (possibly a wind blade manufacturer) is expected to have an electricity demand similar to Gestamp. A ±12 100m² industrial park could use 484 KVA (.48 MVA), based on an estimated load of 40VA/m2 of GLA. An additional 27 500m² to the industrial park will require 1MVA. The 4 MVA available for the two sites should therefore be sufficient to accommodate Gestamp, a wind blade manufacturer and a ±12 100m² industrial park on the site 1 and 2 identified over the 2014-2017 period. However, the longer term demand for industrial park accommodation would require improvements to electricity supply in Atlantis.

Medium Voltage (MV) infrastructure can be located in John van Niekerk Street and Neil Hare Road located on the east and south-east boundaries of Site 1 and Gideon Basson Road and Neil Hare Road located on the south-west and south-east boundaries of Site 2.

7. Legal framework and governance structure

7.1. Legislative framework and context

When assessing the operational and governance framework of the proposed Special Economic Zone ("**SEZ**") entity, in addition to assessing the type of entity that is established, all applicable legislation needs to be considered. The primary pieces of legislation governing this will be the:

- Special Economic Zones Act 16 of 2014 ("**SEZ Act**");
- Public Finance Management Act 1 of 1999 ("**PFMA**");
- Municipal Finance Management Act 56 of 2003 ("**MFMA**");
- Municipal Systems Act 32 of 2000 ("**MSysA**");
- Municipal Structures Act 117 of 1998 (**"MStructA**"); and
- Companies Act 71 of 2008 ("**Companies Act**").

In addition to the above, there are certain regulations that will also apply. Firstly, Treasury Regulations for departments, trading entities, constitutional institutions and public entities issued in terms of the PFMA ("**Treasury Regulations**") apply to the proposed SEZ. And secondly, the Minister for Trade and Industry may make regulations regarding any matter which, in terms of the SEZ Act, is required or permitted to be prescribed any ancillary or incidental administrative or procedural matter that it is necessary to prescribe for the proper implementation of administration of the SEZ Act. No SEZ regulations had been published at the time of drafting.

7.2. Recommended entity and process for application

The SEZ Act states that upon the designation of an area as a SEZ and the granting of a SEZ license to the applicant, the applicant must establish an entity to manage the SEZ. The SEZ Act then goes further and states that in the case of a provincial government, the entity must be established as a provincial government business. As the applicant is the Western Cape Province, this entity must be a Provincial Government Business Enterprise. A Provincial Government Business Enterprise is –

- a juristic person under the ownership control of a provincial executive;
- has been assigned financial and operational authority to carry on a business activity;
- as its principal business, provides goods or services in accordance with ordinary business principles; and
- is financed fully or substantially from sources other than a Provincial Revenue Fund or by way of a tax, levy or other statutory money.

The SEZ Act does not specify what form the Provincial Government Business Enterprise should take two possible forms of the SEZ Entity that were considered were a Non-Profit Company ("**NPC**") and a State Owned Company ("**SOC**"). While there is no specific legal preference for either a SOC or a NPC it was decided that the NPC was the preferred option. An NPC is defined in the Companies Act as "a company –

(a) incorporated for a public benefit or other object as required by item 1(1) of Schedule 1; and

(b) the income and property of which are not distributable to it incorporators, members, directors, officers or persons related to any of them except to the extent permitted by it 1(3) of Schedule 1."

There are restrictions on an NPC that need to be borne in mind. Should an NPC be utilised, then it will have to have "a public benefit object; or an object relating to one or more cultural or social activities, or communal or group interests". The wording of the objects of an NPC in its MOI will need to reflect this and be reconciled with PFMA requirements given in the section 1 definition of a Provincial Government Business Government Enterprise. There is a further restriction placed on a NPC that it may not amalgamate, merge or convert to a profit company according to the Companies Act.

As one of the objects of the proposed SEZ is to facilitate economic growth in the Atlantis area through the development of a greentech hub with any profits that may accrue to be re-allocated to the SEZ, this form of entity will meet these requirements. This is supported by Advocate Krull's opinion, attached hereto as Annexure 3 which states that if the Western Cape Province

> "… having met the requirements of sections 51(1)(m) and 54(2)(a) of the PFMA, establishes an NPC (or SOC, for that matter), and it meets the requirements set out in the definition of "provincial government business enterprise", it will automatically, and by operation of law, be regarded as a Provincial Government Business Enterprise, to be included in Schedule 3D to the PFMA, and this qualifies for purposes of section 25 of SEZA."

From the above it should be noted that the NPC, which is established, will be the entity required by the SEZ Act in terms of section 25. The registration of the SEZ entity in Schedule 3D to the PFMA does not facilitate the registration of a new entity; this registration only results in the entity, which is a Provincial Government Business Enterprise by definition, becoming a listed entity in Schedule 3D of the PFMA as a provincial government business enterprise.

Once all requirements for designation of the SEZ have been met and the responsible Member of the Executive Council (the "**MEC**") submits application for designation, if the Minister for Trade and Industry be satisfied with the application, the geographical area set out for designation will be designated a SEZ and a SEZ license will be granted to the applicant. The MEC will then establish the SEZ entity in the form of a NPC, which meets the Companies Act and the PFMA requirements, and appoint its board ("**SEZ Board**"). Once this has happened, the NPC will, by operation of law, be a Provincial Government Business Entity, which will need to be registered as such and be listed in Schedule 3D of the PFMA.

7.3. Governance Structure

The SEZ Act makes provision for the following overall governance framework regarding SEZ:

- SEZ Advisory Board;
- Applicant who is awarded the SEZ license;
- SEZ entity with SEZ Board; and
- SEZ Operator.

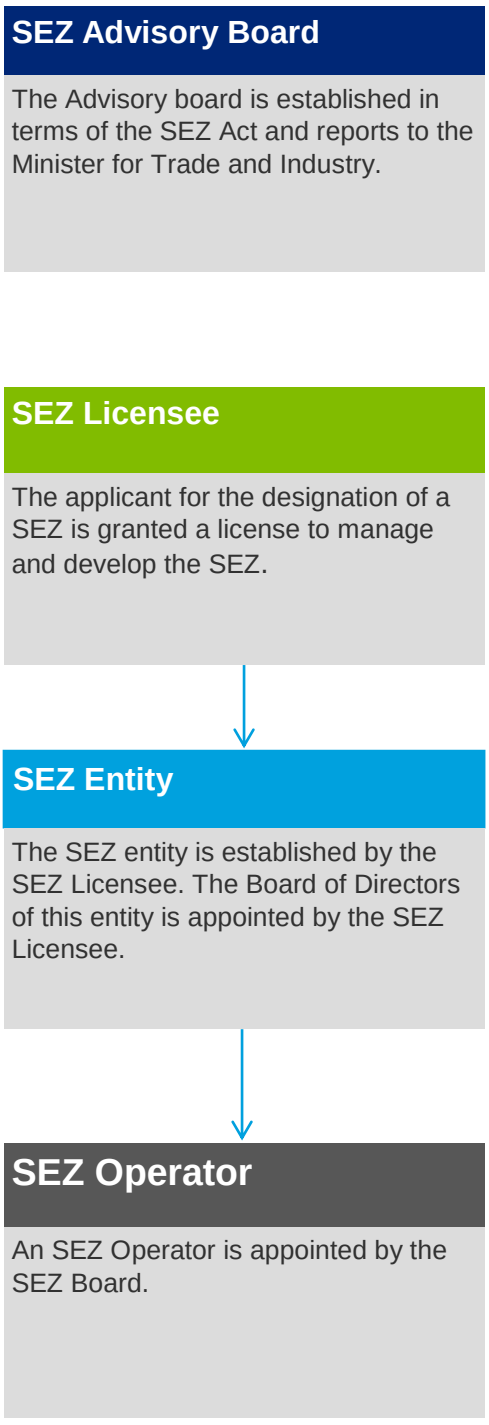
The SEZ Advisory board is established in terms of section 7 of the SEZ Act and will consist of 15 member board appointed by the Minister of Trade and Industry. The board will be made up of 7 members from different government departments and state owned entities, 3 members representing organised business, labour and civil society and 5 independent members appointed for their knowledge, experience and expertise. One of the functions of the SEZ Advisory Board is to liaise with a SEZ Board and an operator on the implementation of the SEZ strategic plans.

A SEZ entity must be established by the holder of an SEZ license to manage the SEZ. The licensee will appoint an SEZ board of directors for the efficient governance and management of the business affairs of that SEZ entity and must provide the resources and means necessary to manage and operate the SEZ. There is no indication as yet as to how the SEZ Board should be constituted, however the only requirement in terms of the Companies Act is that there should be a minimum of three board members. One of the duties on the SEZ Board is to develop and implement a strategic plan.

The SEZ entity must appoint an operator to develop, operate and manage the SEZ. The SEZ operator will be a company according to section 33 of the SEZ Act and have its own distinct board of directors. Only in the case of an SEZ entity established by a Public Private Partnership ("**PPP**") licensee, can that SEZ entity be allowed to also develop, operate and manage the SEZ. This means that the proposed SEZ entity to be established will not be able to also develop, operate and manage the SEZ.

The following diagram taken from the Deloitte Memorandum on the Operational and Governance framework, attached hereto as Annexure 4, sets out the governance structure explained above:

Figure 15 Flow chart of SEZ governance framework



SEZ Advisory Board

- The SEZ Advisory Board is constituted in terms of section 7 of the SEZ Act. The main function of the Advisory Board is to advise on policy, monitor implementation, consider applications for designation and operator permits and liaise with the SEZ Board.
- The Advisory Board does not take part the operation and governance of the SEZ. The Advisory Board only advises the Minister with regard to the implementation of the SEZ strategy

SEZ Licensee

- The applicant for designation may be any one of the entities mentioned in section 23 of the SEZ Act.
- Establishes an SEZ Entity to manage and operate the SEZ and aappoints a SEZ board responsible for governance and business affairs of the SEZ entity
- Provides the entity with the resources and means necessary to manage and operate the SEZ, including the transfer of ownership or control of the land comprising the SEZ.

SEZ Entity

- Established by the SEZ Licensee depending on the type of licensee.
- Special Economic Zone Board manages the SEZ entity – keeps financial records, provides strategic direction and appoints an SEZ operator
- Manages and operates the SEZ in terms of section 25 of the SEZ Act. This will include concluding lease agreements

SEZ Operator

- SEZ Board must follow a fair, equitable, transparent, competitive and cost-effective procurement process, when appointing an operator to develop, operate and manage the SEZ on behalf of the SEZ Board. The SEZ Operator is tasked to develop, operate and manage the SEZ in terms of section 31(1) of the SEZ Act.

In the SEZ Act, operational control and management of the SEZ are given to both the SEZ entity and an operator and the makes no clear division of responsibility for the SEZ. In terms of section 25, it is the relevant 'SEZ entity, under the control of the specific 'SEZ Board', that is given the specific task of managing and controlling the SEZ. Then in terms of section 31(1) the SEZ Operator is – appointed to 'operate and manage the Special Economic Zone behalf of the [SEZ] Board".

Whether an SEZ operator is mandatory or discretionary is also unclear. The SEZ Act only requires that the SEZ Board must follow a fair, equitable, transparent, competitive and cost-effective procurement process, when appointing an operator to develop, operate and manage the SEZ on behalf of the SEZ Board.

The relationship between the SEZ entity and an operator is also not clearly set out. Two possible forms this relationship could take are either as a principal-agent relationship (where the operator can bind the SEZ entity to agreements with third parties) or as a normal contractual relationship (where the operator is a contractor which will conclude sub-contract agreements with third parties but will remain liable under those contracts). It appears that the relationship envisaged by the drafters of the SEZ Act intended a principal-agent relationship due to the wording of section 31(1) of the SEZ Act which states the following, "… *when appointing an operator to develop, operate and manage that SEZ on* ***behalf of the*** *(our emphasis) SEZ Board."* As a result of the uncertainty caused by the SEZ Act, the relationship between the SEZ entity and the operator will be determined by the wording of the section 34(1) written agreement to be put in place between the SEZ entity and the operator.

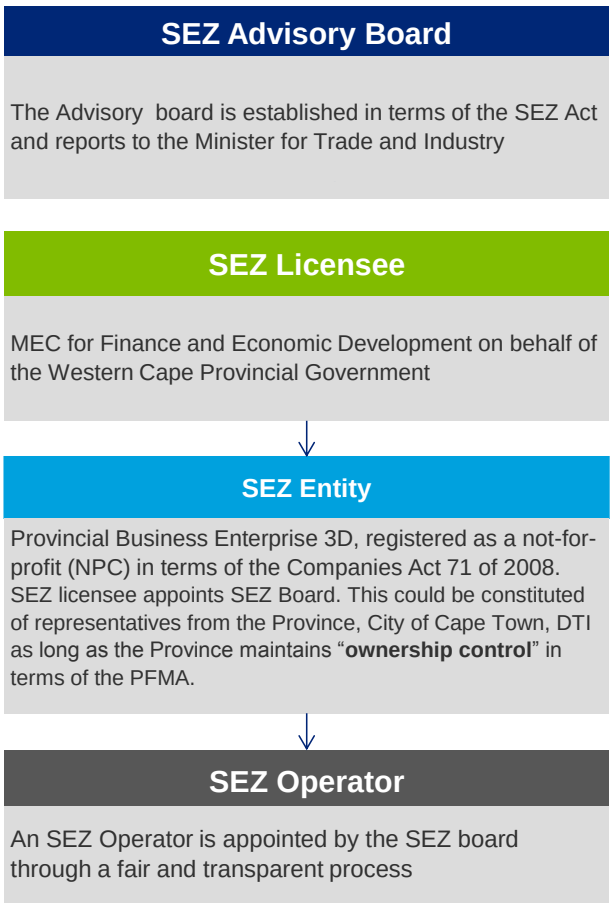
7.4. Conclusions\recommendations

The MEC for Finance and Economic Development will apply for designation as an SEZ on behalf of the Western Cape Provincial Government. Once an SEZ license has been granted, the licensee should seek the necessary PFMA approvals as set out in the Annexure 3 and then register a NPC. This should be done in a way that meets the requirements of both the Companies Act (specifically the objects of the NPC) and the section 1 definitional requirements of a Provincial Government Business Enterprise in the PFMA. The SEZ Board should also be appointed by the Licensee.

The SEZ board could be constituted of representatives from the Province, City of Cape Town, dti and as long as the Province maintains "**ownership control**" in terms of the PFMA. The licensee also reserves the right to appoint a private sector representative(s) with technical expertise in relevant to the SEZ to the board.

Once this has taken place, the NPC can start to function as the SEZ entity. The process of registering the NPC as a Provincial Government Business Entity in Schedule 3D should also begin at this point. An SEZ operator should also be appointed. Whether this process is done "in house" or as an open tender is unclear at this point and will hopefully be determined by the SEZ regulations to be published in due course. It is recommended that an open tender is used as this is a broader interpretation of the wording of the SEZ Act. The agreement between the SEZ entity and the operator should clearly state whether the operator can bind the SEZ entity to future contracts or not, as this will impact the liability of the SEZ entity.

Figure 16 Governance structure for ASEZ



8. Commercial model

8.1. Key principles for the Atlantis SEZ commercial model

8.1.1. Size and extent of the Atlantis SEZ

The Atlantis SEZ is envisaged as a relatively small-scale greentech SEZ when compared to existing IDZs such as Dube Tradeport and Coega or city-wide greentech SEZs Boading in China or Masdar City in the United Arab Emirates which were described in the Atlantis prefeasibility report. Results of the detailed market analysis conducted at prefeasibility phase suggest that the scale of the SEZ will initially be limited by the location and nature of Atlantis Industria which 40km north of Cape Town is mainly suitable for manufacturing and related activities and the size and growth in the market for greentech products and services in the Western Cape and Northern Cape which is the largest 'natural' market for the ASEZ.

It is however our recommendation that the whole of Atlantis Industria, including the vacant land that is currently zoned for industrial use, be designated as an SEZ. The rationale for the extended demarcation is to provide the SEZ with a broader reach and enable it to act as a catalyst for the upliftment of the entire Atlantis industrial area. This would be achieved through improvements in public services and infrastructure available to all businesses within the demarcated area. This is in line with international best practice notions that SEZs should serve as catalysts for broader economic and industrial development and not as isolated enclaves.

As such, not all companies within the Atlantis SEZ boundaries will qualify for SEZ incentives. But both non-qualifying enterprises (which include all the existing firms in Atlantis Industria) and qualifying enterprises will be able to co-locate within the SEZ.

Furthermore, in interviews held with existing businesses in Atlantis some expressed disappointment that they would not be eligible to receive SEZ incentives as some of them are struggling enterprises. The extension of the zone demarcation would grant these businesses with access to some of the SEZ benefits and likely improve their overall disposition towards the SEZ. Additionally, the extended demarcation provides further land options to potential investors and makes it easier for the SEZ entity and its tenants to make use of existing buildings in Atlantis.

In the medium-term the Atlantis SEZ could consider applying to have its boundaries extended along the West Coast corridor to unlock a range of other greentech and possibly 'low-carbon resource-efficient activities' along this corridor. These could include but are not limited to, landfill sites, small-scale biogas or biomass, co-generation opportunities, biomass pellets production, biofuel production, greentech installers and maintenance, energy audits and any other greentech firms who supply the firms on the corridor or who need to be close to a commercial/residential hub.

8.1.1. Sector focus and eligibility for SEZ incentives

The primary objectives of the ASEZ are to grow the greentech sector in the Western Cape and to further the CoCT's objective of revitalising Atlantis as a key industrial node in the region. Based on the options presented in the prefeasibility study and in line with the primary objectives of the proposed Atlantis SEZ, the applicant, the Western Cape Provincial Government, proposes that all greentech firms as defined in section 2.3 and their direct suppliers that locate within the boundaries of the ASEZ will qualify for fiscal and other SEZ incentives. Non-qualifying enterprises located within the SEZ will still benefit from a range of public infrastructure improvements and services.

8.1.2. Delivering SEZ services cost-effectively

As noted in section 5.5 under the conservative demand scenario for the greentech ASEZ we have estimated that 20 greentech firms will be operating before the end of 2030. Of these 20 firms, seven are expected to be small and medium enterprises who would set up as suppliers to anchor tenants. One of the 20 firms, Gestamp has almost completed construction of its facility on site 1 of the Atlantis Special Economic Zone. The other large anchor tenant, expected to invest into the zone under conservative demand assumptions, is a wind blade manufacturer. In the moderate demand scenario we have estimated that 29 greentech firms will be in operation by 2030.

Given the relatively small-scale of the proposed Atlantis SEZ one of the key principles will be to provide infrastructure and services in a cost-effective manner by making use of existing buildings and infrastructure in the area and leveraging the capacity of existing institutions such as GreenCape, Wesgro, SAREBI, TISA (the dti), CoCT and WCG. In addition we have proposed that the ASEZ provide selected services to both qualifying and non-qualifying enterprises within Atlantis Industria in order to increase both the impact and beneficiaries of the ASEZ and to realise economies of scale in service delivery.

8.2. Sources of funding for ASEZ infrastructure and options for facilitation of private sector investment

It is clear from the case studies and interviews conducted as part of the Atlantis SEZ funding models and sources report[25] that national government does not intend to replicate the infrastructure funding models implemented at Coega IDZ and Dube TradePort where substantial grant-funded investments were made in respect of both top structures and onsite infrastructure in the absence of commitments by investors. Instead, it intends to unlock private sector investment and funding by paying for targeted infrastructure spending in the SEZs through the SEZ Fund.

The most likely funder of onsite infrastructure within the Atlantis SEZ will be the SEZ Fund that is administrated by the dti. As only R3.9 billion is currently committed in the MTEF to the SEZ Fund, Atlantis is unlikely to be able to apply for grant funding in excess of its share of the allocated funding. In the event that 15 SEZs are designated, Atlantis's share (assuming the funds are allocated equally) would only be approximately R260m over the three year period.

PPPs have were also identified by national government as a mechanism to minimise public sector spend and facilitate private sector investment in South African SEZs and a draft framework has been developed by National Treasury which sets out the process for the procurement of a PPP or private sector operator/developer.

[25] Contained in the Atlantis SEZ strategy document, 2014

Based on the research conducted as part of the Atlantis SEZ funding models and sources report, four potential private sector participation development models were considered for Atlantis SEZ. The first two models are likely to be classified as PPPs given the level of risk transfer and contract length whilst the fourth model is unlikely to be deemed a PPP as it would involve a contract between two private sector parties. The third model could result in a PPP if significant risk is transferred to the private sector. The four models include:

1. The provision of onsite infrastructure and services by the private sector;
2. The provision of top structures, onsite infrastructure and services by the private sector;
3. The provision of top structures by single private sector developer; and
4. The provision of top structures by multiple private sector developers.

Given the uncertainty around the number of tenants that will locate in Atlantis SEZ, private sector developers are unlikely to be willing to take on significant development risk in respect of onsite infrastructure unless it receives material guarantees or capital grants to mitigate the development risk.

Atlantis SEZ's onsite infrastructure spend requirements are likely to be less onerous than that of many of the new SEZs as it is located in a developed area and a number of brownfield sites could potentially be incorporated into the SEZ. However, there is a risk that the Atlantis SEZ will be less competitive than Coega IDZ or Dube Tradeport IDZ if it is required to fund onsite infrastructure through DFI or commercial funding that will require funding costs and debt repayment costs to be passed onto tenants. It is worth noting that Coega IDZ and Dube IDZ have benefited from at least R4.4 billion and R3.0 billion of historical grant funding from national and provincial government respectively which allows them to operate on a non-cost reflective basis.

The SEZ entity could minimise its upfront capital expenditure requirements by entering into lease agreements with the City of Cape Town, the IDC and other potential private sector land owners in Atlantis Industria. To further reduce initial commitments, the SEZ entity may want to take out options with private land owners and the IDC to lease land parcels.

The options would require the SEZ entity to pay a specified amount to the land owners upfront for the option to lease the land at a specified rate. In the absence of sufficient demand, the options would be allowed to lapse, but if demand warrants it the options could be exercised and converted into leases. Leases should be entered into for a 30 to 60 year period to allow private sector developers to enter into 30 year sub-leases with a renewal option.

The most appropriate private sector participation model in infrastructure development that Atlantis could adopt appears to be where multiple private sector developers can develop top structures for tenants. The model is likely to be the most efficient and affordable for the public sector as it will require no grant funding or guarantees from the public sector. However, smaller and less credit worthy investors may not be able to get access to accommodation within Atlantis SEZ if all top structures are developed through this model.

Table 11 summarises the envisaged allocation of funding between the SEZ Fund, the City of Cape Town and commercial funders. The proposed allocation seeks to achieve National Government's objective of using targeted government funded spending on onsite infrastructure to leverage private sector funding of top structures.

Table 11 Sources and potential sources of funding for ASEZ infrastructure

	SEZ fund	City of Cape Town	SEZ entity	Commercial funding	Telkom or private sector
Funding of top structures	?	?		√	
Funding of onsite infrastructure					
Electrical sub-stations	√	?			
Water and sewerage storage	√	?			
Water and sewerage treatment and pumping	√	?			
Clearing and servicing of the land	√	?			
Fencing	√	?			
Landfills	√	?			
Security and lighting	√	?			
Access roads	√	?			
ICT	?	√	?		√
Shared service centre	√				
Anchor tenant contract			?*		
Funding of offsite infrastructure		√			

√ - Primary funder

? - Potential funder

?* - Potential contractual party

8.3. Activities and services to be provided by the Atlantis SEZ entity and SEZ Operator

The core activities of the proposed ASEZ entity and its operator will include:

- Marketing the SEZ and its facilities to attract investment by greentech firms
- Managing, developing and facilitating the lease of land and buildings within the SEZ
- One-stop shop services and investor facilitation and aftercare
- Provision and upgrading of public infrastructure and services (e.g. security, street cleansing, environmental upgrading)
- Development of a green identity for the Atlantis SEZ through provision of green infrastructure and services
  - provision of green logistics services
  - provision of waste management and\or minimisation services
- Provision of range of value-adding services including:
  - facilitation of skills development and upgrading in the area
  - facilitating the collaboration of greentech firms
  - small and medium enterprise incubation and development through SAREBI

Other potential services that have been investigated include:

- provision of ICT infrastructure and services

The nature of these services and activities are described in further detail in the sections below.

8.3.1. Marketing the SEZ and its facilities to attract investment by greentech firms

The primary objectives of the ASEZ are growing the greentech sector in the Western Cape and the promotion of Atlantis as a key industrial node in the region. These dual objectives are achieved by increasing the number of greentech firms and funders operating in Atlantis. To ensure alignment with the ASEZ objectives, the “value” marketing activities should strive to attract both greentech tenants and funding to support rollout of infrastructure and services within the SEZ.

In the marketing plan developed for the Atlantis SEZ which can be found in the Atlantis Greentech SEZ strategy document, six marketing segments were identified, these include:

- International greentech firms
- Local greentech firms
- Greentech small and medium enterprises
- Foreign donors
- South African development finance institutions
- Public entities

Individual marketing strategies have been developed per customer segment indicating targeting and positioning guidelines. These were designed to cater to the customers’ needs based on the market outlook, operating model, interests and concerns of the individual customer segments.

While it is recommended that marketing services and to some extent activities be outsourced as much as possible due to the small scale of the ASEZ some activities will need to be undertaken by the SEZ entity or operator. Market research to inform marketing activity will include identifying potential international investors, developing technologies and identifying sector opportunities/challenges.

Figure 17 illustrates some of the marketing activities and research the ASEZ entity will need to conduct.

Figure 17 Marketing roles and responsibilities

Marketing	Market intelligence
• Brand management • ASEZ newsletter and brochure development • Website content development and production • Case study writing • Investor reference programme management • Direct marketing campaigns of priority target investors • International above the line advertising • Corporate presentations and videos • Develop sales content for potential investors • Identifying and managing hospitality for visiting investors	• Market research of greentech products and SEZ practices and trends. This includes identifying potential investors and institutions that the ASEZ entity could collaborate with to attract international investors and improve SEZ competitiveness • Develop SEZ status reports for general public reading • Review of and participation in local greentech market reports and studies • Research into local and global SEZs which may be competing for similar tenants (competitor analysis) • Emerging greentech research

Marketing activities could include brand development awareness and management, ASEZ newsletter and brochure development, development of website content and platforms, direct marketing campaigns, above-the-line advertising, corporate videos and presentations, development of sales content, hospitality for visiting investors.

It is expected that above the line advertising will be outsourced while direct marketing and promotion will be conducted by the ASEZ entity and\or the SEZ operator and affiliated organisations. Market research will most likely be conducted by existing greentech industry associations and/or research institutions such as GreenCape. For more detail regarding marketing activities and strategies please refer to the Atlantis SEZ marketing plan within the Atlantis SEZ strategy document

8.3.2. Property development and management

One of the core activities of the SEZ Operator will be managing, developing and facilitating the lease of land and buildings to qualifying enterprises. It is envisaged that the SEZ entity will lease rather than purchase land and buildings from existing property owners. Three types of lease have been proposed:

- **Lease of greenfield land** – SEZ entity leases greenfield sites from the CoCT and leases it on to SEZ tenants who require greenfield (undeveloped sites) such the wind tower and wind blade manufacturers
- **"Back-to-back leases"**– the SEZ entity will lease developed property (buildings) from existing Atlantis Industria property owners and will lease the buildings onto SEZ tenants with the same terms and lease period (e.g. 10 years)
- **Anchor tenant lease** – SEZ entity leases property from Atlantis Industria property owners (e.g. 10 to 20 years), undertakes refurbishment of the property(ies) at its own expense (or dti funded) and makes space available to SEZ tenants on a shorter term leases (and at higher rentals)

We have also explored an option where the SEZ entity would lease land from the CoCT in order to develop a portion or portions of the greenfield sites:

- **Greenfield property development** - In this arrangement the ASEZ entity leases the required amount of land from one of the two CoCT greenfield sites for a period of at least 30 years. The ASEZ entity then leases the land to the property developer (public or private) for construction of a new facility. The property developer then independently secures finance for the construction of its property or facility. The SEZ entity can also act as the property developer, however, due to the relatively small amount of anticipated revenue income the SEZ entity would have to utilise a combination of funding sources, including dti grant funding, development finance institution low interest loans or commercial loans

8.3.3. One-stop-shop investor services

8.3.3.1. Requirements under the SEZ Act

The SEZ Act requires the SEZ operator to "facilitate a single point of contact or one stop shop that delivers the required government services to businesses operating in the Special Economic Zone in order to provide simplified procedures for the development and operation of that Special Economic Zone and for setting up and conducting business in that Special Economic Zone."

The Advisory Board is tasked in the Act with advising the Minister of Trade and Industry on the minimum norms and standards required for the provision of a one stop shop.

8.3.3.2. Approach envisaged by the dti

The dti provided some details in respect of the envisaged OSS model as part of its May 2013 response to the Parliamentary Portfolio Committee. The following functions of the OSS were identified as part of the response:

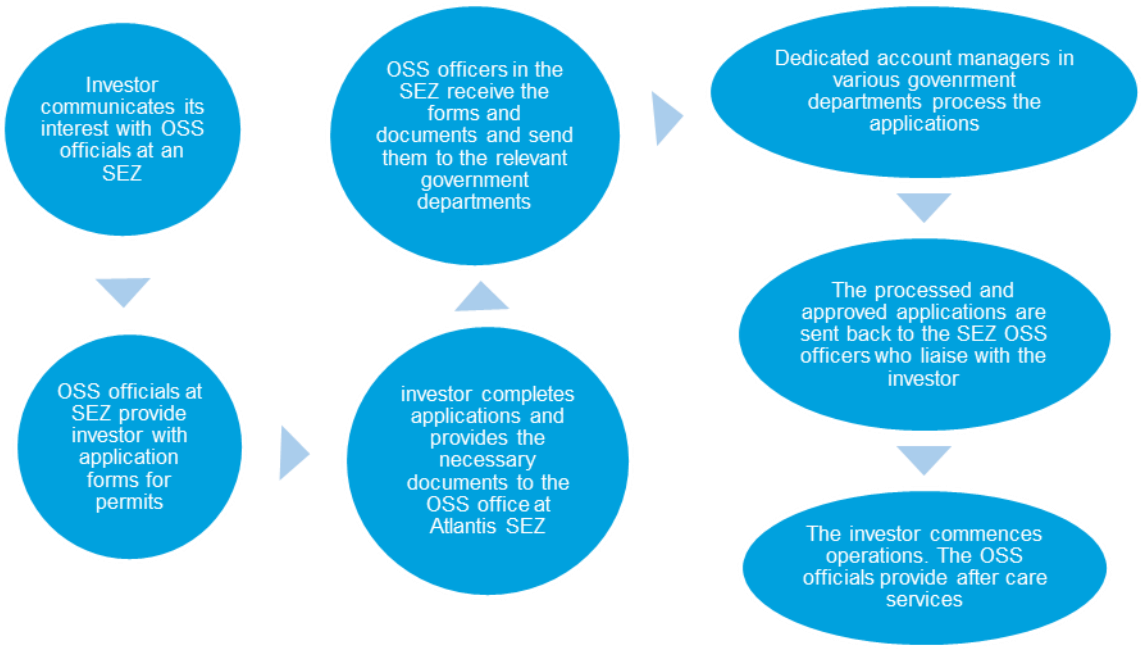
- Planning – assist investors to plan the development of the zones in terms of land assessment and logistics;
- Licencing – simplify the process of obtaining business licences by integrating licencing authorities into one department or providing access to different agencies;
- Utilities - Facilitate a signal point of access to basic utilities required for setting up and operating an industrial zone;
- Financing – Facilitate access for investors to direct or indirect financial assistance; and
- Environmental compliance – assist in maintaining environmental standards and obtaining environmental approvals.

The dti presented the World Bank's OSS models, described in detail in the funding model and sources report to the Parliamentary Portfolio Committee and concluded that an Account Managers model was the preferred solution. The model appears to be a rebranded one stop shop model. The model will require Account Managers to be appointed at each SEZ to streamline approval processes. The investor would benefits from dealing with a single point of contact; however, it is unclear how any time savings or efficiencies will be created.

The flow diagram below summarises the process envisaged under the Account Managers Model.

The dti has indicated that it has appointed an advisor to formulate an OSS approach that will be implemented across all the SEZs. A trial is about to commence at two of the former IDZs to pilot the proposed model.

Figure 18 Process under account manager's model



The dti is likely to cover the budget in respect of the OSS's employees and will fund the facility that houses the OSS and other SEZ administrative functions.

Deloitte understands that a single OSS structure will rolled out across all the envisaged SEZs. Some of the sector departments and institutions that are expected to be located within the OSS include the following:

- OSS staff (SEZ and the dti)

This will consist of an OSS manager together with supporting staff that will be responsible for day to day management of OSS activities within the zone. They will be responsible for coordination of all the entities and institutions that are required to provide support to companies that are operating within the SEZ.

- City of Cape Town

Staff representing the CoCT will be responsible for planning and utilities. Essentially the City will be responsible for assisting investors in development planning with the zone in terms of land assessment, various council approvals, etc.

- SARS

SARS representatives will be responsible for customs related activities which tenants may require when importing or exporting intermediate inputs and final products.

8.3.4. Provision and upgrading of public infrastructure and services

In keeping with the ASEZ objectives of revitalising Atlantis as a key industrial node in the region, it is envisaged that the ASEZ operator would provide an agreed range of public services that would benefit both qualifying and non-qualifying enterprises.

Based on interviews with the Voortrekker road improvement district and Riverhorse Valley Park we established that basic services typically provided in a 'un-gated' industrial and commercial area include services such as area security, street cleansing, landscaping and environmental upgrading.

Firms operating in the area are typically ask to vote on the range of services to be provided by the area improvement office and costs are services are provided and costs recovered through a compulsory levy once consensus has been obtained.

While it is unclear at this point, what services firms in the area will agree to contribute towards, it is envisaged that at minimum the SEZ will provide some environmental upgrading and security services throughout Atlantis Industria.

8.3.4.1. SEZ security

On-site security is typically provided by individual Atlantis property owners and tenants and this would include access control, security guards and equipment on premises. It is envisaged that the SEZ operator could contract a service provider to offer increased monitoring in public areas.

Replicating the type of service currently provided at Riverhorse Valley industrial park in Durban, security infrastructure and services may include CCTV cameras, 24/7 monitoring, and dedicated response services. Area-wide security services provision will only be viable if a levy can be recovered from both qualifying and non-qualifying enterprises.

8.3.5. Development of a green identify for the ASEZ through provision of green infrastructure and services

As noted in the prefeasibility study, greentech SEZs focus on activities that produce products and services used to limit or reduce harm to the natural environment (such as renewable energy plant components or energy-efficient equipment). They often also aim to serve as examples of how these technologies are used to promote resource-efficient low-carbon industrial production.

The 'demonstration effects' typically include clearly visible examples such as the use of renewable technologies in public infrastructure such as street lighting and billboards. Typically these initiatives are supported through government grants, incentives and other sources of funding.

Globally there has also been a notable trend towards the 'greening' of SEZs and industrial zones in general. Official guidelines such as the Institute for Sustainable Communities' (ISC) 'Guide for Low Carbon Industrial Development Zones in China' and the World Bank group's recently issued 'Low-carbon Zones: A Practitioner's Handbook, 2014' provide practical guidelines on how to promote more resource-efficient low-carbon industrial parks. The ISC guide suggests the main focus should be on energy-use with the category 'energy use greenhouse gas management' receiving a 60% weighting. Other measures include recycling economy and environmental protection (15%), zone management and protection mechanisms (15%) and planning and land use (10%). These are further broken-down into 23 sub-indices.

Since the proposed ASEZ would be a relatively small-scale greentech SEZ, our recommendation is that the SEZ provide a practical example or 'demonstration' of the use of greentech in the context of South African industrial park without imposing overly ambitious requirement on firms to meet resource-efficient low-carbon targets. Moreover, the initiatives should not be seen as a means of generating demand for the greentech products (since the initiative is not on a city-wide scale), but assist in the development of its green identity. Potential initiatives could include examples such as:

- Encourage the adoption of clean manufacturing processes
- Energy efficient or solar powered street lighting
- Promotion of self-generation (e.g. installation of PV panels on factory rooftops)
- Green public transport
- Recycling and waste minimisation services.

In the draft SEZ regulations the dti noted that the SEZ fund would contribute towards 'environmental impact improvement initiatives including green building compliance, emission control, water preservation, waste management and control, waste-to-energy initiatives and energy co-generation initiatives". We have proposed that the SEZ entity will install rooftop PV on new build and refurbished facilities where it is the anchor tenant and would provide solar-powered street lighting for new build property.

8.3.5.1. Waste minimisation or waste-to-energy initiatives

The CoCT does not provide a waste collection service to industries. Industrial and health care entities must have a contract with a legitimate private sector service provider that is able to provide a service according to the nature of the waste that must be collected, treated, recycled, and/or disposed. The minimum service level requirement for collection by external entities is once per week.

The CoCT offers no waste minimisation services to industries. Although in general terms removal of recyclable waste by the City from the source is part of the municipal service, the waste enters the "waste beneficiation stream" once removed from the waste stream and from that point forms no longer part of the municipal service. The City has elected to control and regulate, rather than provide these services. For example, the City developed and maintains a recycler's database to facilitate market exposure of those involved in providing the public and/or businesses with recycling or waste minimisation related services.

At this point our waste management and minimisation specialists believe that the waste minimisation and management services that the ASEZ entity could offer would include:

- Ensuring that its own participants minimise waste and recycle as far as possible (in line with the "green manufacturing" theme
- Assist waste contractors and potential users of waste in accessing products from the ASEZ conglomeration of industries (also contributing to job creation in this way)
- Education related to waste minimisation
- Assuming that the whole of Atlantis Industrial be declared an SEZ (subject to conditions), the ASEZ entity can play a role in the coordination/ maximising of waste reduction/ recycling initiatives in the area

It is unlikely however that waste minimisation activities would provide a revenue stream for the ASEZ entity, rather the primary benefit would be to contributing to responsible resource use and job creation and to enhance the green demonstration effect.

8.3.5.2. Implementation of green supply chain practices

The high-level Logistics Plan for the Atlantis SEZ which can be found in the Atlantis greentech SEZ strategy document identified an opportunity to implement green supply chain practices that would also result in cost reductions.

The logistic cost reduction strategy is based on the assumption that the small users will cooperate in order to share logistic costs where possible. Not all consignments will qualify for load consolidation as it is dependent on the size, volume, type and frequency. Load consolidation, or co-loading, allows a firm or multiple firms to consolidate shipments, cutting the number of trucks needed for last-mile shipping. The efficiencies afforded by co-loading are elements of comprehensive, long-term urban freight efficiency that is mainly dependent on the cooperation of businesses and suppliers and could benefit both freight operators and receiving businesses.

Green supply chain practices represent actions and programmes – spanning across firms – that improve environmental performance, remediate problems and minimize environmental burden. The challenge often lies in the inter-firm cooperation and integration of supply chain management and technology required to effectively implement such practices.

Practice has shown that the more mature/integrated a supply chain is the more enabled it becomes to leverage complex green supply chain practices. In this instance the planned Atlantis SEZ is in its early developmental stage and as such complex green supply chain practices are difficult to leverage. Companies will be typically restricted to programmes that involve little cooperation from up- or downstream parties, such as recycling and environmental certification.

8.3.6. Provision of range of value-adding services

8.3.6.1. Facilitation of skills development and upgrading in the area

Because the greentech industry is a relatively new industry globally with prominent international organisations such as the International Renewable Energy Agency (IRENA), REN 21 and affiliates only having been established within the last ten years, the skillset required to service the industry is niched, concentrated in geographically dispersed centres of excellence globally and not easily attainable. The development of the local greentech industry therefore requires that the greentech specific skillset is either imported or developed locally.

We envisage that as part of its activities the SEZ entity will play a role in facilitating greentech and general skills development in Atlantis. The specific initiatives to be undertaken are described in greater detail in the Human Capital Plan in the Atlantis SEZ Strategy Document but key interventions are summarised as follows:

- Perform a skills audit of the local Atlantis and the greater Cape Town labour force to assess the availability of the requisite skills.
- Form partnerships with CPUT's South African Renewable Energy Technology Centre (SARETEC), Stellenbosch University's Centre for Renewable and Sustainable Energy Studies (CRSES) and the University of Cape Town's Energy Research Centre (ERC). These tertiary institutions specialise in greentech research and the training of highly skilled greentech specific engineers and technicians.
- Form a partnership with West Coast FET College and similar FETs. These institutions specialise in the training of skilled and semi-skilled labour. Often these skills are easily transferrable to the greentech industry provided that minor adjustments are made to the methodologies employed. These skills are also more readily available in the local Atlantis labour force given the industrial background.

8.3.6.2. Facilitating the collaboration of greentech firms

International experience has shown that collaboration between businesses in a focused science or technology park type SEZ can assist in driving growth and innovation. While these types of parks are typically close to or within existing research and development centres like universities the proposed greentech SEZ could still make use of some similar initiatives to provide a space for collaboration to unlock opportunities in the sector, to engage collectively with stakeholders in government and thereby facilitate its success. Initiatives that have proven to be valuable internationally can be relatively simple and include the likes of:

- High-end coffee-shops, sport facilities, parks, green spaces and water-features, making the SEZ a "community of choice" or "space to think" for young talent
- Free or subsidised work and collaboration space for SME start-ups
- The presence, on-site, of academic and applied research, learning and training institutes as well as programs linking universities to the SEZ
- Office planning and coordinating including events, forums, innovation competitions, awards programs, networking, site-visits by visiting trade delegations and chambers of commerce and industry. This could even include regular subsidised "pizza nights" and "wine and cheese" events

Coordinating events, forums and competitions and subsidised 'pizza nights' could be hosted on-site to foster informal collaboration between firms in the area.

8.3.6.3. Small and medium enterprise incubation and development through SAREBI

The SEZ entity or operator could work with anchor tenants and SAREBI to facilitate SMME support/establishment by leveraging SAREBI services.

SAREBI is a small business incubator located in Atlantis with the goal of growing and nurturing small and medium enterprises operating within the "Green Economy". SAREBI provides business support, facilitation of access to markets and access to finance as well as technology transfer and joint ventures.

SAREBI is in the process of identifying candidates for incubation - it is envisaged that successful applicants will be established in the incubator facilities which include recently refurbished factory floor space and will receive full support from incubator staff and enjoy shared services and resources. This will enable companies to focus on their core activities.

It is envisaged that SAREBI will be a feeder for both upstream and downstream opportunities in the Atlantis Greentech Industrial Park. SAREBI is funded by the CoCT and dti.

8.3.7. Information and telecommunication infrastructure and services

Currently there are no high speed broadband services available to Atlantis Industria businesses. The CoCT is however currently reviewing its 2014/15 broadband investment priorities and is considering funding the following projects in Atlantis:

- Constructing seven Atlantis fibre rings (R12m).
- Provide a "redundant" connection to Atlantis, meaning that there are two separate and independent routes for connectivity to ensure service continuity if the one would malfunction (R11m).

The reviewed expenditure plan is awaiting approval. Given a limited broadband budget, the CoCT has welcomed the possibility of a possible funding contribution from the dti. However, it is unlikely that the SEZ entity will be operational in time to effect these immediate budget allocations.

It has been mooted that the SEZ entity could possibly obtain income from providing broadband services to the whole of Atlantis Industria. However, the Atlantis SEZ will not necessarily have the economies of scale to undertake this function. Also, it is unlikely the CoCT will change its policy position in relation to ownership and management of broadband assets and capacity until the SEZ entity exists. That said to have a small amount of fibre assets sitting in the SEZ entity is suboptimal as well, and the rationale would really only be to be able to take advantage of national government funding available and perhaps to bring fast broadband to the area faster than what is planned in city budgets. For more information please refer to the Technology Plan in the Atlantis SEZ Strategy Document.

8.4. Revenue model and sources

The dti will not fund the operations of the SEZ and it is envisaged that operational expenditure will be fully or substantially recovered by the SEZ entity through revenue from services and activities provided to firms in the SEZ.

It is envisaged that the SEZ entity and\or operator will be able to earn revenue chiefly through the rental of properties and the collection of a levy for the provision of public infrastructure and services. Table 12 provides an overview of the services that could be provided to firms in Atlantis Industria both by the SEZ entity/operator and other parties, and highlights the potential revenue sources for the ASEZ entity/operator and the potential revenue base. In some cases services can only be provided to enterprises that qualify for SEZ incentives while in other cases all firms in the Atlantis Industrial area could benefit and therefore contribute.

We have assumed that all firms in Atlantis would be willing to contribute to broader area improvements which may include top-up security services, street cleansing and environmental upgrading. These types of ‘top-up’ services would typically be provided elsewhere in the City of Cape Town under the auspices of the Special Ratings Area policy and levies would be collected by the city in the form of additional property rates.

One possible is that the CoCT collect revenues on behalf of the SEZ entity\operator to provide these area wide services within the existing SRA framework. Alternatively the SEZ entity\operator would need to collect and administer levies itself but this may be more difficult to enforce outside of existing SRA frameworks.

Non-qualifying firms in the Atlantis area cannot be expected to contribute to SEZ specific services which may include investment promotion and market of SEZ incentives and benefits, greentech collaboration activities and greentech skills development etc. Additional fees may need to be levied on qualifying enterprises to cover the costs of these services or alternatively they will need to funded out of provincial government grants initially and over time out of general revenues.

Table 12 Services provided in Atlantis and potential revenue streams for the SEZ entity

Services\Activities	Potential revenue source?	Revenue base	Recovery mechanism
Greenfield land lease income (margin only)	✓	Qualifying enterprises	Lease agreement
Property rental income	✓	Qualifying enterprises	Lease agreement

Property and land facilities management fees	?	Qualifying enterprises	Specific fees
Security services, street cleansing and environmental upgrading	✓	All enterprises in SEZ area	Levy or additional property rates
Marketing, investment promotion, OSS, skills development, facilitating collaboration, SMME development	?	Qualifying enterprises	Additional levy or fees charged to qualifying enterprises for SEZ services
Waste recovery and recycling	?	All enterprises in SEZ area	Expected profits are minimal at this stage
Hospitality and travel	X	All enterprises in SEZ area	Already provided
Broadband and other ICT	?	All enterprises in SEZ area	Budgeted by CoCT
Public services (health, policing, etc.)	X	All enterprises in SEZ area	Already provided
Electricity (power)	X	All enterprises in SEZ area	Already provided by CoCT
Water	X	All enterprises in SEZ area	Already provided by CoCT

Source: Deloitte analysis

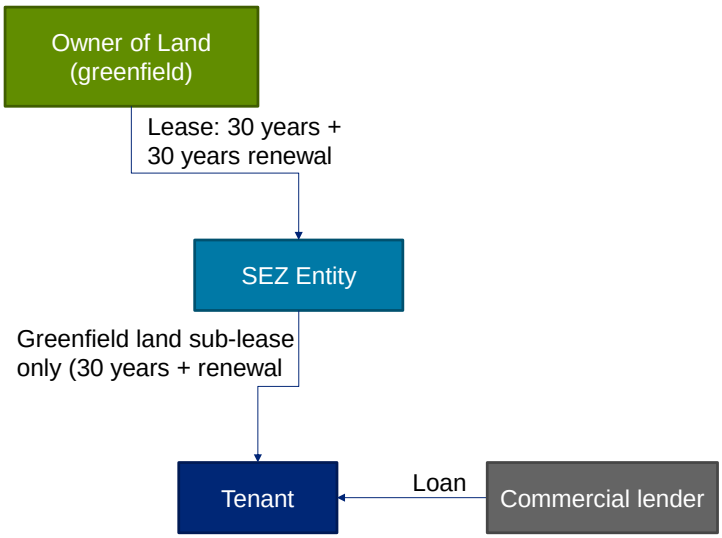
8.4.1. Income from rental of land and property

One of the key sources of income for the SEZ entity will be income generated from the lease of land and existing, refurbished and\or newly developed industrial property in the Atlantis Industria Area. The four lease\property development models that we feel are most appropriate for the ASEZ are, lease of greenfield land, back-to-back leases, anchor tenant lease, greenfield property development**.** These are described in the sections that follow.

8.4.1.1. Lease of greenfield land

In this arrangement the ASEZ entity leases the required amount of land from one of the two CoCT greenfield sites for a period of at least 30 years with the option to renew. The ASEZ entity then leases the land to the ASEZ tenant who then independently secures finance for the construction of its property or facility. In this arrangement the SEZ entity will only earn a margin on the lease of the greenfield land and no sub-lease income. This arrangement will suit tenants who are capable of funding their own facilities and interested in owning these facilities. This arrangement whereby tenants fund and develop their own facilities places minimal financing burden on the SEZ entity or other public financing institutions, including the dti. Most high potential investors that we interviewed during the prefeasibility study noted that they would prefer leasing properties as opposed to purchasing or developing properties, thus the probability of such arrangements is limited to firms with specific building requirements.

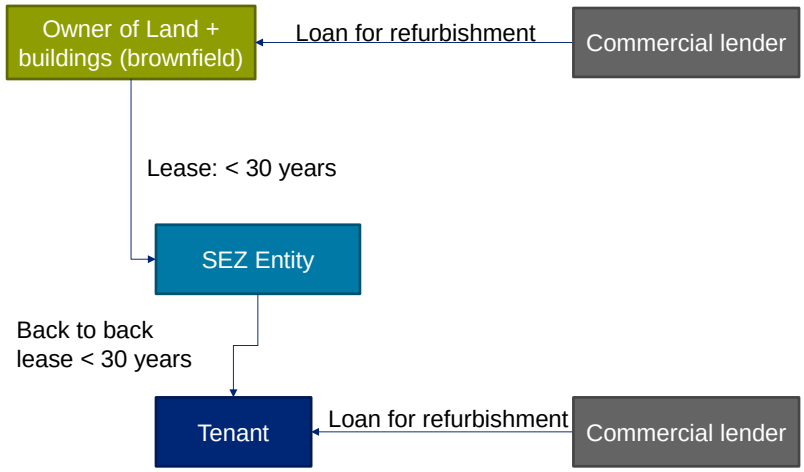
Figure 19 Greenfield only property development model



8.4.1.1. Back-to-back lease

This model focuses on the development of brownfield properties which require upgrades or refurbishments. In this arrangement the Atlantis SEZ entity will back-to-back lease properties by leasing brownfield properties from owners and then leasing these on to ASEZ tenants. We assume that some refurbishment or renovations will need to take place for these brownfield properties. The cost of refurbishment will be covered by the owner of the facility or the SEZ tenant. This arrangement will suit the SEZ entity and SEZ tenants who are not able to construct new facilities and who have short-term or uncertain business horizons and cannot commit to leasing properties for periods longer than 30 years.

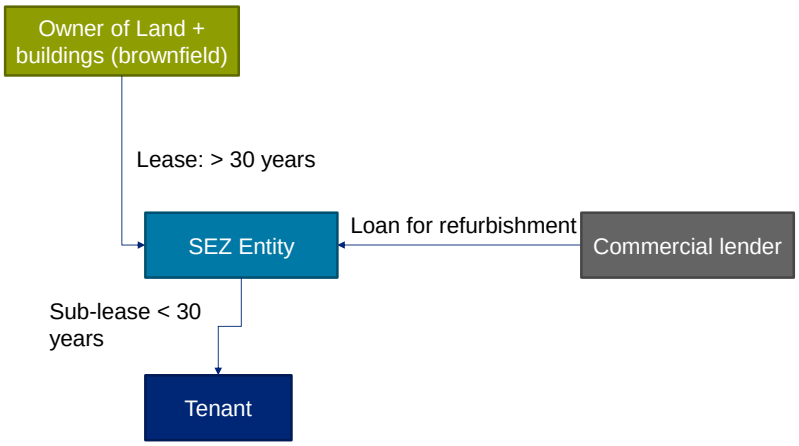
Figure 20 Back-to-back lease model



8.4.1.2. Anchor tenant model

In this arrangement the SEZ entity leases brownfield properties from existing Atlantis Industria property owners and refurbishes these properties itself, through grant funding or commercial loans. This arrangement is different from that of the back-to-back lease model in that the SEZ entity takes on more risk and financial burden in the hope to attract more SEZ tenants. The leases which the SEZ entity takes out with brownfield property owners are of a longer term to ensure minimal lease costs per month.

Figure 21 Brownfield anchor tenant development model

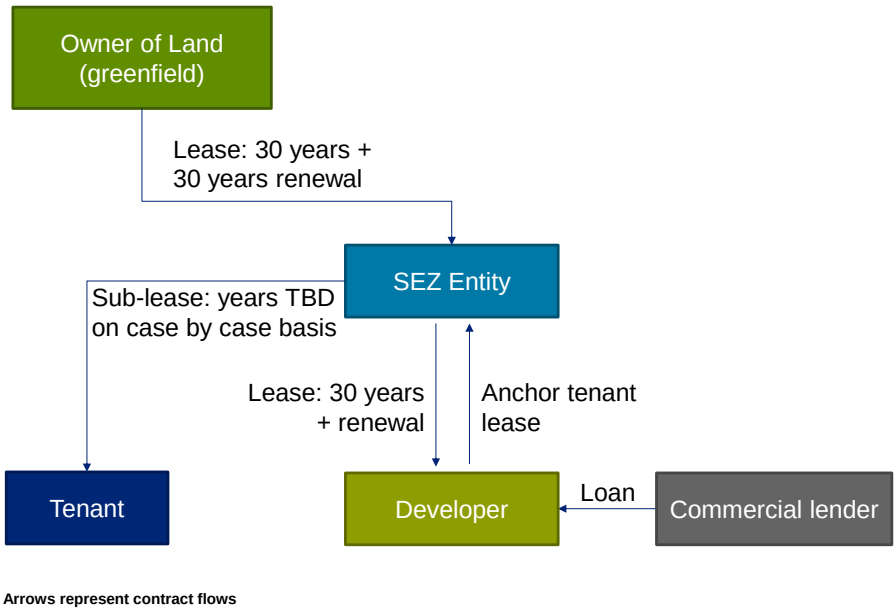


8.4.1.1. Greenfield property development model (anchor tenant)

In this arrangement the ASEZ entity leases the required amount of land from one of the two CoCT greenfield sites for a period of at least 30 years. The ASEZ entity then leases the land to the property developer (public or private) for construction of a new facility. The property developer then independently secures finance for the construction of its property or facility. The SEZ entity can also act as the property developer, however, due to the relatively small amount of anticipated revenue income the SEZ entity would have to utilise a combination of funding sources, including dti grant funding, development finance institution low interest loans or commercial loans.

Once the building has been constructed the ASEZ entity will lease the building from the developer (if it is not the developer itself) for a period of at least 30 years and then sub-let the property to SEZ tenants at market rates for a period of 10 years or less, depending on the requirements of the tenant. This arrangement provides the SEZ entity with income from the lease of the land and on the sub-leases to additional (possibly smaller) SEZ tenants.

Figure 22 Large anchor tenant model including a property developer



9. Financial model

9.1. Introduction

Deloitte assessed the financial viability of the proposed Atlantis SEZ on the basis of four different options. All four options are based on the conservative demand scenario for the ASEZ described in section 5.5.2 in which 20 greentech firms are expected to establish themselves in the Atlantis SEZ over the period 2014 to 2030.

The main objectives of the financial model are to:

- Determine on a net present value (NPV) basis the cost of each of the four options.
- Assess the sustainability of each of the options i.e. assess on an annual basis whether the cash flows generated by each of the options is sufficient or whether additional financing (in the form of provincial government grants) will be required to meet the shortfall.
- Determine the quantum of government funding required.

9.2. Overview of four options modelled

The key difference between the “Low road” and “High road” options is that in the “Low road” none of the 10 small users establish themselves in the SEZ because of a lack of immediate, suitable and marketable space. In the “High road” options, additional capital to develop marketable space to attract the small users is required.

The options also differ in terms of the decision whether to refurbish existing industrial property in Atlantis or whether to build new facilities. The cost of refurbishing brownfield sites at R2 818/m^2 is estimated to be approximately half of the cost to develop greenfield sites at R5 636/m^2 excluding the provision of additional on-site bulk infrastructure associated with new developments at R1 305/m^2.

An overview of the four options is provided in Table 13. A more detailed description of these four options is provided in the section below.

Table 13 Overview of demand and property assumptions for four options modelled

		Low Road		High Road	
		Refurbishment	**New Build**	**Refurbishment**	**New Build**
Key Assumptions	**Demand (no. of firms)**	10 larger firms	• 10 larger firms	20 large and small firms	20 large and small firms
	Property leased/developed	• SEZ entity leases existing property for OSS SEZ head office (500m2) • SEZ tenants lease 30500m2 through back-to-back leases.	• SEZ build s new OSS SEZ head office (500m2) • SEZ tenants lease 30500m2 through back-to-back leases.	• SEZ entity leases existing property for OSS SEZ head office (500m2) • SEZ entity leases brownfield properties (on a long term basis) and refurbished these properties (using 50% dti grant funding). A total floor space of 39 100 m2 is leased and refurbished by the SEZ entity • A 31 500 m2 facility (which is constructed on 90 000 m2 of greenfield land) is constructed using funds from dti grant funding and DBSA and commercial loans.	• SEZ build s new OSS SEZ head office (500m2) • SEZ entity constructs a new green rated industrial park on CoCT greenfield land. A total floor space of 39 100 m2 is constructed and leased to tenants before 2018. • A 31 500 m2 facility (which is constructed on 90 000 m2 of greenfield land) is constructed using funds from dti grant funding and DBSA and commercial loans.
	Land leased	• 90000m2 leased to large wind blade manufacturer or similar who funds it own facility	• SEZ entity leases land to build OSS SEZ head office (500m2) • 90000m2 leased to large wind blade manufacturer or similar who funds its own facility	• 90000m2 leased to large wind blade manufacturer	• SEZ entity leases land to build OSS SEZ head office (500m2) • The land space required for the entire 40 100 m2 industrial park facility is 80 200 m2 which will be leased from the CoCT • 90000m2 leased to large wind blade manufacturer.
	Funding sources	• dti grants (60%) • SEZ cash flow (40%)	• dti grants (60%) • SEZ cash flow (40%)	• dti grants (54%) • SEZ cash flow (27%) • Commercial lender (19%)	• dti grants (54%) • SEZ cash flow (33%) • Commercial lender (12%)

Source: Deloitte analysis

9.2.1. Low road - refurbishment

Very few small users establish themselves in the SEZ because of a lack of immediate, suitable and marketable space. For these small firms, the effort and cost involved in finding suitable brownfield properties outweighs the SEZ benefits. There are ten such small firms who we have assumed will not be attracted to the SEZ, including SMMEs associated with the larger tenants (such as Gestamp), two small solar water heater assembling firms and an energy efficient lighting manufacturer.

Larger and firms who are more credit-worthy are able to take out long-term leases and refurbish their own facilities, such as manufacturers of solar water heaters, PV modules, low-iron glass, inverters and steel structures, still establish themselves in the SEZ, mostly in the second period between 2018 and 2030. These firms occupy a total estimated floor space of 30 500 m^2 through back –to-back leases with the SEZ entity. The SEZ entity will also lease a brownfield property for the One Stop Shop (OSS) SEZ office, adding an additional 500 m^2 to the total leased floor space. All properties leased to SEZ tenants in this option are assumed to be refurbished by the tenants themselves or by the property owners.

The large wind blade manufacturer (or another large tenant) is assumed to be able to fund the construction of their own facility on SEZ greenfield land made available to them. We therefore anticipate that 90 000 m^2 of greenfield land will be leased to such a large tenant from 2015 onwards. We also assume that the dti will grant fund site preparation, offsite-bulk infrastructure and any other approved capital costs associated with the establishment of such a large tenant in the SEZ according to the SEZ act and (to be finalised) SEZ regulations.

9.2.2. Low road – new build

In this option the SEZ constructs the OSS building on greenfield CoCT land rather than leasing a property from an existing Atlantis property owner. All other assumptions regarding SEZ tenants remain the same as in the “Low road – refurbish” option. This results in 500 m^2 less being leased by the SEZ entity but an additional 500 m^2 of office space being constructed and 750 m^2 more greenfield land being leased, totalling 90 750 m^2 if we include the land leased by the large wind blade manufacturer.

9.2.3. High road – refurbish

In this option we assume that all the anticipated greentech firms identified in the prefeasibility conservative scenario establish themselves in the SEZ. Both large and small firms are able to secure suitable properties for their operations because the SEZ entity in this option acts as the anchor tenant. To perform the ‘anchor tenant’ function the SEZ entity leases brownfield properties (on a long term basis) and refurbished these properties (using dti grant funding). In the first period (2015 – 2018) a total floor space of 12 100 m^2 is leased by the SEZ entity which earns income relative to the spread between what it charges tenants and what it is charged by property owners. In the second period (2018 – 2030) an additional 27 000 m^2 is leased in the same manner.

The large wind blade manufacturer is not assumed to fund its own facility in this option. The 31 500 m^2 facility (which is constructed on 90 000 m^2 of greenfield land) is constructed using funds accumulated from dti and DBSA grant funding as well as a commercial loan by the SEZ entity.

The SEZ entity will also lease a brownfield property for the OSS office.

9.2.4. High road – new build

In this option we assume that all the anticipated greentech firms identified in the prefeasibility conservative scenario establish themselves in the SEZ. Both large and small firms are able to secure suitable properties for their operations because the SEZ entity acts as the anchor tenant. To perform the ‘anchor tenant’ function the SEZ entity constructs a new green rated industrial park on CoCT greenfield land. In the first period (2015 – 2018) a total floor space of 12 600 m^2 is constructed and completely leased out to tenants before 2018. The 12 600 m^2 includes 500 m^2 for the OSS office. In the second period (2018 – 2030) an additional 27 000 m^2 is constructed and leased to tenants. The

total land space required for the entire 40 100 m^2 industrial park facility is 80 200 m^2 which will be leased from the CoCT.

The large wind blade manufacturer is not assumed to fund its own facility in this option. The 31 500 m^2 facility (which is constructed on 90 000 m^2 of greenfield land) is constructed using funds accumulated from dti and DBSA grant funding as well as a commercial loan by the SEZ entity.

9.3. Key model assumptions

There are a number of key assumptions used in each of the options modelled which have an impact on the outputs produced by each option in the model.

9.3.1. Capital expenditure assumptions

The key capital assumptions used for each of the options in the model are set out in the table below.

Table 14 Overview of the capital expenditure required for each option

	Low road - refurbishment	Low road – new build	High road - refurbishment	High road – new build
"One stop shop" – build or refurbish	✔	✔	✔	✔
Buildings	x	x	✔	✔
Greenfield buildings	x	x	✔	✔
Onsite Bulk infrastructure investment	✔	✔	✔	✔
PV rooftop	x	x	✔	✔
Street lights	✔	✔	✔	✔
Off-site bulk infrastructure	x	x	x	✔
Grid connection fee	x	✔	✔	✔
Palisade fencing	x	x	x	✔

9.3.1.1. Infrastructure funding assumptions

We have assumed that the dti will fund 60% of all basic and green infrastructure and 50% of refurbishment/new build of top structures in the high road scenarios out of the SEZ fund. A summary of the grant funding to be provided by the dti for capital expenditure is shown in Table 15.

Table 15 Summary of infrastructure items to be funded by dti and assumed grant value

dti Funding		
	Capital Grant funded	Value of Grant
One stop shop – building	Yes	60%
Building	Yes	50%
Greenfield Buildings	Yes	50%
Bulk infrastructure investment	Yes	60%
Photovoltaic (PV) rooftop	Yes	60%
Street lights	Yes	60%
Off-site bulk infrastructure	No	-
Grid connection fee	No	-
Palisade fencing	Yes	60%

9.3.2. Operating expenditure assumptions

The operating costs used in the model are the same for each option and are based on the figures provided by the Voortrekker Road Corridor Improvement District (VRCID). The VRCID is of a similar size to that of the Atlantis area however, the VRCID is used more intensely for residential purposes and therefore the operating costs for the SEZ entity have been reallocated to reflect the difference in use for the two areas. In addition, almost R7 million was spent on security services in the VRCID of the total of R11 092 651. But since the emphasis of the ASEZ is not on security alone, security services were reduced to R1.75 million which is what spent annually in the Riverhorse Valley Park in Durban. Other items, in particular advertising were increased in its place.

Table 16 Overview of the operating cost assumptions used for each option in the model.

Description	Cost (ZAR per annum)	% of Total
Salaries	4 372 470	37.4%
Bonuses	166 789	1.4%
Cleansing services	566 240	4.8%
Legal and contracts management	1 000 000	8.6%
Law enforcement officers	185 000	1.6%
Security services	1 750 000	15.0%
Social upliftment	50 000	0.4%
Advertising	2 250 000	19.3%
Accounting fees	16 050	0.1%
Audit fees	41 602	0.4%
Bank charges	6 500	0.1%
IT expenses	7 000	0.1%
Insurance	35 000	0.3%
Marketing & promotions	60 000	0.5%
Meeting expenses	36 000	0.3%
Printing & stationery	35 000	0.3%

Description	Rate per a M^2 per month
Lease of greenfield land	R0.20
Back to back lease	R18
Anchor tenant lease	R10

Telephone & fax	40 000	0.3%
Reporting	125 000	1.1%
Consultant fees	350 000	3.0%
Opex contingency	583 824	5.0%

9.3.3. Revenue assumptions

9.3.3.1. Property and Land rental

There are four models under which the SEZ entity will provide land and buildings to SEZ tenants and earn revenue, these are described as follows:

- **Lease of greenfield land** – SEZ entity leases greenfield land from CoCT and leases it on to SEZ tenants with a preference for greenfield sites (e.g. wind tower and wind blade manufacturers) at slightly higher rental.
- **"Back-to-back leases"** (Brownfields) – the SEZ entity will lease developed property from existing Atlantis Industria property owners and lease building on to one SEZ tenant at a small mark-up (10%) with the same terms and lease period (e.g. 10 years).
- **Anchor tenant lease** – SEZ entity leases property(ies) from Atlantis Industria property owners (e.g. 10 to 20 years), undertakes refurbishment of the property(ies) at its own expense (or dti funded) and makes space available to SEZ tenants on a shorter term leases (and at higher rentals)
- **Anchor tenant greenfield developer** – SEZ build new property(ies) on CoCT land and makes space available to SEZ tenants on a shorter term leases (and at higher rentals)

The table below sets out the rate at which the SEZ entity will lease the properties from the landowner and the tenants will lease the property from the SEZ entity. Rentals for land are based on rates at which the CoCT currently makes the two sites in Atlantis available for lease. According to Atlantis Realtors the average rental rates for industrial property in Atlantis are between R15m2 and R18m2. Average industrial property rental rates in the Western Cape are in the region of R30m2. For the anchor tenant leases we assume the SEZ entity is able to realise premium rental of R35m2 for premium quality industrial space within the SEZ. A sensitivity test with rentals set at 50m2 was also conducted to test the impact on cash flow although it is unlikely the market will bear that price.

Table 17 Summary of rental rates assumed

	SEZ will lease	Tenant will lease
Description	Rate per a m^2 per month	Rate per a m^2 per month
Lease of greenfield land (Low road options)	R0.20	R0.50
Lease of greenfield land (High road options)	R0.20	R0.00
Back to back lease	R18	10% mark-up
Anchor tenant lease	R10	R35 to R50
Anchor tenant lease (greenfield developer)	N/A	R35 to R50

9.3.3.1.1. Management fees

We assume that management fees for operating expenses associated with services like security, street cleansing and environmental upgrades will be collected firms within the SEZ. If we assume that 40% of the ASEZ total operating costs of R11 092 651 would be recouped from enterprises in the SEZ – both qualifying tenants (those qualifying for SEZ incentives) and non-qualifying enterprises located in the SEZ, the levy per square meter will be R 8.30 (Table 18).

Table 18 Levy to recoup SEZ operating expenses

	Existing Non-qualifying tenants in Atlantis	Qualifying SEZ tenants in Atlantis	Comments
Total industrial floor space in Atlantis (m2)	500 000	80 000	
Industrial Floor space (ha)	50	8	
Occupied Industrial floor space (m2)	450 000	80000	10% vacancy assumed for existing floor space in Atlantis
Percentage of total floor space	85%	15%	
	R 3 771 500	R 665 560	
Additional annual levies per m^2	R 8.38	R 8.32	
Total operating costs for ASEZ improvement district per annum		R 11 092 651	
Total operating cost to be recouped through area levy (40%)		R 4 437 060	

Sense checking the Levy assumptions

Most of the Community Improvement District initiatives in the Western Cape for commercial properties charge additional annual rates of R0.002 per rand of property value (or 0.2% of the property value) to fund improved security, cleaning and other area upgrades. For example, in 2012/13 the additional rates for commercial property in the Cape Town Central CID was R0.01878 per rand of property (or 0.19%) while for the Wynberg CID it was R0.003187 (0.3%) of the property's value.

In Atlantis industrial property in good condition sells for roughly R2000m2. A 1000m2 property would be valued at R2 000 000. Assuming an annual charge of 0.2% of the property value the additional annual rates this property would pay in a typical CID for improved cleanliness, security etc. would be R4000 which translates as roughly R4 per m2 per annum. It is clear on this basis that the SEZ entity cannot expect to recover more than 40% of its operating expenses via a similar levy.

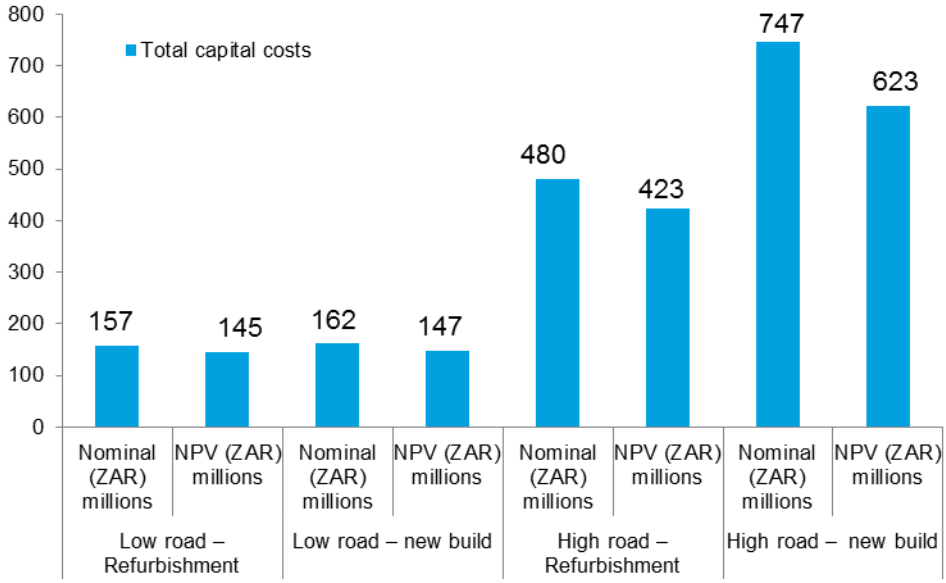
Table 19 Typical additional rates for a CID

Typical additional rates for commercial property in a CID	Additional rates assumed (% of property value)	
	0.2%	0.3%
Property size (m2)	R 1 000	R 1 000
Property Value (R2000/m2)	R 2 000 000	R 2 000 000
Additional annual property rates (additional rates of 0.2% of property value)	R 4 000	R 6 000
Additional annual rates per m2	R 4.00	R 6.00

9.4. Summary of model outputs

The dti will provide the SEZ entity with grant funding for capital expenditure. Figure 23 quantifies the total capital expenditure required for each option, in both nominal and a net present value basis (NPV).

Figure 23 Overview of the capital costs required for each option, excluding any capital contingencies



Significantly lower capital expenditure is required for the low road options than for the high road options (Figure 23). The difference between the two "Low road" options however is insignificant. The difference in capital expenditure for the "High road" options is mainly due to the capital spend on the additional infrastructure requirements under the "High road-new build" option and that the capital costs of the "High road new build option are approximately double that of the "Refurbishment option".

No capital contingencies have been modelled under any of the scenarios; it has been assumed that the dti will fund 100% of any capital contingencies which may arise under any of the options.

The dti will provide government grants for the capital expenditure incurred under each option. It has been assumed that the dti will provide 60% grants for the "One stop shop "and the "below ground infrastructure" and 50% grants for top structures. Under both the "Low road" options the percentage of government grants to total capital expenditure is much higher than under the "High road" options as there are no top structures developed under the "Low road" options.

Table 20 Overview of the total government grants for capital expenditure under each option

	Low road – Refurbishment		Low road – New Build		High road – Refurbishment		High road – New Build	
	Nominal (ZAR) millions	NPV (ZAR) millions	Nominal (ZAR) millions	NPV (ZAR) millions	Nominal (ZAR) millions	NPV (ZAR) millions	Nominal (ZAR) millions	NPV (ZAR) millions
Government Grant	94.5	87.0	96.7	88.0	257.5	227.3	401.4	335.5

The table below provides an overview of the sources of funds for the capital expenditure required under each of the options. All four of the options require capital funding from both the dti and cash flows generated by the SEZ. In addition to this funding, both the “High road” options require commercial funding for their top structures as the dti will only provide 50% government grant funding for top structures.

Table 21 Overview of the sources of funds

	Low road – Refurbishment		Low road – New Build		High road – Refurbishment		High road – New Build	
	Nominal (ZAR) millions	NPV (ZAR) millions	Nominal (ZAR) millions	NPV (ZAR) millions	Nominal (ZAR) millions	NPV (ZAR) millions	Nominal (ZAR) millions	NPV (ZAR) millions
Government Grant	94.5	87.0	96.7	88.0	257.5	227.3	401.4	335.5
SEZ cash flow	63.0	58.0	65.2	59.4	135.0	115.0	257.9	207.5
Commercial lender	-	-	-	-	87.4	80.4	87.9	80.2
Total	157.5	145.0	161.9	147.4	479.9	422.7	747.2	623.2

A summary of the capital expenditure required under each option in the first 3 years is summarised in Table 22. The flows over this period have been highlighted as government budgeting takes place over a 3-year medium term expenditure framework (MTEF) horizon.

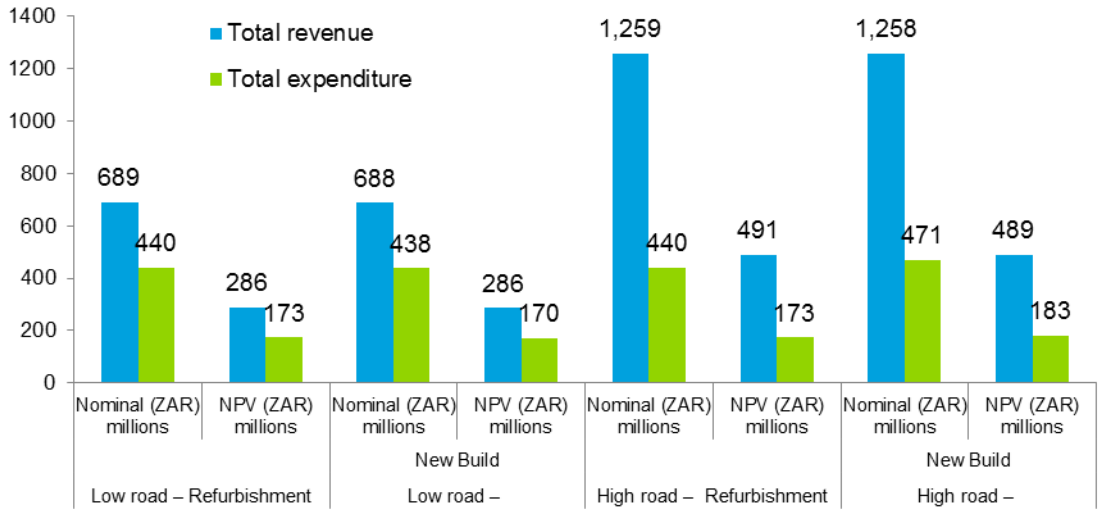
Table 22 Capital Expenditure in the first 3 year period by source

		2015	2016	2017	Total
		Nominal (ZAR millions)			
Low road - refurbish	Government grants	36.9	57.6	-	94.5
	Atlantis cash flows	24.6	38.4	-	63
	Commercial loan	-	-	-	0
	Total	61.5	96	-	157.5
Low road - new build	Government grant	37.5	59.2	-	96.7
	Atlantis cash flows	25	40.3	-	65.3
	Commercial loan	-	-	-	0
	Total	62.5	99.5	-	162
High road - refurbishment	Government grant	80.8	126.2	-	207
	Atlantis cash flows	33.4	52.9	-	86.3
	Commercial loan	34.1	53.8	-	87.9
	Total	148.4	232.4	-	380.8
High road - new build	Government grant	96.6	152.2	-	248.8
	Atlantis cash flows	46.2	73.6	-	119.8
	Commercial loan	34.1	53.8	-	87.9
	Total	176.9	279.6	-	456.5

Revenue is earned through the rental of properties and the collection of management fees. Four different types of lease have been identified. Where the lease is relevant to an option, rental income has been earned from the lease.

Figure 24 provides a summary of the total revenue earned and operating expenditure disbursed under each option over the 20 year period, in both nominal and a net present value basis (NPV). The revenues generated by both the “Low road” are significantly lower than the revenues generated under the “High road” options as they do not receive any revenue from anchor tenants.

Figure 24 Summary of total revenue and operating expenditure over 20 year period



9.4.1.1. Affordability of the options

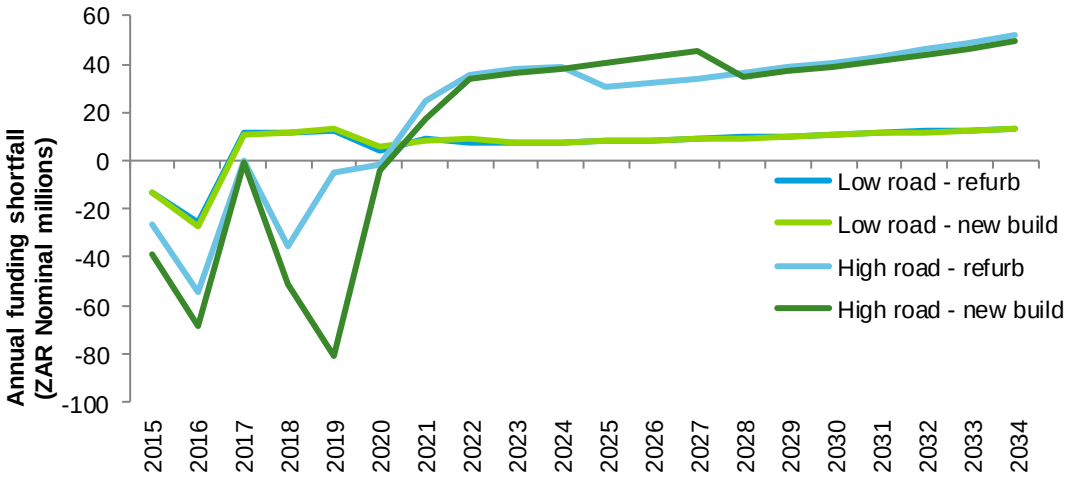
It is clear that none of the four options are able to generate sufficient cash flows at the beginning of the project and will require additional funding to support the SEZ during this period. The low road options requires the least capital expenditure and grant funding in order to setup the SEZ and produce the lowest annual shortfall in funding at the outset. The low road options are only encumbered by funding shortfalls in the first two years at an average of R39.5 million for both years. This represents the total amount the province would need to provide in grant funding to support the SEZ under these options. Thereafter, the SEZ entity under the low road scenario generates sufficient income to generate a funding surplus.

The least affordable option is the high-road new build option as it requires both significant capital expenditure and grant funding in order to setup the SEZ. The cash flows generated from the rental of the properties and collection of management fees for the first 6 years is insufficient for the project to be self-sustaining. This option does however eventually achieve cash break even in its 13th year of operation. A total of R 243 million in additional provincial grant funding would be required to plug the shortfall in the first 6 years.

The high-road refurbishment option represents a reasonable middle ground. It also generates a funding shortfall in the first 6 years however at a value of R 123 million this is recouped in the 10th year of operation.

During the first five years of the project the province will provide R10 million per year in the form of an operating grant for each of the options.

Figure 25 Annual funding shortfall\surplus under different options



The net present value for each of the options has been calculated based on the cash flows generated by the project. From the table below is clear that all the options except for the "High road – new build" options are viable based on their cash flow projections. The analysis suggests that of the three viable options the "Low road – new build" option is the least attractive option with a NPV of R39.3 million and that the "High road –refurbishment option is the most attractive option as it produce as NPV of R77.1 million. A discounted of 8.965% has been applied which is based on the South Africa R209 bond (maturity date 31/03/2036)

Table 23 NPV of the cash flow over the 20 year period

	Low road – Refurbishment	Low road – New build	High road – Refurbishment	High road – New build
	NPV (ZAR) millions	NPV (ZAR) millions	NPV (ZAR) millions	NPV (ZAR) millions
Project return	39.4	39.3	77.1	-10.1

Rental price sensitivity under 'anchor tenant lease' model

A sensitivity analysis has been performed on the rate that that SEZ tenants will pay to the SEZ entity under the 'anchor tenant lease' model. The rate was increased from R35m^2 to R50m^2, the value of R50m^2 was chosen as this is the current rental rate for premium industrial property in Montague Gardens in Cape Town. The results of the sensitivity are shown in the table below. If the SEZ entity was able to realise average rental rate of R50m^2, the "High road – new build" option would also produce a positive project return in terms of the cumulative cash flow

Table 24 Project returns – greenfield anchor tenant sensitivity

	High road – Refurbishment		High road – New build	
	NPV (ZAR) millions – rate at R35m2	NPV (ZAR) millions – rate at R50m2	NPV (ZAR) millions – rate at R35m2	NPV (ZAR) millions – rate at R50m2

Project return	77.1	138.4	-10.1	53.2

Refurbishment cost sensitivity

We have also performed sensitivity on the cost of refurbishment. Refurbishment costs in the base case scenarios are assumed at R 2 818m^2. The refurbishment costs estimated by AECOM, are high as they have assumed that much of the industrial property in the area is built with out of date materials such as asbestos and it would be costly to bring the building from present condition to 'new green star' standards. Some buildings however are likely to be in much better condition than others and it may not be necessary to upgrade to 'green star' building standards to attract tenants. As such we have tested the sensitivity of project returns to the assumption of a lower cost - R1 400m^2 under both the "Low road" and "High road" refurbishment options. There is little impact on the low-road scenario where refurbishment costs incurred by SEZ entity are limited but it does increase project returns by roughly R20 million in the high-road.

Table 25 Project returns – refurbishment sensitivity

	Low road – Refurbishment		**High road – Refurbishment**	
	NPV (ZAR) millions – rate at R2 818	NPV (ZAR) millions – rate at R50m2	NPV (ZAR) millions – rate at R2 818	NPV (ZAR) millions – rate at R50m2
Project return	39.4	39.6	77.1	98.0

10. Economic impact assessment

Initial estimates of the number and nature of firms that were likely to establish themselves in the proposed Atlantis SEZ were provided in the prefeasibility report. Two scenarios - 'conservative' and 'moderate' were developed, outlining the number of green technology firms that would be likely to setup in the proposed SEZ based on assumptions informed by extensive market research and stakeholder interviews.

This economic impact is based on inputs from the financial model and therefore only considers uptake under variations of the 'conservative' greentech demand scenario.

The magnitude of impact of the SEZ activities and investment on socio-economic variable such as employment and GDP is related to the amount of initial infrastructure investment takes place and on how many firms decide to establish themselves within the SEZ. These new investors (local and foreign) will positively impact the local and national economy through the following activities:

- The construction of new fixed structures
- The refurbishment of existing structures
- Employment of local labour (job creation, revitalisation)
- Employment of international labour (skills transfers)
- Procurement of operations and maintenance inputs and services
- Establishment of new training curriculums and activities
- The establishment of new small, micro and medium enterprises
- Importation of new technologies and processes

We conducted the economic impact analysis using a Western Cape social accounting matrix (SAM) developed by Quantec Research. We have separated the impacts into two periods to distinguish between the short-term construction related impacts and the more permanent operations and maintenance (O&M) impacts.

10.1. Summary of key findings

Table 26 illustrates the total capital costs per option for the period 2015 to 2030. Around 720 full-time permanent jobs are created in the 'low road' scenario and 1060 permanent jobs in the 'high road'. The overall capital expenditure incurred per permanent job created is between roughly R200 000 in the 'low road' scenarios and R590 000 in the 'high road new build' scenario.

While the 'low road' options are more capital efficient in term of jobs created they do result in lower overall jobs because we have assumed it would not be possible to attract smaller firms to the area if the SEZ doesn't act as an anchor tenant and provide suitable facilities.

The 'high road' options are less capital efficient - using more capital per job created but result in a higher overall number of jobs being created. The 'high road refurbishment' option is significantly more capital efficient than 'high road new build' but results in the same number of overall jobs – in other words the same employment outcomes can potentially be achieved with less capital investment going the refurbishment rather than new build route.

Table 26 Summary of key economic impact findings

	Low Road – Refurbishment	Low Road – New Build	High Road – Refurbishment	High Road – New Build
Total capital investment, R million	R 145	R 147	R 423	R 623
Number of firms that setup in SEZ	10	10	20	20
Total direct jobs created (permanent)	720	720	1 060	1 060
Total annual construction jobs (direct, indirect and induced)	76	77	221	325
Capital invested in infrastructure for each direct permanent job created	R 201 389	R 204 167	R 399 057	R 587 763
Annual GDP impact (construction, during 8 year period), R million	21	21	60	88
Annual GDP impact (operations), R million	8.7	8.7	8.7	8.7
Total GDP impact (construction) over 8 years	168	168	480	704

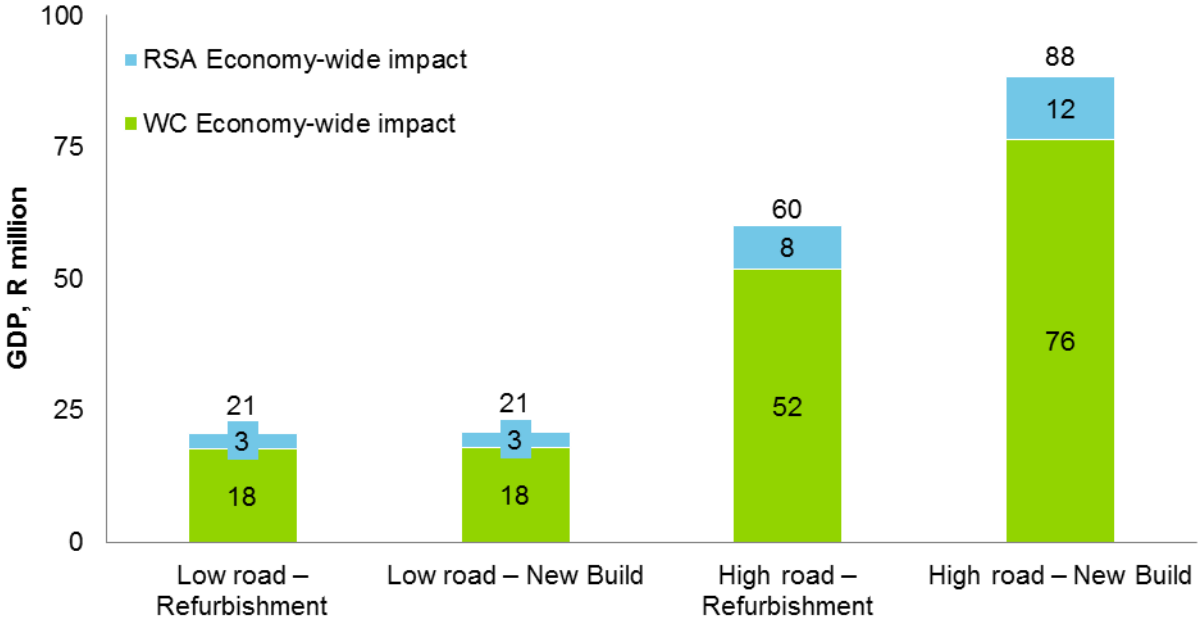
Roughly R145 million is invested in infrastructure under the 'low road' scenarios, while R423 million is required under the 'high road refurbish' option and R623million under the 'high road new build'. The total potential impact on GDP of capital invested is therefore greatest under the high-road new build option where a total of R704million is created over an 8 year construction period for the R623 million originally spent.

10.2. Construction related impacts

All refurbishment and construction activities are expected to be completed before the beginning of 2023. This implies a period of eight years throughout which construction and refurbishment activities take place. Figure 26 illustrates the economy wide annual GDP impacts per option, separated by the impact that remains within the Western Cape and the impact that flows to the rest of South Africa.

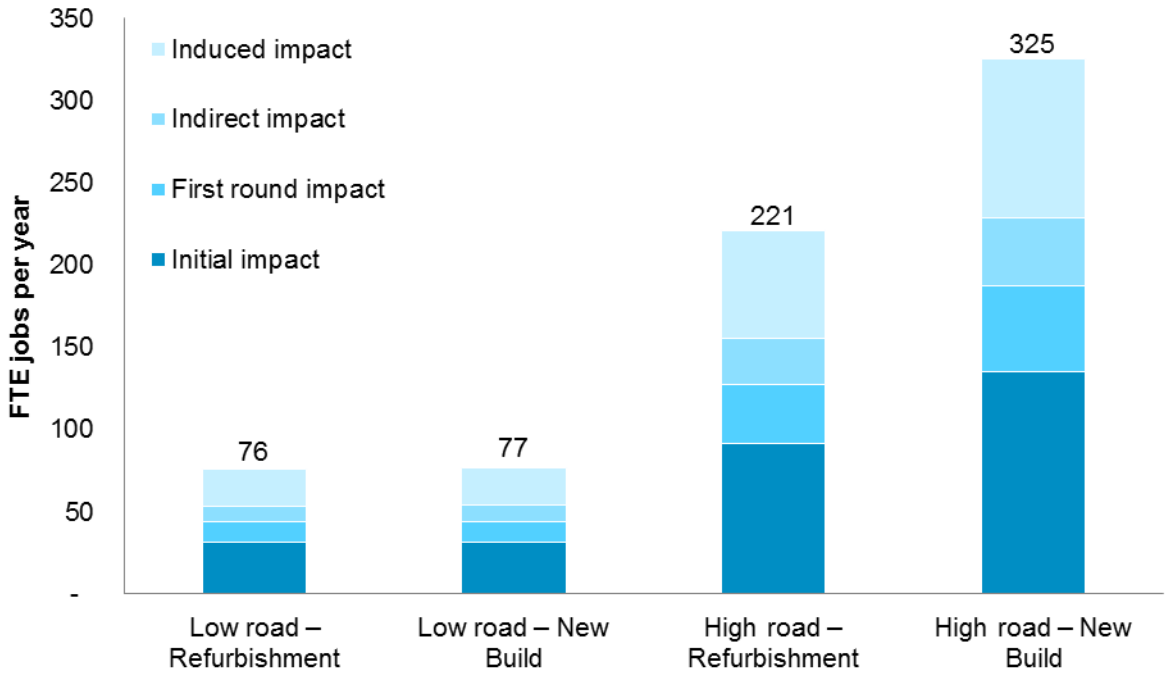
It is not surprising that the greatest annual GDP impact over the construction period is achieved in the 'High Road – New build' option where we have included the construction of a new industrial park to house SEZ tenants. Also, refurbishments costs are almost half the cost of new build per square meter which further reduces the relative GDP impacts. In terms of the distribution of impacts, the majority of subsequent spending remains with the Western Cape Province and therefore so do the subsequent GDP impacts.

Figure 26 The economy-wide GDP impacts per year due to construction and refurbishment activities



Directly related to the magnitude of refurbishment and construction costs are job impact estimates. The time and manpower required to construct new facilities as well as the upstream industry linkages results in the 'High Road – New build' option sustaining more jobs per year than the other three options (Figure 27). Employment impacts related to the construction phase cannot be considered as "new" employment opportunities because of the nature of the construction sector. This does not, however, imply that no new jobs are created due to the refurbishment and construction activities taking place in the proposed Atlantis SEZ. For the full employment impact results per skill level please refer to the proposed Atlantis SEZ strategy document.

Figure 27 Construction jobs per option per year (construction period)



10.3. Operations and maintenance phase

10.3.1. Employment and income effects (ASEZ tenants)

The potential number of jobs created during each time period in each scenario was completed across the following categories:

- number of employees;
- employees per skill level;
- earnings per skill level; and
- expected personal income tax revenues

Under the 'Low Road' options 720 direct jobs are expected to be created over the period 2015 – 2030. Under the 'High Road' options 1 060 direct permanent jobs are expected to be created during the period 2015 – 2030 (Table 27). The difference between the options in terms of total employment is due to the underlying assumptions regarding uptake by potential tenants. In the two 'Low Road' options we have assumed a lower interest in the SEZ by potential tenants due to a lack of available properties. The bulk of the jobs estimated here can be attributed to the "anchor tenants" Gestamp and a wind blade manufacturer. The majority of these jobs are expected to be of a semi-unskilled nature. The overall expected employment impact of the Atlantis SEZ can be considered significant when compared to the current labour force of 5500 people.

Table 27 Permanent jobs per year per option

	Low road – Refurbishment	Low road – New Build	High road – Refurbishment	High road – New Build
Highly Skilled	139	139	197	197
Skilled	234	234	359	359
Semi-Unskilled	347	347	504	504
Total	**720**	**720**	**1 060**	**1 060**

Under the 'Low Road' options a total of R109 million per annum of personal income is expected to be generated with R8 million in associated tax revenue accruing to the government. In the 'High Road" options R128 million in personal income is expected to be generated with R9 million in associated income tax revenue. It is important to note that the expected tax revenue will be partially offset by the allowance under the employee incentive scheme which will relate to semi-unskilled workers. The degree to which the Atlantis area benefits from this increase in wealth creation will depend on how many local residents are employed who are currently unemployed.

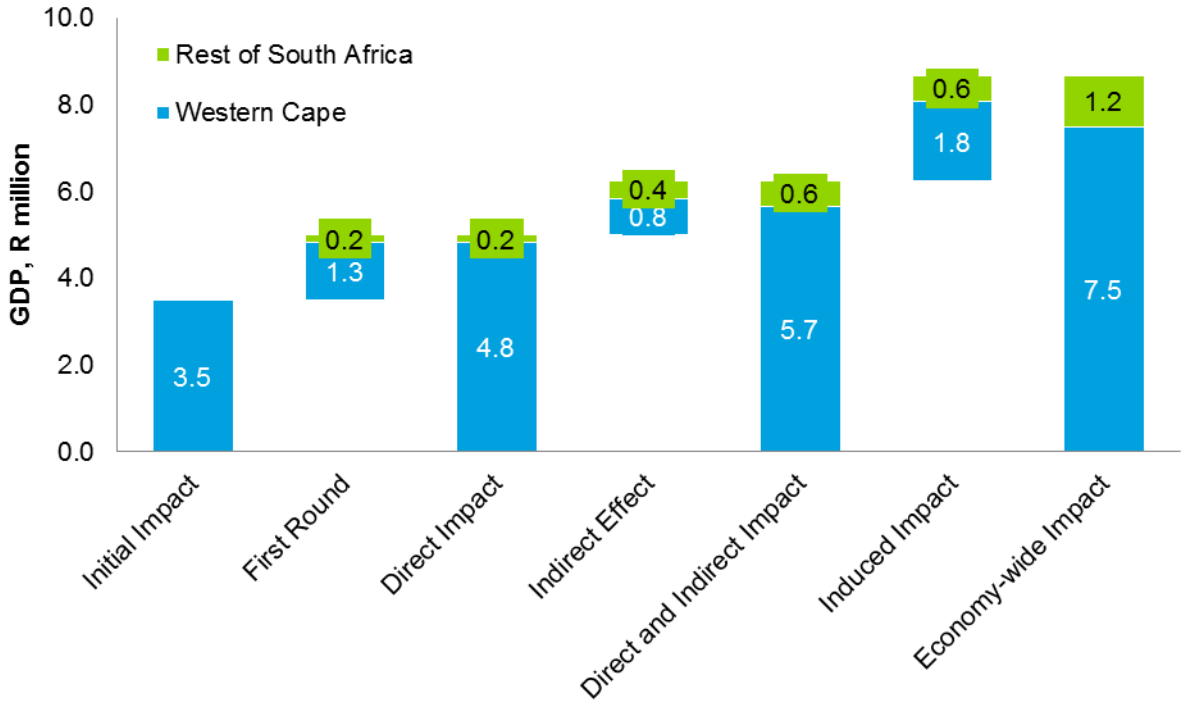
Figure 28 Annual wealth and income tax generated per option, 2015 - 2030

	Low road – Refurbishment	Low road – New Build	High road – Refurbishment	High road – New Build
Income	R 109 285 384	R 109 285 384	R 128 356 729	R 128 356 729
Income Tax	R 7 934 337	R 7 934 337	R 9 445 133	R 9 445 133

10.3.2. Operations and maintenance expenditure impacts (ASEZ entity only)

Using operations and management expenditure we can "shock" the SAM to unpack the annual GDP impact that the SEZ entity itself has on the province and country. The results show that the SEZ entity will not impact the Atlantis area significantly and that most expenditure remains within the Western Cape (Figure 29).

Figure 29 GDP impacts associated with the management of the SEZ entity, per annum



10.3.3. Other socio-economic impacts

In addition to the employment and GDP impacts discussed above, the proposed ASEZ could also be associated with a number of other socio-economic benefits. While these are more difficult to quantify they may include:

- **The creation of greentech manufacturing and services cluster in the Western Cape** - the establishment of the greentech SEZ in Atlantis is expected to attract a mix of foreign and domestic investors in the greentech sector. While some of these firms may have set up in the absence in the SEZ and its incentives, the SEZ will facilitate clustering of firms in this sector and generate the positive agglomeration effects typically associated with clustering. Some firms that would not otherwise have considered investing in South Africa may also be attracted to South Africa because of the clear support for the development of a local greentech sector.
- **Support the renewable energy generation build** - The ASEZ is a good location for manufacturers who intend to supply goods and services to REIPPP programme renewable energy generation projects in the Northern and Western Cape.
- **Attracting FDI and domestic private investment** - FDI by multinational corporations provide more than just flows of finance into a region. When MNCs enter a new market, they bring with them technology transfers, new employment opportunities, transfers of best practices or competencies, entrepreneurship, access to markets and an increase in demand for goods and services produced by local firms. These impacts brought about by FDI activities of MNCs can lead to positive spill over effects for other industries, especially in the case of upgrades to shared infrastructure such as roads, ports and rail. Atlantis could receive between R600 million and R650 million in foreign direct investment in the period 2014 to 2017, including the investment already committed by Gestamp (roughly R300 million).Other potential sources of FDI include a wind blade manufacturer and international PV module manufacturer. The provision of SEZ infrastructure, activities and incentives will also assist domestic private sector investors to participate in the greentech sector.

- **Potentially increase the utilisation of existing infrastructure in Atlantis and promoting urban renewal -** Increased activity may make better use of existing infrastructure, especially in the case of refurbished brownfield properties. Although costs are “sunk” the increased use of some infrastructure may increase the amount of revenue generated to replace such assets in the future or may even prolong the life span of the asset. Where roads might need to be upgraded or new shared infrastructure built, the catalytic benefits may be significant, especially in terms of improved living standards if health and security levels are improved.
- **Positive impact on trade balance through import substitution opportunities and exports -** An increase in local manufacturers supplying goods and services to the local and export market will have a positive impact on the trade balance. The local production of greentech provides consumers with an opportunity to substitute imports with locally made goods and services. Indeed, this is what the localisation policies of the dti aims to achieve with regards to the REIPPP programme. Import substitution (provided the products aren’t sold at unreasonable additional cost to the SA consumer) will increase the amount of income and wealth generated within the South African economy which may otherwise have been lost to other markets.

11. Impact on transport and spatial development

11.1. Transportation impacts of the proposed concept layout of Atlantis SEZ

As indicated in section 6.4.7 Atlantis is:

- One of the key industrial freight centres within the Cape Town Metropolitan area.
- Located central to the area's regional freight movement network.
- Although traditionally dislocated from the rest of the city, ideally located for manufacturing activities sensitive to "urban" transport movements.

Klein Dassenberg Road, the R304, and Dassenberg Road are primary arterials which provide access between Atlantis and the western and eastern freeways. Investigations to ascertain the extent of local road improvements which could be required as a result of large users and the industrial park envisaged to comprise the SEZ were undertaken. These include:

- Improvements to intersections.
- Improvements to turning radii.

The potential transportation impacts are detailed below. It is suggested that the SEZ entity budget approximately R8 million for associated improvements.

11.1.1. Access to site 1

Site 1 is bounded by Dassenberg Road on the north, Charl Uys Drive on the west, Neil Hare Road on the south and John van Niekerk Street of the east. In terms of the CoCT road classification Dassenberg Road is a Class 2 route, Charl Uys Drive a Class 3, Neil Hare Road a Class 4 and John van Niekerk Street a Class 5 industrial road.

In terms of the site planning process the site has been divided into three areas:

- Gestamp on the eastern boundary (7.8 hectares),
- Small industries on the southwest portion of the site (8 hectares), and
- A site for a future large land user (potentially a wind blade manufacturer) on the northwest portion of the site (14.1 hectares).

Gestamp is an approved development and access has been granted of John van Niekerk Street. The balance of the site is green fields and access to the site will need to be carefully considered. Historical planning for the two greenfield areas identified access for the small industries on Neil Hare Road and on Charl Uys Drive (midway between Neil Hare Road and Dassenberg Road) and for the large portion (wind blade manufacturer) an access onto Dassenberg Road.

11.1.2. Small industries access

On Neil Hare Road the access will be approximately 235 metres from the closest intersection, Charl Uys Drive, and is therefore within the required access spacing for all land use environment semi-rural to urban. The access onto Charl Uys Drive, being midway, will be approximately 300 metres from either Dassenberg Road or Neil Hare Road. It is considered that an access at this location is acceptable and in keeping with the approved access of De Korte Street, on Charl Uys Drive, located 310 metres to the southeast of the Charl Uys Drive/Neil Hare Road intersection.

11.1.3. Large portion access (wind blade manufacture)

In terms of the road access guidelines supported by both the CoCTand the WCG an access onto Dassenberg Road can only be supported if the built environment surrounding the road is classified as Intermediate (3 000 m^2 to 10 000 m^2 Gross Floor Area/ha) or higher. The distance between existing intersections on Dassenberg Road range between 960 metres and 2 000 metres and all intersections are either Class 3 routes or Class 4 collector routes. The access is proposed at 600 metres from the Charl Uys Drive intersection. Should the City and/or the WCG not support the access onto Dassenberg Road then this portion of the site will need to share the access provided for the small industries portion, i.e. access onto Charl Uys Drive.

11.1.4. Impact of abnormal loads on local road network

The typical trips, both the volume and the vehicle classification of the trips that are expected to be generated due to the small industries are considered to be typical of industrial developments and the design standard of the existing road network caters for these trips.

However, the manufacture of wind blades will result in the need for abnormal load trips due to the length of the blades. The blades are manufactured in standard lengths with the shortest length 36 metres and the longest 55 metres. The movement of these loads requires an application for a permit and each load/group of loads will need to be escorted by the traffic department as, particularly at intersection, the roads will need to be closed while the intersection is negotiated.

The route from Site 1 to the external road network will be via Charl Uys Drive and then Dassenberg Road to the R27. For the purposes of this report the two intersections of Charl Uys Drive/Dassenberg Road and Dassenberg Road/R27 have been evaluated to determine the impact that abnormal loads will have on the intersections and to identify the typical mitigation measures that should be implemented.

Charl Uys Drive/Dassenberg Road intersection

The software AutoTURN has been used to evaluate the geometric impact on the intersections. The impact of the 36m blade and 55m blade configurations are shown in Figure 30 and Figure 31 respectively. It can be seen that the existing intersection layout is adequate for the 36m load provided that no other vehicles are allowed to travel through the intersection.

Figure 30 Impact of 36 m blade on Charl Uys Drive/Dassenberg Road intersection

Source: AECOM

Figure 31 Impact of 55m blade on Charl Uys Drive/Dassenberg Road intersection

Source: AECOM

From Figure 31 it is clear that in order to negotiate the existing intersection the vehicle transporting the blades will need to use areas outside of the existing surfaced road to negotiate the intersection.

Given that these trips will happen regularly for the duration that blades are manufactured, it is recommended that the Charl Uys intersection be upgraded to accommodate the sweep of the vehicle. The widening proposed at this intersection will incorporate a new left turn lane on the approach to the stop line and a wider exit taper leading out of the intersection in the direction of Neil Hare Road allowing the sweep of the vehicle to remain within the surfaced road area. It is however, at this stage, unknown when a manufacturer will establish on the site and also what size the blade(s) will be. It is therefore recommended that the design and upgrading of this intersection be made a condition of the approval for the development of the larger portion of the site should a blade manufacturer establish there.

Dassenberg Road/R27 intersection

The impact of the 36m blade load and the 55m load is shown in Figure 32 and Figure 33 respectively. For the vehicle transporting the 36m long blade the existing kerbing will be crossed. However, there will be very little sweep out of the existing surfaced area. On Figure 4 the increased length of the blade clearly requires the vehicle transporting the blade to use large parts of the untreated area outside of the surfaced road. It is therefore recommended that the median island be upgraded with the provision of mountable kerbs (replacing the existing barrier kerbs) and the raised island paved to provide a rideable area. This will allow the transport vehicle to select alternative approach lines that will allow the vehicle to remain within the outside kerbs of the intersection.

Figure 32 Impact of 36 m blade on Dassenberg Road/R27 intersection

Source: AECOM

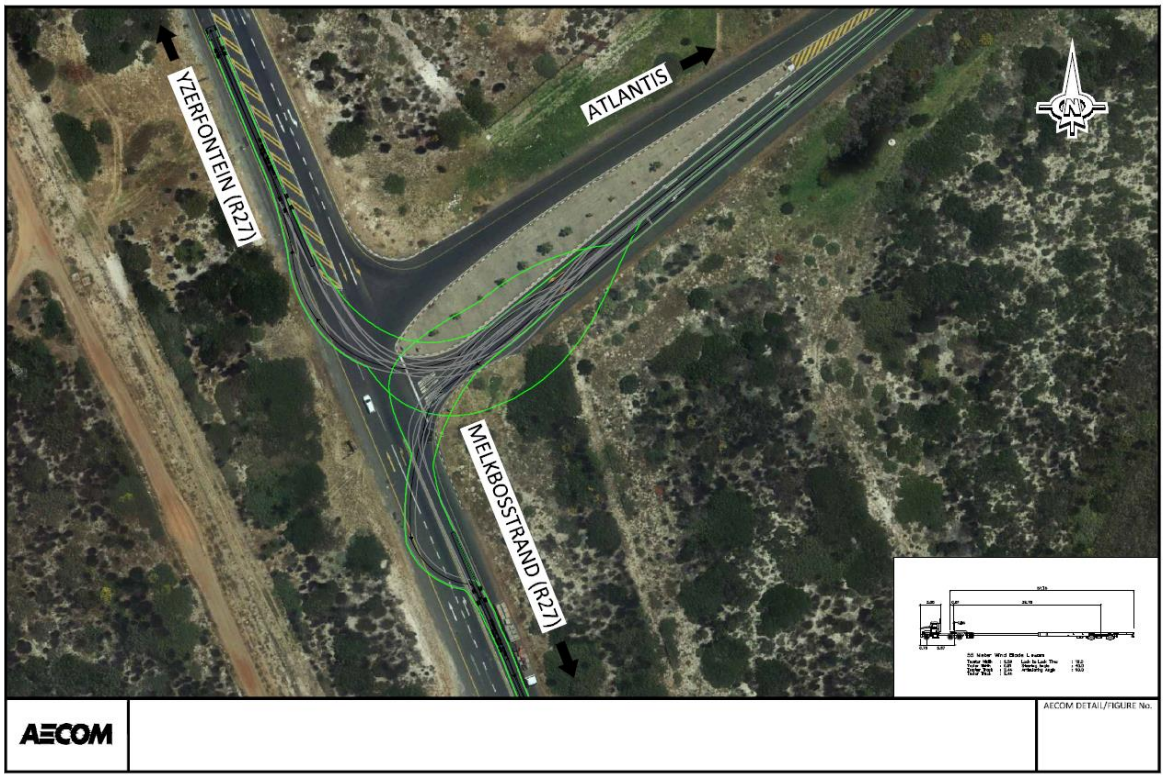


Figure 33 Impact of 55m blade on Dassenberg Road/R27 intersection

Source: AECOM

11.1.5. Impact of abnormal loads on intersection further afield.

At the Dassenberg Road/R27 intersection there is an option to turn either south towards Cape Town or north towards Saldanha (a potential port for the export or trans-location of blades).

Travelling south

The route to travel south will be via the R27, MR199 (Melkbos Road) and onto the N7. This route is considered difficult as the signalised intersection of R27/MT199 will need to be redesigned to accommodate the sweep of the vehicles and all road furniture (traffic signal poles, stubbies, etc.) will need to be installed in a manner that will allow these obstacles to be removed while the transport vehicles negotiates the intersection and then reinstated. Given that this will be a regular occurrence it is considered impractical to do this. The possibility of constructing a large radius slip lane for the specific use of these vehicles will need to be investigated and negotiated with both the road authorities and the adjacent land owners.

Once the vehicle has negotiated this intersection the new interchange onto the N7 will impose constraints on transport vehicles travelling further south on the N7. The overhead power lines have made it impossible for these vehicles to travel under the N7 freeway and then use the loop ramp onto the N7. These vehicles will be forced to use the northbound off-ramp to get onto the N7 and then a median crossing will need to be provided to allow the vehicle to enter the southbound carriageway of the N7.

Travelling north

The R27 north provides the greatest opportunity for abnormal loads to exit the Atlantis area safely. The route to be followed would take these vehicles to Saldanha where they can either travel to the port or access the R45 to continue a journey eastwards into the hinterland or access the N7 and continue travelling north.

11.2. Spatial Development Framework

11.2.1. Spatial planning context

As the proposed Atlantis SEZ forms part of an existing serviced industrial area, most of the overarching spatial requirements for the initiative are already in place.

A broad range of Provincial and CoCT sectoral, integrated, and/ or spatial policy and planning frameworks inform or impact on the development of the proposed Atlantis SEZ for greentech manufacturing enterprises. A summary of these and their implications for the proposed SEZ is attached as Annexure 1:

Core conclusions are that:

- Both WCG and CoCT sectoral, integrated, and/ or spatial policy and planning frameworks support the focus and spatial location of the proposed Atlantis SEZ.
- Specifically, spatial policy and planning frameworks support:
  - Infrastructure-led growth in the province and city; and specifically resource efficient infrastructure growth.
  - Optimising green economic opportunities in the province and city.
  - Growing the Western Cape's contribution in the construction of new energy infrastructure, and specifically servicing the green infrastructure industry.
  - The consolidation, improvement and revitalisation of existing residential, commercial and industrial areas in the province and city (as opposed to green field urban expansion).
  - The significant role of Atlantis as an industrial node in the city and regional spatial economy; and the need to stem long-term and revitalise the area, including its better integration with the rest of the city through enhanced public transport.
  - Directing future city growth in a structured manner along the western corridor (of which Atlantis forms a part) and north-eastern corridor.
  - Establishing Atlantis as a focal point for green manufacturing and service enterprises.
  - The rapid release of vacant city land in Atlantis to facilitate economic development and create a more vibrant urban environment that will attract further development and create job opportunities.
  - The need to rationalise the public open space system and selectively upgrade open spaces and facilities in Atlantis in order to improve the quality of the public environment.
  - The revitalisation of Atlantis – though this requires a partnership approach that actively draws on the resources of government, business, industry, labour, and civil society.
  - Maintaining dedicated institutional arrangements to support the revitalisation of Atlantis and establish the area as a focal point for green manufacturing and service enterprises (including an intergovernmental task team representing line function departments from the CoCT and the WCG who have existing and planned initiatives for the Atlantis area have been established to ensure coordinated delivery).

- Atlantis, and the north-western corridor of which it forms a part, are critical elements in planning for the long-term growth of Cape Town. A detailed exploration of growth options (and the potential yield of opportunities) for the north-western and north-eastern development corridors of the city, including in-depth understanding of "infrastructure triggers" enabling/ inhibiting human settlement, have revealed that these two corridors could accommodate some 430 000 housing opportunities (more than half the anticipated 30-year future need). Therefore, although currently still dislocated from the rest of Cape Town – despite its recent connection to the rest of the city via the MyCity Bus Rapid Transit service – it is clear that Atlantis in future will increasingly be integrated with the rest of the city as new growth is accommodated on the growth corridor between Blaauwberg and Atlantis.

Table 28 summarises key aspects of what could constitute a spatial framework or plan for the proposed SEZ, recognising its unique situation as part of an established industrial area. The most important spatial planning decision in relation to the proposed Atlantis SEZ appears to be where and in what form to develop.

Gestamp and a wind blade manufacturer both require very large custom designed manufacturing spaces. The two sites made available by the CoCT are ideal for their purposes. However, as indicated earlier in this report interviews with a range of existing greentech firms revealed that most firms would prefer to lease sites within an already developed and serviced industrial park. This finding was supported by GreenCape who noted that while a number of other greentech firms considered the vacant sites at Atlantis over the past few years they had chosen to locate within already developed industrial parks in the broader Cape Town metropolitan area.

The issue is how to provide for these potential users. One option is to build a new industrial park; another is to refurbish existing vacant or underutilised space. Building a new industrial park (with flexible, modular spaces which can readily accommodate a range of space requirements and phased as demand grows) provides the opportunity to consolidate all SEZ activities in close proximity. For example, it would be possible to accommodate an industrial park meeting longer term demands as well as a wind blade manufacturer on the remainder of site 1 (adjacent to Gestamp).

Refurbishing existing industrial space within Atlantis to accommodate smaller users seeking already developed space may, however, prove a cheaper strategy. Perhaps the ideal is a first phase SEZ which prepares purpose built accommodation – also complying with green building standards – and then on the basis of its success, to seek expansion incorporating existing buildings converted to SEZ standards.

Table 28 Key aspects of a spatial framework

Spatial Attribute	Comment
Location	• The Atlantis area is one of the key industrial freight centres within the Cape Town Metropolitan area and well integrated with regional freight movement networks.
Development history	• Atlantis was developed in the 1970s as a decentralised industrial area and settlement for Coloured residents and has deteriorated following the withdrawal of original development incentives. • A concerted attempt to integrate Atlantis with the broader City space economy is supportive of National settlement restructuring and integrative objectives.
Existing land use	• As a planned industrial estate, the distribution of land uses and provision of infrastructure in the area support industrial development. • The area is clearly identifiable as a defined area of industrial activity
Layout	• Internally, the industrial area provides for a range of erf sizes, accommodating the needs of different manufacturing activities. • Larger sites intended for large space users and users associated with abnormal transport loads, are located along the western and southern parts of the industrial area, providing ready access to connector routes which links Atlantis to the regional freight movement network.

Land availability or ownership	• The CoCT has made sufficient land available to accommodate expected demand. • Sufficient further City owned and private land and built space is available to accommodate considerable future growth of the SEZ if needed. • Public and private land and building costs in the Atlantis Industria are considered inexpensive relative to the rest of the city.
Site attributes or conditions	• In terms of physical attributes, both sites identified by the CoCT can accommodate a range of users with different and perhaps unique space requirements, can be "parcelled" easily to accommodate different users and a very large range of building configurations, and is flat in slope enabling easy provisioning of manufacturing space (requiring large flat surfaces).
Land use and building rights	• IN terms of the CoCT zoning and land use provision, both sites have the ts in place to permit green industry enterprises. • As part of the City;s incentives packages for the Atlantis SEZ rapid turn-around times are assured for applications for building development.
Policy context	• A broad range of Provincial and CoCT sectoral integrated and/or spatial policy and planning frameworks supply the focus and spatial location of the proposed Atlantis SEZ.
Access to labour	• A large source of labour for manufacturing industries resides in close proximity to the Atlantis Industrial area.
Services	• Overall bulk water availability should be adequate to provide for both the conservative and moderate development scenarios. • Regional landfill facilities catering for different waste classifications are situated in the vicinity of Atlantis and should have sufficient capacity to accommodate both the conservative and moderate demand scenarios. • The 4MVA electricity available to the two sties identified by the CoCT should be sufficient accommodate demand over the 2014-2017 period. The expected 2018-2030 uptake on the two sites could require and additional +- 1 MVA, but planned improvements to the electricity supply in Atlantis should accommodate longer term needs.

11.2.2. Site development plan

Prior to the development of individual buildings (whether green field refurbishment) for the SEZ, building plans full have to be submitted for approval by the CoCT containing detailed specifications as required by the National Building Act. In some circumstances, the CoCT requires the submission of site development plans for approval prior to the building plan stage. A site development plan is defined as "a scaled and dimensioned plan which shows development details such as (but not limited to) site layout, positioning of buildings and structures, property access, building designs and landscaping of the proposed development." A site development plan shall not be refused if it is consistent with the development rules of a base zone. In essence, it becomes the detailed spatial development framework for the site.

The CoCT's requirement is indicated for some zones. This excludes land zoned General Industry Subzone Gl 1. However, the zoning scheme specifies that in addition to the zones that specifically require a site development plan, Council may require a site development plan in respect of the specific types of developments, including industrial parks.

A site development plan would indicate, *inter alia*:

- The layout of the property, indicating the use of different portions thereof.
- The massing, position, use and extent of buildings.
- Sketch plans, elevations, and cross-sections of proposed structures, including information about external finishes.
- The alignment and general specification of vehicle access, roads, parking areas, loading areas, pedestrian flow and footpaths.
- The position and extent of private, public and communal space.

- Typical details of fencing or walls around the perimeter of the land unit and within the property.
- Electricity supply and external lighting proposals.
- Provisions for the supply of water, management of stormwater, and disposal of sewage and refuse.
- External signage details.
- General landscaping proposals, including vegetation to be preserved, removed or to be planted, external paving, and measures for stabilising outdoor areas where applicable.
- The phasing of a development.
- If Council considers it necessary, a transport or traffic impact statement or assessment.
- If Council considers it necessary, a stormwater impact assessment and/ or stormwater management plan.

The concept site lay-out and design (discussed in section 6.5.2) prepared for an industrial park accommodating the anticipated 10-year demand for smaller Atlantis SEZ users begins to address the needs of a site development plan. Such a plan can, however, only be finalised once greater clarity exists on specific SEZ users, planned phasing of the development, and so on.

12. Risk analysis

12.1. Disaster risk assessment and plan

12.1.1. Introduction

According to the Department of Co-operative Governance and Traditional Affairs (COGTA, 2005) the term “disaster risk management” refers to integrated multi-sectoral and multidisciplinary administrative, organisational and operational processes and capacities aimed at lessening the impacts of natural hazards and related environmental, technological and biological disasters.

However, natural hazards are often not the primary cause for concern. Both man-made and natural hazards only pose a significant impact or threat due to the existence of a vulnerability of some kind. Thus, if the hazard can be controlled and the vulnerability reduced (or alternately, resilience increased), the impact of the disaster may be lessened. Disaster risk reduction therefore refers to all the elements that are necessary to minimise vulnerabilities and disaster risks throughout a society or area. It includes the core risk reduction principles of prevention, mitigation and preparedness. In this report, the terms “disaster management” and “disaster risk management” are used interchangeably but they are intended to have the same meaning.

The key to understanding the difference between an emergency and a disaster lies in the scale thereof. Based on the International Strategy for Disaster Reduction (ISDR) definition of a disaster, and the South African Disaster Management Act (Act 57 of 2002), a disaster can be classified as an immediate or a slow-onset event which is beyond the capacity of local resources to handle. An emergency therefore encompasses an event that can be managed using locally and readily available (on-site or in-community) resources, and is usually of short duration (some hours at most).

The key to effective development - including development of the Atlantis SEZ - is to prevent, minimise and mitigate disasters to reduce the diversion of resources from other urgently needed services. If disasters are avoided or the impacts thereof reduced, the response need is reduced, thereby freeing up resources for improvement of conditions that support sustainable development. A key concern in regards to areas such as the Atlantis SEZ is the effect that compound disasters may have – i.e. where one disaster lead to another or where two disaster occur at or near to the same time.

Resources to address emergencies may be available on-site or in the vicinity of the SEZ through trained staff or via agreements with local inhabitants, the municipality or organisations, and would fall within the ambit of the daily operating environment of a development such as the SEZ. Events that occur outside of this ambit, and which exceeds the capacity of the local industry, operators, and communities to cope with this event – thereby necessitating external assistance or the use of external resources (including manpower, equipment or financial assistance) – would constitute a disaster. In the context of this report, disaster risk encompasses environmental, infrastructural, socio-cultural and economic risks.

This is a summary of the report that focuses on disaster risk in particular and the early identification thereof in terms of the Atlantis SEZ as a means to highlight such opportunities. The full report can be found in Annexure 5.

The opportunities include risk reduction and increased resilience to withstand disaster impacts as well as recommendations to implement multiple positive outcomes (e.g. the implementation of measures and infrastructure that could not only benefit disaster risk reduction, early warning and response, as well as recovery, but at the same time serve to enhance the quality of life of the community that depends on or resides in the vicinity of the SEZ).

The implied actions and responsibilities of operators and staff working in the SEZ associated with disaster risk requirements necessitate a specific state of affairs to remain constant throughout the operation of the facility. For example, the following should be guaranteed in order to avoid disasters:

- Effective operation and maintenance at site level as well as at SEZ level, meaning that even if the economic viability of the SEZ or any of the individual operators in the SEZ is stressed, maintenance and disaster risk reduction planning should not be limited or reduced. To this end, disaster risk management training should be provided to selected staff, while all staff should receive basic training in risk reduction on a site and SEZ level.
- All staff operating in the SEZ should be knowledgeable regarding operational issues (e.g. early warning and actions related to possible disaster events at the Koeberg Nuclear Power Station). Selected staff should be trained in selected disaster risk elements. For example media liaison and media communication protocols and message construction should be defined, and in cases of severe weather staff should not only be knowledgeable and consider real-time weather, but be able to read, understand and interpret severe weather warnings hours or even days ahead of time, from reputable sources or through on-site meteorological stations that could serve the entire SEZ. This being an example only (i.e. this may be applied to say violent service protests or to fire risk) requires a specific skills set, and arrangements with weather services, fire and emergency services, or public safety/protection services (with potential associated financial implication) as well as specific training arrangements.

12.1.2. Levels of hazard

In the Disaster Risk Assessment and Plan a hazard level is indicated for each hazard, considering its impact, should it not be mitigated. The levels that are presented are:

- Potential fatal flaw: A reality if the status quo remains.
- Critical consideration: Unless this element of disaster risk is addressed, the sustainability of the SEZ could be in jeopardy.
- General consideration: This element is manageable and has to be attended to during design/planning and operation of the SEZ.
- Insignificant: Although the hazard exists, its management would form part of the design and development of the SEZ, as well as day-to-day operations, and is therefore not considered to pose a significant risk towards a disaster.

Table 29 below represents a listing and consideration of hazards addressed in the Disaster Risk Assessment and Plan in terms of the levels of hazard.

Table 29 Ranking and mitigation measures for natural hazards

Natural Hazards		
Specific hazard	Level	Mitigation/management measures
Lightning strikes	Insignificant	
Wind direction, High Winds and Gust factor	Critical consideration South African design standards require all permanent structures to withstand a maximum wind speed of around 40m/s. Wind speeds in the area vary mostly between 8 and 12m/s but can reach up to 20 m/s in summer months. Atlantis and surroundings often experience significantly gusty winds during the months of December and January. During summer, a high percentage (approximately 30%) of the velocities is in the range from 25-50 km/hr (13.5-27 knots). Winds are frequently strong and can attain gale force, in excess of 70km/h at times especially in the afternoons. Velocities exceeding 100km/h have been recorded.	Such wind speeds require significant consideration when structures are designed, especially roofing, so as to reduce the potential for building materials and on-site infrastructure to be blown apart, causing damages and having an impact on safety of workers and residents in the area.
Floods	General consideration Floods present a relatively low risk to the effective operation and economic viability of the Atlantis SEZ. The reason for this is that floods are not site-related, but that floods may cut off certain transport routes to and from the SEZ.	As part of SEZ operational management, alternative routes should be identified for the transport of goods during flooding emergencies.
Hail storms	General consideration In the Risk and Development Annual Review of the Western Cape (RADAR, 2010:2), mention is made of one significant disaster that occurred in the area near Atlantis. Between 2003 and 2008, a hail storm occurred in Haarlem in the Western Cape, damaging 389 hectares of fruit trees, impacting on 35 small traders, and resulting in loss of employment for 194 permanent workers and 160 temporary workers.	As is the case with high winds and gusts, consideration should be given to factory building materials/covering when it is being constructed, at an individual site level.
Fire	Critical consideration Fires are prevalent in the Atlantis area although not as much as in other areas of Southern Africa. Although flash-over fires could occur especially in areas where high voltage powerlines run, the servitudes underneath the powerlines seem to be well-maintained and the predominant wind direction would generally direct fires away from the SEZ, towards the south-west. The primary concern regarding fire in Atlantis is related to the potential for small, insignificant fires to turn into disastrous events, due to wind strength. In addition, large open spaces (especially during the early stages of development), as well as the proliferation of dumping/storage of flammable materials in the industrial area is of concern.	These elements can be managed via effective SEZ operational management and monitoring, as well as SEZ-wide fire safety procedures and drills. A Fire Emergency Service should possibly be established within the SEZ, with adequate capacity and knowledge regarding industrial fire and emergency management. This service could also function as a communication channel in case of other emergencies, such as weather-related events, or nuclear disasters.
HUMAN INITIATED HAZARDS		
Specific hazard	Level	Mitigation/management measures
Condition of access roads	Critical consideration Although not directly related to the sites that form part of the SEZ, the condition of regional roads and facilities that would serve the SEZ and its operators/workforce signal a potential decline in road transport effectiveness. When comparing the condition of access roads, entry points to Atlantis industrial area and safety on some of these roads, there is visible and dramatic decline in maintenance visible. This is a critical consideration in the sustainability of the SEZ, since if the condition of the road access cannot be by-passed with alternative modes of transport (such as rail). The R304 is not noted in the freight movement network. However, during site visits it was observed that a significant amount of heavy	The SEZ entity should be in on-going discussion with the relevant authorities to ensure that the surrounding road network is maintained and used in terms of appropriate standards and prescriptions, including repair, upgrade, designated route enforcement and introduction of traffic calming zones.

Natural Hazards		
Specific hazard	Level	Mitigation/management measures
	vehicle traffic, including construction, freight and fuel was transported on this road, with some vehicles travelling at significant speed. There are signs at the entrance to the R304, approximately 15 km south of Atlantis, from the turnoff of the N7, stating that only local residents should use the road. However, despite the signs and the clearly unsuitably narrow, step drop-off at places on the side of the road, and poorly paved condition/potholes on the particular road, a number of heavy vehicles were observed using the route during different times of the day and on different days during the week.	
Social cultural	Critical consideration: As indicated in the Pre-feasibility and Feasibility Reports, socio-economic conditions in Atlantis, although challenging, is a reflection of similar areas elsewhere in the Western Cape as well as in South Africa Nationally. Critical considerations are therefore not unique to Atlantis and would not deter the development and operation of the SEZ as an entity. However, the Western Cape was reported in June 2012 to be the most protest-afflicted province (University of KwaZulu Natal Centre for Civil Society. Even though community stakeholders may have an understanding of the level of engineering expertise that would be required to operate some green economy industries, as is envisaged for the Atlantis SEZ, the expectation would still exist that significant direct local engagement (i.e. job creation) would be made possible via e.g. basic construction and operational services. These expectations should be managed from the start of the development of the SEZ, via community engagement processes, including any potential suggestions that communities may have in regards to their potential involvement and before and during the SEZ development process.	The Atlantis resident community should not be regarded in separation from the SEZ – they function as an integrated unit and thus the communities in and alongside the SEZ should form part of the SEZ planning and discussion process on an on-going process. Public participation processes including engagement with education, health and other public service and facility providers to be considered, to gain the trust and support of the community How local communities will benefit during different phases of the SEZ life-cycle, and in its processes and services, should receive specific attention from the SEZ entity.
Aerial and aviation-related hazards	General consideration When considering the Atlantis SEZ, there are currently no aviation related hazards that would present a significant impact. There is a remote controlled aircraft field approximately 5 km from the SEZ presenting no hazard to the SEZ, and an unmanned airstrip south of Atlantis, accessible from the R 27. The latter is used for pilot training and skydiving operations. Usually, a 1 nautical mile buffer is considered the most important zone of hazard – this zone falls towards the south of the Atlantis industrial area and SEZ and therefore would not have a significant impact on the SEZ.	
Electricity supply failure	Critical consideration: Power outages of the local electricity supply grid, as with any business in South Africa can impact the Atlantis SEZ. Of greater concern than power outages is the expected increase in cost of electricity over the next decade, with figures of up to 20% year on year increases expected. Potential investors should be made aware of the arrangements which the Atlantis SEZ may be considering to ensure affordable and uninterrupted power supply.	Consideration should be given by individual operators in the SEZ to provide their own back-up power generators to run their operations to keep the individual facilities operational during power outages. Green energy provision should be considered as “standard” in the development of the industrial park.
Power station	Critical consideration: The SEZ area is situated between the 5-10km Urgent Protective Action Planning Zone (UPZ) boundary of the Koeberg Nuclear Power Station. The Disaster Risk Management Department of the CoCT supported the SEZ application for environmental authority owing to the limited intended increase in population and vehicular traffic and the fact that the area is situated within the industrial area of Atlantis and therefore close to the Northern Evacuation	Early warning procedures need to be included in SEZ operations and all industries in the SEZ should be made aware of SEZ-wide early warning procedures and evacuation plans.

Natural Hazards		
Specific hazard	Level	Mitigation/management measures
	direction/route.	
Earthquake	Critical consideration: The national Seismic Hazard Map showing peak ground acceleration indicates relative high risk for the Western Cape. Even though an earthquake event and associated damage will not directly impact the SEZ significantly, a community-wide disastrous impact will have a secondary indirect impact on the effectiveness of the SEZ (e.g. expenditure for recovery, and social and emotional impacts on workforce).	It is important that industries are made aware of the need to ensure building construction comply to higher potential levels of peak ground acceleration. Industries have to ensure that their staff knows what to do during and after an earth tremor. The SEZ as a whole should have an earthquake emergency plan to ensure that all industries involved in the SEZ comply with the SEZ's guidelines/requirements.
Fire and rescue emergency services	Potential Fatal flaw: See information in earlier Section regarding Fire hazard. Unless there is a service centre in the Atlantis area that was not identified during the course of the disaster risk assessment, it is critical that Fire and Rescue Emergency Management Services are provided to the SEZ, even if it is initially in a mobile form. This is since the existing available services are located too far away from the Atlantis area to provide speedy and effective industrial-related disaster response	
Public protection services	No data was available at the time of this report being compiled. Additional research is required to determine the capacity and ability of the South African Police Force (SAPS) and military services that may be engaged in case of a major disaster in the Atlantis SEZ.	
Health services	General consideration: There are four medical facilities in vicinity of Atlantis. Unfortunately, only services provided at the one closest to the SEZ could be established at the time that this report was compiled – that of the Wesfleur Private Clinic. The other clinics/facilities may be able to provide additional services and there is a drive to update existing health services	To ensure that services are suitable for industrial purposes, the Atlantis SEZ should invest in either its own medical facility, or one or more of the existing facilities in the vicinity of Atlantis should be upgraded to cater for industrial incidents such as cut and pressure-wounds, burn wounds and the like.

12.1.3. Disaster Management Recommendations

Census 2011 statistics indicate that cell phone connectivity, television and radio broadcasts would be the most effective way of reaching Atlantis SEZ workers and residents for purposes of early warning in case of an industrial or other disaster. The SEZ should ensure that adequate communication channels are established with each industry or operator in the SEZ to enable a communication network that allow fast and efficient early warning for especially disasters related to fire and power plant malfunctions (the latter at Koeberg or Ankerlig). In particular, it is necessary that health facilities, SAPS, schools and educational facilities (and potential future fire and rescue emergency services) in the Atlantis area be connected to the early warning network. The schooling system and health care units in the area can also be used to establish disaster related communication channels.

The operating agency that manages the Atlantis SEZ should consider inclusion of guidelines for industries that form part of the SEZ, to include training and skills development modules as part of their operational processes. Such options could upskill local residents (who seem to have at least matric graduation) and allow the local community to fill positions where possible, as opposed to transporting workers from externally into the area. Such a process will stabilise the community as well as reduce the potential for violent service delivery protests that are related to job security and a view of outsiders "taking" local jobs away from residents.

Considering the interventions presented, both for hazard-specific disaster prevention, mitigation, early warning and response situations as well as in general, the following is recommended as an overall disaster management strategy for the Atlantis SEZ:

- Considering the initial relatively small start-up situation which the SEZ faces, sufficient early guidelines should be put into existence to ensure that operators and industries adhere to disaster management requirements from the start. It will be easier to establish the SEZ with recording processes and requirements in place, than to try and introduce it in retrospect.
- Consider provision of area-based disaster risk and operational maps, guidelines and planning services, as opposed to relying on site-specific risk management and disaster response. Thus, where industries are served as an agglomerate, as opposed to each having its own (potentially contradicting), plans, the SEZ would be better served as a whole. Such a process should span the entire disaster risk management continuum: from prevention and mitigation, to early warning, response and recovery.
- Establish a SEZ Disaster Risk Management Technical Task Team, of which the Health and Safety representative or suitable senior competent person of every industry in the SEZ is a member.
- Provide basic disaster risk reduction and management training for staff who are involved in managing and operating the SEZ.
- Provide induction training for disaster risk management for representatives of new industries, and any specific new staff.
- Provide guidelines to regulate, and monitor that the above training/induction is transferred to on-site staff within each industry/operator.
- Monitor small scale incidents across the entire SEZ as well as in the community (e.g. re: violent protests). This is an extension of the usual health and safety monitoring, which is done at site level – it refers to a SEZ-wide incident monitoring system.
- Collaborate with the health centres in and around Atlantis: establish whether it is feasible to extend some of the services that are being provided, to cater for industrial incidents and accidents, or investigate the possibility of providing a SEZ-specific facility to cater for industrial accidents.
- Establish a fire emergency services facility for Atlantis SEZ, or even as part of one of the larger operators in the area, allowing them to extend services wider than their own operating entity. This will require collaboration and negotiation depending on the type of operation and services involved.
- Monitor and check that health and safety, fire and related regulations, and disaster management planning requirements are implemented by operators/industries in the SEZ, via a regular recording and checking mechanism.
- Implement traffic calming zones, restrictive zones and heavy/hazard vehicle routes and implement measures to record and curb ignorance of reasons for such elements to be implemented.
- Consider road transport upgrades in the vicinity of Atlantis – especially the R 304 and the R 27.
- Make the disaster risk assessment report/subsequent plan available to all industries in and around the Atlantis SEZ, and consider sharing information with the community at large.
- Give particular guidance on building/design details considering heavy winds and gust factor, as well as earthquake potential.

12.1.4. Disaster Risk Plan Performance Criteria

The following Key Performance Areas (KPAs) should form part of a final disaster management plan, to be prepared by the SEZ entity.

- KPA 1: Establishing the necessary institutional arrangements for implementing disaster risk management within the SEZ as a whole. This would specifically address the application of the principle of co-operative governance for the entire SEZ as opposed to only implementing regulations merely on an industry-level within the SEZ. It also emphasises the involvement of all stakeholders in strengthening the capabilities of organs of state and the private sector alike to reduce the likelihood and severity of disasters.
- KPA 2: Addressing the need for disaster risk assessment and monitoring to enabling the setting of priorities, guide risk reduction action and monitor the effectiveness of related efforts. This requires regional monitoring of non-disaster events which may point to hazard and vulnerability presence and location. The focus would be in particular on implementation of monitoring and reduction programmes within the SEZ related to external threats from and to structures, services, communities and households.
- KPA 3: Introducing disaster risk management planning and implementation in the Atlantis and other SEZ's in a uniform manner, to inform sustainable development-oriented approaches, plans and programmes within each SEZ and between SEZ's that reduce disaster risk. This KPA requires alignment of the Disaster Management Act and the NDMF with SEZ-specific requirements and should give particular attention to the planning and integration of core risk reduction principles of prevention, mitigation and early warning into daily SEZ-related initiatives.
- KPA 4: Implementing priorities concerned with disaster response, recovery and rehabilitation that simultaneously address sustainable development objectives. This would lead to development of an integrated and co-ordinated policy on the implementation of response and post-disaster recovery in SEZ's. When a significant event or pending disaster occurs or is threatening to occur, it is imperative that there must be no confusion as to the roles and responsibilities and the necessary procedures that need to be followed. These measures would ensure effective disaster response, recovery and rehabilitation planning while at the same time providing enablers for community stability and sustainable development in the vicinity of the SEZ.

12.2. Project Risk Register

No	Risk Description	Risk assessment		Risk Mitigation Measures
		Probability of Occurrence	Magnitude of negative impact	
Political, Legislative and Policy				
1	Poor coordination between government departments within and between spheres in administering SEZs and associated policies, infrastructure and incentives.	Medium	Medium	Ensure support of WC and national government departments by creating a Project Steering Committee that includes most of the principals
				Clearly delineate responsibilities in infrastructure provision and ensure regular and accurate communications with all the supporting departments
2	A lack of support for the SEZ from local ward councillors and community leaders, disrupting the SEZ's implementation	Low	Medium	Ensure that the SEZ and the SEZ's implementation activities present genuine value for the local community, through engaging local workers, contractors and professionals in its implementation and through genuine integration with the local economy
				Communicate regularly on the value that the SEZ implementation activities and the completed SEZ will provide to the local community
				Include local leaders on a Project Steering Committee
3	Changes in priorities on the part of the WCG which may lead to reduced support for SEZs and the Atlantis SEZ in particular	Low	High	Ensure support of WCG departments and the legislature by creating a Project Steering Committee that includes most of the principals
4	Changes in the regulatory regime and in the national strategy and level of support for SEZs	Low	High	Assign responsibility for constantly reviewing the legislative and policy environment to the project manager responsible for the SEZ Implementation and carry out regular reviews to keep abreast of developments
5	Changes in South African energy policy objectives, the Integrated Energy Plan (IEP) or the Integrated Resource Plan (IRP) allocations and REIPPP programme, the key drivers of demand	Medium	High	Assign responsibility for constantly reviewing the South African energy policy and legislative environment to the project manager responsible for the SEZ Implementation and carry out regular reviews to keep abreast of developments
				Aim for a diverse mix of manufacturers catering to different markets and products (public/ private markets, wind/ solar/ biogas, etc.)
6	Changes in South African government support for local manufacturers or reduction in implementation and enforcement of	Low	Medium	Assign responsibility for constantly reviewing the South African energy policy and legislative environment to the project manager responsible for

No	Risk Description	Risk assessment		Risk Mitigation Measures
		Probability of Occurrence	Magnitude of negative impact	
	local content requirements			the SEZ Implementation and carry out regular reviews to keep abreast of developments
7	Anti-protectionism measures forcing the South African market to consider increased imports of SEZ products	Low	Medium	Assign responsibility for constantly reviewing the South African energy policy and legislative environment to the project manager responsible for the SEZ Implementation and carry out regular reviews to keep abreast of developments
				Aim for a diverse mix of manufacturers catering to different markets and products (public/ private markets, wind/ solar/ biogas, etc.)
8	Bureaucracy in government which could discourage the establishment of prospective investors/tenants	Low	Medium	Assign a SEZ representative (e.g. the Commercial Manager) with specific responsibility to interact with potential manufacturers and identify bottlenecks; then coordinate with other government agencies and departments to reduce bureaucracy
Financial				
9	Insufficient project funds or poor cash flows affecting the implementation of the SEZ	Medium	High	Carry out rigorous cost management to accurately determine costs and manage them while keeping the SEZ sponsors aware of budget implications at all times
				Ring-fence funds for the SEZ as far in advance as possible and as part of the MTEF cycle
10	Incentives for manufacturers to locate to the SEZ are insufficient	Medium	High	Develop and constantly review the marketing strategy and commercial framework to identify the effectiveness of incentives
11	Over-investment in infrastructure to attract potential manufacturers	Low	Medium	Implement a phased approach to the infrastructure development
				Designed the SEZ to make use of existing industrial property and infrastructure
Operational				
12	Risk that insufficiently skilled personnel are assigned by the WC government to manage the operations of the SEZ	Medium	High	Carry out an internal skills audit and survey of required skills and based on this proactively implement training or sourcing of necessary talent
13	Insufficient knowledge transfer skills to the WC government to manage the operations of the SEZ from any private party	Low	Medium	Develop knowledge transfer strategy for each contracting private party and write them into the terms of reference

No	Risk Description	Risk assessment		Risk Mitigation Measures
		Probability of Occurrence	Magnitude of negative impact	
14	Insecurity in the operating environment from criminal activity and gangs	Low	Medium	Appoint a Security Manager to identify and manage security risks within the SEZ and proactively engage with SAPS and the WC Safety MEC/Department
15	Lack of sufficient skills amongst the local labour market to meet the requirements of SEZ tenants	Medium	Medium	Carry out an external skills audit of the area and of required skills for typical manufacturers within the SEZ, and cooperate with local higher education institutions to develop courses to fill any gaps
16	Not enough suppliers providing inputs of sufficient quality for manufacturing firms in the SEZ	Medium	Medium	Carry out an external skills audit of suppliers the area and of required skills for typical manufacturers within the SEZ, and cooperate with the dti, local branches of SETA's and local higher education institutions to develop training courses to fill any gaps
Economic				
17	The economic benefits of the SEZ may not be sufficient to outweigh the investment or overcome any resulting micro-economic disruptions	Low	Medium	Implement the SEZ in phases and conduct a cost-benefit analysis at each phase
				Leverage existing public and private institutions who are able to provide services at minimum cost
				Sub-contract operations and maintenance to the private sector with appropriately defined service-level agreements to reduce operational costs
18	Declining economic activity in South Africa depressing domestic demand especially amongst households	Medium	Medium	Aim for a diverse mix of manufacturers catering to different markets and products (public/ private markets, wind/ solar/ biogas, etc.)
19	A disadvantageous rand exchange rate making imports of components prohibitively expensive, or South African exports uncompetitive globally	High	Medium	Create support amongst manufacturers for integration with local economies to insulate them from external shocks
20	Global recession or a slowdown in economic activity depressing demand in export markets	Low	Medium	Aim for a diverse mix of manufacturers catering to different markets and products (public/ private markets, wind/ solar/ biogas, etc.)
21	Inflation, price escalations during the establishment of the SEZ	Medium	Medium	Carry out rigorous cost management to accurately determine costs and manage them while keeping the SEZ sponsors aware of budget implications at all times

No	Risk Description	Risk assessment		Risk Mitigation Measures
		Probability of Occurrence	Magnitude of negative impact	
Labour				
22	Labour instability and industrial action affecting production and supplies, or affecting South Africa's reputation as an investment destination	Medium	Medium	Assign responsibility for industrial relations to an experienced practitioner and implement proactive labour relations, borrowing best practice from project labour agreements such a Eskom's
Marketing				
23	Competition from other SEZs in South Africa (Upington also has a renewable energyfocus)	Low	Medium	Include competitor analysis in the Marketing Strategy to identify focus areas and developments in other SEZs and differentiate Atlantis accordingly out
24	Increased competition from other countries with strong Green Technology manufacturing sectors	Medium	Medium	Include competitor analysis in the Marketing Strategy to identify focus areas and developments in other countries and differentiate Atlantis accordingly out
Infrastructure				
25	Insufficient infrastructure discouraging existing and potential tenants and investors, especially bulk electricity and broadband infrastructure	Medium	Medium	Coordinate the provision of necessary infrastructure through an inclusive Project Steering Committee that includes most of the providing departments and agencies
26	Poor public transport between Atlantis and Cape Town leading to disinvestment in the SEZ	Low	Medium	Coordinate the provision of transport infrastructure through an inclusive Project Steering Committee that includes most of the providing departments and agencies Explore private partnerships with transport companies, taxi owners in the provision of transport to the area
Spatial and Land				
27	Lack of tenants and investors due to the SEZ's remoteness from urban centres, logistics gateways, skilled workers, suppliers and customers	Medium	Medium	Carry out a rigorous marketing campaign to emphasise the advantages the SEZ's location offers, and countervailing incentives to any disadvantages
Environmental				
28	Environmental impact assessments or environmental concerns delay the establishment of the SEZ	Low	Medium	Provide requirements as far in advance as possible to the relevant environmental authorities for EIAs Provide for time buffers in the public participation process and communicate deadlines
Technological				

No	Risk Description	Risk assessment		Risk Mitigation Measures
		Probability of Occurrence	Magnitude of negative impact	
29	Rapid development and fall in cost of greentech products internationally which may render South African products uncompetitive	Medium	Medium (in the short to medium term)	Aim to attract a diverse mix of manufacturers (local and MNCs) catering to different markets and products (public/ private markets, wind/ solar/ biogas, etc.)
				Include advisors from CSIR/ Mintek or other research agencies on the board of the SEZ

13. Conclusions

In this document we have provided an assessment of the technical and economic feasibility of establishing a greentech SEZ at Atlantis. The primary objectives of establishing the proposed Atlantis SEZ are to grow the greentech sector in the Western Cape and to further the CoCT's objective of revitalising Atlantis as a key industrial node in the region. In achieving these objectives, CoCT and WCG would aim to create employment, enable smart green economic growth, to revitalise the area and attract foreign direct investment and domestic investment.

13.1. Demand for greentech in Atlantis

After an extensive analysis of the greentech market in South Africa and the potential of Atlantis to attract a share of the firms that will serve that market, we concluded that demand would be sufficient to support the development of a small-scale greentech SEZ.

Atlantis is better suited to manufacturing of green technologies and materials than provision of greentech services (e.g. research and development, installations, waste services etc.). This is partly because it was originally established as an industrial node and still has ample existing industrial infrastructure and land zoned for industrial use. It is also because Atlantis is still relatively far from the city centre and tertiary education institutions is not particularly well located to serve the commercial and residential market for greentech services in the suburbs of Cape Town.

The demand for local manufacturing of green technologies is largely contingent on government support – this includes direct government procurement of greentech, enabling policy and regulation, programmes and standards and localisation requirements. The increasing focus on and clear support for the green economy in national, provincial and local government policy - including NDP, Climate change white paper, carbon tax policy paper, Western Cape "green is smart' green economy strategy framework and CoCT Economic Growth Strategy provide a good foundation for the creation of a greentech SEZ.

The demand for locally manufactured components for utility-scale renewable energy in South Africa is driven by the REIPPP programme which sets out the allocations for renewable energy generation technologies and provides opportunities for investment through a competitive bidding process. Local content thresholds and targets stipulated within the REIPPP bidding process are generating demand for locally manufactured components and related services.

For the commercial, industrial and residential market key government programmes include the Eskom IDM programme, the DoE solar water heater roll-out plan, the SANS building standards and the 12L income tax allowance. Uncertainty around the status and support available via these programmes has negatively affected suppliers and manufacturers in CFL, LED, heat pump, SWH and other greentech industries. It is envisaged that the SEZ entity would work with other stakeholders in government to ensure better continuity in types of support provided. In the commercial, industrial and residential market the rising cost of electricity and falling relative cost of green technologies will continue to play a role in driving uptake independent of government support.

The immediate (next 3 years) high-potential opportunities for Atlantis include the manufacturing of selected PV module components, wind turbine blades and towers, solar water heaters and basic components of CFL and LED lights. These activities, with the exception of lighting components are all directly supported through targeted government initiatives and would likely have setup without SEZ incentives. The purpose of the SEZ therefore would be to attract these activities to a relatively under-utilised industrial node and to promote the 'clustering' of these activities to foster greater collaboration and development of greentech activities in future.

The opportunity for the ASEZ is likely to improve over the medium-to-long term (beyond 2018) because of increased IRP allocations and movements in demand drivers, such as rising electricity prices or falling technology costs.

13.2. Spatial Planning and technical considerations

A broad range of Provincial and CoCT sectoral, integrated, and/ or spatial policy and planning frameworks support the focus and spatial location of the proposed Atlantis SEZ.

Because the proposed Atlantis SEZ forms part of an existing serviced industrial area, most of the overarching spatial requirements for the initiative are already in place. New layout, infrastructure design, and township establishment activities are therefore not required. The area was originally planned as an industrial estate and the distribution of land uses and provision of infrastructure in the area support industrial development. The area identified for the SEZ is clearly identifiable as a defined area of industrial activity.

The CoCT has already made sufficient land available to the SEZ entity to accommodate expected demand. There is also ample city and privately owned land available to accommodate considerable future growth of the SEZ if needed. Atlantis is somewhat unique in that there is also ample existing industrial property (some 632 195m^2) and much of this is currently underutilised.

The most important spatial planning decision in relation to the proposed Atlantis SEZ appears to be where and in what form to develop. Gestamp and a wind blade manufacturer both require very large custom designed manufacturing spaces. The two sites made available by the CoCT are ideal for their purposes. The majority of firms indicated they would prefer to lease sites within an already developed and serviced industrial park. The issue is how to provide for these firms and particularly smaller users who don't have the ability to lease space on a long-term basis and customise it.

One option is to build a new industrial park; another is to refurbish existing vacant or underutilised space. Building a new industrial park (with flexible, modular spaces which can readily accommodate a range of space requirements and phased as demand grows) provides the opportunity to consolidate all SEZ activities in close proximity with the industrial area and provide for a clearly "identifiable" SEZ. It appears that from the financial modelling that refurbishing existing industrial space within Atlantis to accommodate smaller users seeking already developed space may however provide a cheaper alternative. Refurbishment would also contribute to upgrading of existing industrial property in the area.

It is recommended that smaller users and the OSS (at least during initial years in the life cycle of the SEZ) be clustered together in a purpose built industrial park. Both shorter and longer term expected user demand for a future large user and the smaller users could be accommodated on site 1. In this way, a clearly identifiable SEZ facility is provided and the SEZ entity is assured full flexibility to negotiate user agreements related to site 2 in future. Site 2 is large in extent and very few, if any, development-ready industrial sites of a similar extent remain in the CoCT's ownership. Ideally, this site should not be "parcelled" into smaller land units but rather be kept in reserve should a major manufacturer (and employer) in future require such a land holding in Cape Town. The proposed concept lay-out for site 1 requires minimal changes to the local road network.

Pursuing a 4-Green Star rating (as determined by the Green Building Council of SA) for buildings in the Atlantis SEZ can result in a dramatic reduction in building heating, cooling, ventilation and lighting costs, both capital and operational. As part of the 'green demonstration' effect, it would be desirable if buildings built and refurbished by the SEZ entity and its tenants strive to meet some minimum green building standards.

In terms of the greenfield sites identified by the CoCT, both can accommodate a range of users with different and perhaps unique space requirements and can be "parcelled" easily to accommodate different users and a very large range of building configurations. Both are flat in slope, enabling easy provision of manufacturing space (requiring large flat surfaces). In terms of the CoCT zoning/ land use provisions, both sites have the necessary land use rights in place to permit green industry enterprises and environmental authorisation is in place to undertake the activities envisaged for the proposed SEZ.

Most of the required bulk infrastructure is also in place. Overall bulk water availability on the greenfield sites identified by the CoCT should be adequate to provide for both conservative and moderate development scenarios. Bulk waste water and storm water infrastructure should also be adequate. Regional landfill facilities catering for different waste classifications are situated in the vicinity of the Atlantis and have sufficient capacity to accommodate demand under both scenarios.

The Atlantis area is one of the key industrial freight centres within the Cape Town Metropolitan area and well integrated with regional freight movement networks. Investigations to ascertain the extent of local road improvements which could be required as a result of large users and the industrial park envisaged to comprise the SEZ were undertaken. These include, minor improvements to intersections and turning radii to cater for large users such a wind blade manufacturer. It is suggested that the SEZ entity budget approximately R8 million for associated improvements.

The 4 MVA electricity available to the two sites identified by the CoCT should be sufficient to accommodate demand over the 2014-2017 period. The expected 2018-2030 up-take on the two sites could require an additional ±1 MVA, but planned improvements to electricity supply in Atlantis. Roughly R80 million has already allocated by the CoCT to bulk electricity upgrades and this should be sufficient to accommodate longer term needs.

The Disaster Risk Assessment focusing on elements of disaster risk that not covered by existing research and reports and covering "potential fatal flaws", "critical consideration", "general considerations", and "insignificant" elements recommends that SEZ-wide area-based disaster risk and operational planning (across the entire disaster risk management continuum from prevention and mitigation, to early warning, response and recovery) should be considered as opposed to site-specific risk management.

The gap analysis undertaken as part of the preparation of a high-level logistics plan for the SEZ identified two core logistics strategies for further work: cost reduction/minimisation (specifically smaller users cooperating in order to share logistic costs), and the implementation of green supply chain practices.

There are currently no high speed broadband services available to Atlantis Industria businesses. The CoCT is however currently reviewing its 2014/15 broadband investment priorities and is considering funding a project to constructing seven Atlantis fibre rings (R12m) and\or to provide a “redundant” connection to Atlantis, meaning that there are two separate and independent routes for connectivity to ensure service continuity if the one would malfunction (R11m). The reviewed expenditure plan is awaiting approval.

13.1. Commercial model

The key principles for the design of the Atlantis SEZ commercial model are:

- **Size and extent of the Atlantis SEZ** - The Atlantis SEZ is envisaged as a relatively small-scale greentech SEZ when compared to existing IDZs such as Dube Tradeport and Coega or city-wide greentech SEZs Boading in China or Masdar City in the United Arab Emirates
- **Sector focus and eligibility for SEZ incentives** - The WCG proposes that all greentech firms and their direct suppliers that locate within the boundaries of the ASEZ will qualify for fiscal and other SEZ incentives. Non-qualifying enterprises located within the SEZ will still benefit from a range of public infrastructure improvements and services.
- **Delivering SEZ services cost-effectively** - We have estimated that 20 greentech firms will be operating before the end of 2030. Given the relatively small-scale of the proposed Atlantis SEZ one of the key principles will be to provide infrastructure and services in a cost-effective manner by making use of existing infrastructure in the area.

The rationale for the extended demarcation is to provide the SEZ with a broader reach and enable it to act as a catalyst for the upliftment of the entire Atlantis industrial area. As such, not all companies within the Atlantis SEZ boundaries will qualify for SEZ incentives. But both non-qualifying enterprises (which include all the existing firms in Atlantis Industria) and qualifying enterprises will be able to co-locate within the SEZ.

In addition to leveraging existing institutions and infrastructure, we have also proposed that the ASEZ provide selected services to both qualifying and non-qualifying enterprises within Atlantis Industria in order to increase both the impact and beneficiaries of the ASEZ and to realise economies of scale in service delivery.

The dti will not fund the operations of the SEZ and it is envisaged that after initial support from Provincial Government operational expenditure will be fully or substantially recovered by the SEZ entity through revenue from services and activities provided to firms in the SEZ.

It is envisaged that the SEZ entity and\or operator will be able to earn revenue chiefly through:

- the rental of properties
- the collection of a levy for the provision of public infrastructure and services.

13.1. Financial viability

The financial viability of the SEZ was considered in terms of four different development options:

- Low road, refurbishment
- Low road, new build
- High road, refurbishment
- High road, new build

The key difference between the “Low road” and “High road” options is that in the “Low road” none of the 10 small users establish themselves in the SEZ because of a lack of immediate, suitable and marketable space. In the “High road” options, additional capital to develop marketable space to attract the small users is required.

The options also differ in terms of the decision whether to refurbish existing industrial property in Atlantis or whether to build new facilities. The cost of refurbishing brownfield sites at R2 818/m^2 is estimated to be approximately half of the cost to develop greenfield sites at R5 636/m^2 excluding the provision of additional on-site bulk infrastructure associated with new developments at R1 305/m^2.

Capital expenditure required for establishment of SEZ

Only R145 million in infrastructure investment would be required to establish the SEZ under the low road options. But the under these scenarios the SEZ is also able to attract fewer tenants because it is not able to provide readily marketable space to smaller tenants seeking brownfield property. In terms of the two high road options, the difference between the cost of refurbishment and new build is roughly R200 million. The high-road refurbishment option can therefore be viewed as a less capital intensive way to provide suitable accommodation for tenants seeking brownfield property.

Financial viability of the options - project return over 20 year period

All options with the exception of ‘high-road new build’ are financially viable based on their cumulative discounted future cashflows. The net present value for each of the options has been calculated based on the cash flows generated by the project over a 20 year period. The ‘high road – refurbishment’ option is the most attractive option as it has the potential to generate the most net revenue over the period with an discounted net future cash flows of R77.1 million. The ‘high road-new build’ option makes a net loss of R10 million over the period and would require additional grant funding (or be able to realise higher rentals than what we have assumed) in order to achieve a positive project return.

Affordability

Under the current assumption on grant funding available, none of the four options are able to generate sufficient cash flows at the beginning of the project and will require additional funding to support the SEZ during this period. The low road options are only experience funding shortfalls in the first two years at an average of R39.5 million for both years. This represents the total amount the province or dti would need to provide in additional grant funding to support the SEZ under these options. Thereafter, the SEZ entity under the low road scenario generates sufficient income to generate a funding surplus.

The high-road new build option as it requires both significant capital expenditure and grant funding in order to setup the SEZ. The cash flows generated from the rental of the properties and collection of management fees for the first 6 years is insufficient for the project to be self-sustaining. This option does however eventually achieve cash break even in its 13th year of operation. A total of R 243 million in additional provincial grant funding would be required to plug the shortfall in the first 6 years.

The high-road refurbishment option represents a reasonable middle ground. It also generates a funding shortfall in the first 6 years however at a value of R 123 million this is recouped in the 10th year of operation.

13.2. Economic viability of the options

There are several potential economic benefits associated with the SEZ. Based on our conservative greentech demand assumptions, around 720 full-time permanent jobs are created in the 'low road' scenarios and 1060 permanent jobs in the 'high road' scenarios. The overall capital expenditure incurred per permanent job created is between roughly R200 000 in the 'low road' scenarios and R590 000 in the 'high road new build' scenario which is low when compared with similar ratios for existing IDZs.

While the 'low road' options are more capital efficient in term of jobs created they do result in lower overall jobs because we have assumed it would not be possible to attract smaller firms to the area if the SEZ doesn't act as an anchor tenant and provide suitable facilities.

The 'high road refurbishment' option is significantly more capital efficient than 'high road new build' but results in the same number of overall jobs – in other words the same employment outcomes can potentially be achieved with less capital investment going the refurbishment rather than new build route.

The cost-effectiveness of refurbishment will need to be weighed against the benefits of building a new green-star rated industrial park (with flexible, modular spaces which can readily accommodate a range of space requirements and phased as demand grows). The new industrial park will provide an opportunity to consolidate all SEZ activities in close proximity with the industrial area and provide for a clearly "identifiable" SEZ. Refurbishment would have the benefit of upgrading of existing industrial property in the area but it may not be possible to consolidate all users in one space.

Activities relating to the construction and refurbishment of infrastructure will contribute between R168 million in the low road and R704 million in high road to GDP over the 8 year construction phase. The higher the construction spending associated with the option, the higher the associated impact on GDP. Activities relating to ongoing SEZ operations will contribute roughly R8.7 million annually under all options to GDP.

The establishment of the SEZ will also be associated with a number of additional economic benefits including:

- **The creation of greentech manufacturing and services cluster in the Western Cape** - while some greentech firms may have setup in the absence in the SEZ and its incentives, the SEZ will facilitate clustering of firms in this sector and efficiencies and benefits of collaboration typically associated with clustering. Some firms that would not otherwise have considered investing in South Africa may also be attracted to South Africa because of the clear support for the development of a local greentech sector.

- **Support the renewable energy generation build** - The ASEZ is a good location for manufacturers who intend to supply goods and services to REIPPP programme renewable energy generation projects in the Northern and Western Cape.
- **Attracting FDI and domestic private investment** - When multi-national companies enter a new market, they bring with them technology transfers, new employment opportunities, transfers of best practices or competencies, entrepreneurship, access to markets and an increase in demand for goods and services produced by local firms. Atlantis could receive between R600 million and R650 million in foreign direct investment in the period 2014 to 2017, including the investment already committed by Gestamp (roughly R300 million). The provision of SEZ infrastructure, activities and incentives will also assist domestic private sector investors to participate in the greentech sector.
- **Potentially increase the utilisation of existing infrastructure in Atlantis and promoting urban renewal** - Increased activity may make better use of existing infrastructure, especially in the case of refurbished brownfield properties.
- **Positive impact on trade balance through import substitution opportunities** – the SEZ will help to support locally produced greentech projects that will replace components that may otherwise have been imported. Import substitution (provided the products aren't sold at unreasonable additional cost to the SA consumer) will increase the amount of income and wealth generated within the South African economy which may otherwise have been lost to other markets.

13.3. Key conclusions

Overall the results of this feasibility study suggest that it would be feasible to establish a small-scale greentech SEZ at Atlantis All options with the exception of 'high road new build' are financially viable based on their cumulative discounted future cashflows. Capital infrastructure require to establish the SEZ could be limited to R145million under the low road scenarios, but we have assumed that the SEZ is also able to attract fewer tenants because it does not provide readily marketable space to tenants seeking brownfield property under these scenarios.

In the high road scenarios the difference between the cost of refurbishment and new build is roughly R200 million. The high road refurbishment option can therefore be viewed as a less capital intensive way to provide readily marketable accommodation for tenants seeking brownfield property and increase the potential number of jobs created in the SEZ relative to the low road scenarios.

The cost-effectiveness of refurbishment will need to be weighed against the benefits of building a new green-star rated industrial park (with flexible, modular spaces which can readily accommodate a range of space requirements and phased as demand grows). The new industrial park will provide an opportunity to consolidate all SEZ activities in close proximity with the industrial area and provide for a clearly "identifiable" SEZ. Refurbishment would have the benefit of upgrading of existing industrial property in the area but it may not be possible to consolidate all users in one space. Because of these trade-offs, the preferred high road solution could in fact be to provide readily marketable brownfield space through a combination of refurbishment and new build.

Around 720 full-time permanent jobs are created in the 'low road' scenarios and 1060 permanent jobs in the 'high road' scenarios. The overall capital expenditure incurred per permanent job created is between roughly R200 000 in the 'low road' scenarios and R590 000 in the 'high road new build' scenario which is low when compared with similar ratios for existing IDZs.

The establishment of a greentech SEZ in Atlantis would also be associated with additional economic benefits. These include the creation of greentech manufacturing and services cluster in the Western Cape and support for the renewable energy generation build. The SEZ would also attract FDI and domestic private investment into the Cape and greentech sector and potentially increase the utilisation of existing infrastructure in Atlantis and promoting urban renewal and revitalisation of this industrial and commercial node.

Annexure 1: Schedule of Interviews

Interviewee	Institution	Date of the interview
Mr. Thando Gwintsa	East London IDZ- Executive Manager: Office of the CEO	29th July, 2014
Ayanda Tamncwan	East London IDZ- Acting Finance Manager	29th July, 2014
Gift Matengambir	East London IDZ- Marketing and Public Relations Manager	29th July, 2014
Mr Sibusiso Sibandze	Coega Development Corporation-Unit Head: Trade Solutions	31st July, 2014
Doug Southgate	Saldanha Bay IDZ- Acting Chief Executive Officer	13th August 2014

Annexure 2: Spatial policy and planning context

A range of policy initiatives and planning frameworks – both sectoral and integrative in nature – have a bearing on the Atlantis SEZ spatially. The table below summarises key aspects of these in terms of focus and support for the Atlantis SEZ.

Policy/ plan	Purpose	Relevant focus/ support
Western Cape Infrastructure Framework (2013).	Both the WCG and the City of Cape have prioritised "infrastructure-led growth" as a driver of growth and employment in the region. The Western Cape Infrastructure Framework (WCIF) aims to align the planning, delivery and management of infrastructure provided by all stakeholders (national, provincial and local governments, state-owned companies and the private sector) for the period to 2040.	The WCIF recognises that areas of poor access to services remain in the Western Cape, that much of the bulk infrastructure has suffered from historic underinvestment in maintenance and rehabilitation, that existing infrastructure systems (particularly those of energy and transport) are carbon intensive with high costs to the environment, and that some systems suffer from inefficient management and use of resources.
		A future infrastructure investment approach of improved resource efficiency and less carbon intensive energy is favoured. Specifically, the WCIF promotes the development of renewable energy plants and associated manufacturing capability. The University of Stellenbosch's strong research capabilities in Concentrated Solar Power (CSP) is noted as well as opportunities for commercialisation. While the best location of CSP plants is in the Northern Cape, there is good manufacturing potential for the Western Cape, particularly given that many CSP components may be developed within existing production capabilities.
Green is Smart: Western Cape Green Economy Framework (2013).	Green is Smart aims to set priorities for achieving the double dividend of optimising green economic opportunities and enhancing the province's environmental performance. Specifically it identifies where the Western Cape has the potential to be a pioneer and early adopter of green technologies and economic activity.	Green is Smart recognises the important initial opportunities in the construction of new energy infrastructure, and the Western Cape's past and growing contribution in this area. However, it specifically notes the opportunity for long-term benefit in servicing the infrastructure/ industry through:
		Positioning the Western Cape as a pioneer in green financial innovation, investment finance and risk management for emerging markets (leveraging off the province's existing strength as a financial centre in asset management).
		Expanding the emergent green private equity presence in the Western Cape, servicing both the local market and other African countries.
		Creating green economy trading platforms. For example, Credible Carbon is South Africa's first voluntary market carbon registry.
		Developing new forms of insurance and risk sharing to incentivise more sustainable practices (leveraging off the province's existing strength in the insurance industry).
		Becoming a leading "green governance" centre of expertise (the province is a recognised centre of environmental legal expertise).
		Attracting more social entrepreneurs and establishing the region as a global social enterprise hub for emerging markets.
		Positioning the region as a leader in smart systems for the green economy (an agglomeration of systems developers differentiates the Western Cape from the rest of South Africa).
		Green is Smart argues that the Cape, given its location, access and available skill sets – coupled with a concentration of academic institutions that are all involved in research and development – is an ideal spatial focus for the establishment of a

		manufacturing hub with a green economy focus, and supports co-locating or clustering of value chains in these sectors in a dedicated industrial location in order for firms to benefit from direct co-operation and sharing of resources. Green is Smart explicitly supports the selection of Atlantis as a proposed SEZ with a focus on renewable energy and advanced manufacturing, and notes the CoCT and WCG's significant progress in making available land at competitive rates and with a relatively easy land occupation process.
Western Cape Broadband Initiative	The initiative, a partnership between the WCG and CoCT, aims to implement an expansive fibre-optic communication network across the metro and will provide high-speed internet to 45 WGC and 130 CoCT buildings/ facilities.	The R1.3 billion project will take 7-10 years to complete, with an initial focus on Khayelitsha, Mitchells Plain, Ndabeni, and the southern suburbs).
		The intent is to enter into agreements with private service providers to make spare data capacity available to disadvantaged areas at a reduced fee.
		By September 2014, the learners of Delft and Atlantis will receive free Wi-Fi as part of the projects so that they can research their school projects on the web.
Provincial Spatial Development Framework, Public Draft for comment, October 2013.	The Provincial Spatial Development Framework (PSDF) sets out to put in place a coherent framework for the province's urban and rural areas that gives spatial expression to the national (i.e. NDP) and provincial development agendas and communicates government's spatial development intentions to the private sector and civil society.	Support for the "green" sector (and the alternative energy sector specifically)
		The PSDF recognises that the Western Cape economy is based on its unique natural assets. These include farming resources that make it the country's leading exporter of agricultural commodities and whose value chains (e.g. agri-processing) underpin the province's industrial sector; and its natural capital (i.e. biological diversity) and varied scenic and cultural resources which are the attraction that makes the Western Cape the country's premier tourism destination. Collectively these assets provide a unique lifestyle offering which contribute to the relative strength of the province's tertiary sector and its comparative advantage as a so-called knowledge economy. It is recognised that current resource use patterns threatens the economic base of the province. For example, energy is primarily drawn from unsustainable energy sources, with a very small emergent sustainable energy sector in the form of wind and solar energy locating in the more rural, sparsely populated areas of the province.
		With the above in mind, the PSDF supports:
		The "Green Cape" initiative, striving for all households accessing basic services that are delivered resource efficiently, the prudent use of land and finite resources, and safeguarding of ecosystems.
		Breaking the paradigm that economic growth implies the on-going depletion of the province's natural capital.
		Seeking reductions/substitutions and/or replacements in the use of limited resources, while avoiding negative environmental impacts.
		Energy diversification and energy efficiency to enable a transition to a low carbon, sustainable energy future and to delink economic growth from energy use.
		Emergent IPPs and sustainable energy producers (wind, solar, biomass and waste conversion initiatives).
		Place specific support
		Although the PSDF does not refer to Atlantis specifically – being an over-arching, higher level policy document – it does support:
		Developing the required bulk infrastructure capacity to serve the connection and compaction of existing human settlements, over developing bulk infrastructure to serve new outward growth of settlements.
		Reinforcing the Cape Metropolitan region (which includes Atlantis)

		as the province's economic engine.
		Targeting existing economic assets (including CBDs, vacant and under-utilised strategically located public land parcels, industrial areas, etc.) as "levers" for the regeneration and revitalisation of urban economies.
		Facilitating private investment and individual enterprise by making it easier to do business (e.g. by removing red-tape), by incentivising investment in a particular place or economic sector, and by using partnerships as a delivery model.
CoCT Integrated Development Plan (2013/ 14 Review).	The Integrated Development Plan (IDP) is the City's key statutory medium term strategic plan, also directing the budget.	Support for the "green" sector (and the alternative energy sector specifically)
		Establishing an "opportunity city" – an economically enabling environment in which investment can grow and jobs can be created – is a key strategic pillar of the IDP. The IDP identifies three catalytic projects to support increased investment and jobs:
		Investment in broadband infrastructure across the city.
		The further roll-out of the MyCiTi service as part of the Bus Rapid Transit (BRT) network, especially to the south-east of the city.
		Area revitalisation and investment in renewable energy, including the Atlantis revitalisation scheme and green-technology cluster.
		In support of the Atlantis SEZ, the IDP specifically commits to:
		Identifying and the rapid release of City land to manufacturers/ suppliers who qualify in terms of predetermined criteria.
		Establishing institutional structures to manage the process of land identification and land release (between the Property Management; Planning and Building Management Development; Water and Sanitation; Transport, Roads and Stormwater; Environmental Resource Management; Electricity, and Fire and Rescue departments).
		The IDP acknowledges and commits to the City's own pivotal role in creating demand for "green" services through its programmes, projects and procurement systems, as well as through the use of renewable energy in its own operations. In this regard, the City:
		Supports energy business investment in Cape Town and the rest of the province, including developing a policy to facilitate residential and commercial-led small-scale embedded generation, and options for large-scale commercial and city-owned electricity generation projects.
		Has set a target of generating 10% renewable energy by 2020.
		Is pursuing a range of opportunities to reduce energy consumption in Council operations (including street and traffic light retrofits, a City-owned building retrofit programme, and work to green the fleet).
		Established a Section 79 Committee on Energy and Climate Change.
		Atlantis related infrastructure/ public facility/ services investment
		The IDP commits to the following infrastructure, public facility or services investments and support:
		Upgrading of Dassenberg Drive.
		Atlantis substation 5 transformer replacement (high risk) and Atlantis industrial main substation upgrade (moderate risk).
		Support for the PRASA/ Metrorail investigation into the utilisation of the Atlantis goods rail line as a passenger line.
		A major upgrade to the Atlantis cemetery.

		Final planning or completion of a number of housing projects.
CoCT Economic Growth Strategy (2013)	The principal objective of the Economic Growth Strategy (EGS) is to grow the economy and create jobs. Building a globally competitive city through institutional and regulatory changes.	The EGS identifies the green economy generally as a key growth area, both in terms of "eco-tourism" (developing a tourism sector that is environmentally responsible and sustainable and geared to utilising Cape Town's many natural assets to attract visitors) and with regard to facilitating the development of green industries and sectors, particularly those with significant job creation potential.
	Providing the right basic service, transport and ICT infrastructure.	The EGS recognises that in a context of rising electricity prices (expected to be as much as 400% between 2006 and 2016) it is imperative that the City facilitates a shift towards greater energy efficiency in the Cape Town economy while also investigating options for diversifying the city's power sources to ensure the energy security needed to fuel economic growth in the future.
	Utilising work and skills programmes to promote growth that is inclusive.	Strategy 3 of the EGS specifically commits to investigate options for energy diversification and promote energy efficiency. To support the strategy, the City has established a green economy working group that will develop a strategic agenda and work programme that will outline implementable projects on behalf of the organisation.
	Leveraging trade and sector development functions to maximum advantage.	
	Ensuring that growth is environmentally sustainable in the long-term.	
Cape Town Spatial Development Framework (CTSDF).	The Cape Town Spatial Development Framework (CTSDF) was approved in terms of the Land Use Planning Ordinance (No. 15 of 1985) and Municipal Systems Act (Act 32 of 2000) in 2012. The CTSDF is a long-term (± 20-year) plan to manage growth and change in Cape Town. It *inter alia*:	Support for the "green" sector (and the alternative energy sector specifically)
	Provides a long-term vision of the desired spatial form and structure of Cape Town.	The CTSDF specifically supports the investigation of alternative sources of energy, and encourages the use of green technology.
	Directs private investment by identifying areas that are suitable for urban development, areas where the impacts of development need to be managed, and areas that are not suited for urban development.	Specific support for Atlantis
	Provides policy guidance to direct decision making on the nature, form, scale and location of urban development, land use change, infrastructure development, disaster mitigation and environmental resource protection.	The CTSDF specifically:
		Identifies Atlantis as part of the "western growth corridor" and an economic priority action area.
		Supports employment generating development – also through public investment and public interventions to generate market opportunities for investment and job creation – in locations accessible to areas such as the Metro South-east and Atlantis (in an attempt to rectify spatial imbalances in opportunity).
		Supports the design and implementation of local area economic development programmes (initiated by the City, in partnership with NGOs and the private sector), and the implementation of approved urban renewal programmes in Atlantis.
		Commits to lobbying for a new passenger service on the Atlantis

		railway line (with services between Du Noon and Cape Town as the first phase).
		Supports the development of an integrated system of airports and appropriate surrounding land uses in the city, entailing:
		- The relocation of general aviation sites in the greater Cape Town metropolitan area to a more suitable location, possibly the proposed airport south of Atlantis.
		- Managing land uses around the site identified for the potential new/ additional airport south of Atlantis on the assumption that it may be needed in the long term as a general and/ or national and international civil aviation airport.
		Supports the phased implementation of the MyCity BRT service (Phase 1 of which stretches as far as Atlantis and Mamre).
Blaauwberg District Plan (Spatial Development Plan and Environmental Management Framework).	The Blaauwberg District Plan is one of eight plans prepared for specific districts of the city and is informed by the city-wide CTSDF. The District Plan aims, *inter alia*, to:	Atlantis's location
	Perform as part of a package of decision support tools to assist in land use and environmental decision making processes.	he settlement of Atlantis is dislocated from the rest of the Blaauwberg district (and the rest of the city), which has resulted in higher unemployment than generally in Cape Town and a lack of access to social services and facilities.
	Clearly giving direction to the form and direction of areas for new urban development in the district in a manner that is in line with the principles and policies of higher level planning frameworks.	Given inadequate work and other opportunity locally, the location of Atlantis places a long and costly commuting burden on lower income communities. The implementation of the MyCity BRT service will assist in addressing this issue.
		The Atlantis Growth Corridor
		The Blaauwberg district is considered a significant growth corridor of the city, with an important role to play in addressing housing and economic development needs, and should therefore be prioritised for infrastructure provision.
		The Atlantis Corridor – comprising Koeberg Road and the Atlantis rail line in the south and then extending north of the Diep River as the N7, M12, Atlantis rail line and Parklands Main Road extension – is the major "structuring element" in the district.
		There is significant vacant land available for development along the corridor (and within the urban edge) suitable for a range of housing opportunities, commercial, and industrial development.
		Development should respond to the significant north-south transport infrastructure within the corridor, including the Atlantis rail line, the proposed M12, proposed Parklands main road extension, and the N7. Intensification of land uses should occur particularly where these routes intersect with east-west linkages and at transport interchanges.
		Creating a system of continuous east-west linkages that connect coastal areas to the Atlantis corridor in the east of the district is critical to lessen dependence on oversubscribed north-south routes and improve movement within the district. In the long term, this would include the construction of the R300, which would connect the metropolitan node of Bellville, and the south-east of the city, with the district.
		The Blaauwberg Conservation Area (part of the Cape West Coast Biosphere Reserve) is an important biodiversity conservation area and metropolitan park. As part of the broader conservation area, the Atlantis dune fields and associated biodiversity areas (including north south biodiversity corridors) should be protected.
		The Atlantis town centre is considered to be underdeveloped. Intensification of commercial development with possible

		opportunities for mixed use development, particularly in relation to BRT infrastructure, will assist in improving the urban environment.
		Public open space and sports facilities in Atlantis are generally poorly maintained, degraded, and oversubscribed. There is a need and rationalise the public open space system selectively upgrade open spaces and facilities.
		Significant undeveloped public land holdings occur in Atlantis residential, commercial, and industrial areas. Release of this land is required to facilitate economic development and create a more vibrant urban environment that will attract further development and create job opportunities.
		The Atlantis buffer strip (between the residential and industrial areas) and hospital site has also been identified for publicly assisted housing. Ideally, the buffer strip should also accommodate public facilities, and service industrial uses (along the southern edge).
		Innovative ways of attracting investment to the outer lying towns in the district, particularly Atlantis, should be explored. This could include the rapid release of publicly-owned land for development.
CoCT Integrated Transport Plan 2013-2018 (2013).	The Integrated Transport Plan (ITP) seeks to establish an efficient and viable relationship between land use, supporting infrastructure and transport for the sustainable development of the City region. It addresses transport infrastructure needs, systems, and institutional arrangements.	Atlantis is recognised as one of the most significant industrial freight centres in the metropolitan area and is an important freight rail destination.
		Atlantis is currently the City's 7th most significant bus travel origination area in terms AM peak passengers.
		The City is pursuing the increased responsibilities for the rail mode of public transport as provided for in the National Land Transport Act (NLTA). It includes the implications and development of a business case for the management of the passenger rail operations subsidy, as well as corridor-based SLA's for the network.
		The prioritisation of the rail corridors (current and new) is addressed in the rail sector plan of the ITP. It includes the new Blue Downs line, the incremental development of passenger rail services to the Fisantekraal and Atlantis, and the modernisation project of the Metro South East line.
Draft Atlantis Revitalization Framework (2012).	The Atlantis Revitalisation Framework articulates a constructive and meaningful working relationship where responsibilities between the key stakeholders – government, business, and civil society – active in Atlantis are agreed and shared, so as to enable successful implementation of strategies and actions for the revitalisation, growth and development of Atlantis.	It is acknowledged that Atlantis is a significant industrial node in the city and regional spatial economy; its long-term economic decline reduces the impact that catalytic developments such as the Saldanha SEZ may have, reducing the region's economic competitiveness and long-term growth trajectory.
		The revitalisation of Atlantis requires a partnership approach that draws all parties from government, business, industry, labour, and civil society together to engage actively in a multi-stakeholder participation process as well addressing spatial dynamics in the area.
		An intergovernmental task team representing line function departments from the CoCT and the WCG who have existing and planned initiatives for the Atlantis area have been established to ensure coordinated delivery.
		Active participation of all stakeholders is critical to the successful planning and implementation of inclusive strategies and action plans for Atlantis. It is important that consultative structures and processes are well managed with clear actions, time frames, and measurable deliverables so that that there is concise feedback into planning and implementation processes.
		The current crisis in Atlantis necessitates a phased approach that firstly stabilizes the situation, moving to implement a turn-around strategy that places the area on a sustainable growth path. Strategies and action plans should therefore focus on short, medium and long term interventions, based on an incremental

		and systematic approach.
Koeberg Emergency *Plan.	Aimed at responsible development and risk/ disaster management related to the Koeberg Nuclear Power Station.	All urban development within the KNPS Precautionary Action Zone (PAZ) (area within a 5 km radius of the Koeberg nuclear reactors (X = -52727.4000, Y = -3727966.6500)) and Urgent Protective action planning Zone (UPZ) (area within a 5 km – 16km radius of the Koeberg nuclear reactors (X = -52727.4000, Y = -3727966.6500))32 must conform to the following restrictions necessary to ensure the viability of the Koeberg Nuclear Emergency Plan:
		No new development is permissible within the PAZ (as defined above) other than development that is directly related to the siting, construction, operation and decommissioning of the Koeberg Nuclear Power Station or that is as a result of the exercising of existing zoning rights. On this basis, no application for enhanced development rights (rezoning, subdivision, departure from land use, or Council's consent, including application for a guesthouse or second dwelling) that will increase the transient or permanent resident population, and that is not directly related to the siting, construction, operation and decommissioning of the Koeberg Nuclear Power Station, can be approved. Furthermore, the projected population within the PAZ must be evacuated within four hours from the time that an evacuation order is given, as demonstrated by means of a traffic evacuation model approved by Council and acceptable to the NNR.
		New development within the UPZ (as defined above) may only be approved subject to demonstration that the proposed development will not compromise the adequacy of disaster management infrastructure required to ensure the effective implementation of the Koeberg Nuclear Emergency Plan (version approved by the National Nuclear Regulator (NNR)). Specifically, within the UPZ area, an evacuation time of 16 hours of the projected population, within any 67,5° sector to designated mass care centres (as appropriate), must be demonstrated by means of a traffic (evacuation) model approved by Council and acceptable to the NNR. The evacuation time must be measured from the time that the evacuation order is given. These development controls will be superseded by National 'Regulations on Development in the Formal Emergency Planning Zone of the KNPS to ensure effective implementation of the Koeberg Nuclear Emergency Plan' when approved.

Annexure 3: Legal Opinion on entity

A. Introduction

1. This opinion is compiled on a basis of urgency and should be read in conjunction with all other documents applicable to this matter.
2. The facts of the matter are set out in the opinion provided by Webber Wentzel Attorneys to Western Cape Provincial Government on the establishment of the Saldahna Bbay IDZ.

B. Applicable legislation:

Special Economic Zones Act, 2014 (Act No. 16 of 2014) (SEZA)

- **Sec 23(1)**: National government, a provincial government, a municipality, a public entity, a municipal entity or a public-private partnership, acting alone or jointly, may apply to the Minister in the form and manner prescribed for a specified area to be designated as a Special Economic Zone.
- **Sec 25(1)**: Upon designation of an area as a Special Economic Zone, the licensee must—
  - (a) **establish an entity** to manage the Special Economic Zone; and
  - (b) provide the entity with the resources and means necessary to manage and operate the Special Economic Zone, including the transfer of ownership or control of the land comprising the area designated as a Special Economic Zone.
- **Sec 25(2)**: In the case of a national or provincial government or a public entity licensee, the entity must be established as a national government business enterprise or a **provincial government business enterprise** contemplated in section 1 of the Public Finance Management Act.
- **Sec 25(6)(a)**: The Special Economic Zone Board must manage that Special Economic Zone entity in accordance with the Public Finance Management Act, if the licensee is national or provincial government or a public entity ...

Public Finance Management Act, 1999 (Act No. 1 of 1999) (PFMA)

- **Sec 1**:

"**ownership control**", in relation to an entity, means the ability to exercise any of the following powers to govern the financial and operating policies of the entity in order to obtain benefits from its activities:

- (a) To appoint or remove all, or the majority of, the members of that entity's board of directors or equivalent governing body;
- (b) to appoint or remove that entity's chief executive officer;
- (c) to cast all, or the majority of, the votes at meetings of that board of directors or equivalent governing body; or
- (d) to control all, or the majority of, the voting rights at a general meeting of that entity;

"**Provincial government business enterprise**" means an entity which—

(a) is a juristic person under the **ownership control** of a provincial executive;
(b) has been assigned financial and operational authority to carry on a business activity;
(c) as its principal business, provides goods or services in accordance with ordinary business principles; and
(d) is financed fully or substantially from sources **other than**—
(i) a Provincial Revenue Fund; or
(ii) by way of a tax, levy or other statutory money;

"**provincial public entity**" means—

(a) a **provincial government business enterprise**; or
(b) a board, commission, company, corporation, fund or other entity (other than a provincial government business enterprise) which is—
(i) established in terms of legislation or a provincial constitution;
(ii) fully or substantially funded either from a Provincial Revenue Fund or by way of a tax, levy or other money imposed in terms of legislation; and
(iii) accountable to a provincial legislature;

- **Sec 38(1)(m):** The accounting officer for a **department, trading entity** or constitutional institution must promptly consult and seek the **prior written consent** of the National Treasury on **any new entity** which the department or constitutional institution intends to establish or in the establishment of which it took the initiative; and ...

- **Sec 51(1)(g)**: An accounting authority for a **public entity** must promptly inform the National Treasury on any **new entity** which that public entity intends to establish or in the establishment of which it takes the initiative, and allow the National Treasury a reasonable time to submit its decision **prior to formal establishment**; and ...
-
- **Sec 54(2): Before** a public entity concludes any of the following transactions, the accounting authority for the public entity must promptly and in writing inform **the relevant treasury** of the transaction and submit relevant particulars of the transaction to its **executive authority for approval of the transaction**:
(a) establishment or participation in the **establishment of a company**;
...
(e) commencement or cessation of a significant business activity; ...

Companies Act, 2008 (Act No. 71 of 2008)

- Sec 8. **Categories of companies**.—(1) **Two types** of companies may be formed and incorporated under this Act, **namely profit companies and non-profit companies**.
(2) A **profit company** is—
(a) **a state-owned company**; or
(b) **a private company** if—
(i) it is not a state-owned company; and
(ii) its Memorandum of Incorporation—

(aa) prohibits it from offering any of its securities to the public; and
(bb) restricts the transferability of its securities;

(c) a **personal liability company** if—

(i) it meets the criteria for a private company; and

(ii) its Memorandum of Incorporation states that it is a personal liability company; or

(d) a **public company**, in any other case.

...

- **Sec 9: Modified application with respect to state-owned companies**.—(1) Subject to section 5 (4) and (5), any provision of this Act that applies to a public company applies also to a state-owned company, **except to the extent that the Minister has granted an exemption** in terms of subsection (3).
- (2) The member of the Cabinet **responsible** for—

(a) **state-owned companies** may request the Minister to **grant a total, partial or conditional exemption from one or more provisions of this Act**, applicable to all state-owned companies, any class of state-owned companies, or to one or more particular state-owned company; or

(b) **local government** matters may request the Minister to **grant a total, partial or conditional exemption from one or more provisions of this Act**, applicable to all state-owned companies owned by a municipality, any class of such enterprises, or to one or more particular such enterprises,

- **Sec 10. Modified application with respect to non-profit companies**.—(1) **Every provision of this Act applies to a non-profit company, subject to the provisions, limitations, alterations or extensions set out in this section, and in Schedule 1**.

(2) The following provisions of this Act, and any regulations made in respect of any such provisions, **do not apply to a non-profit company**—

....

(3) Sections 58 to 65, read with the changes required by the context—

(a) apply to a non-profit company **only if the company has voting members**; and

(b) when applied to a non-profit company, are subject to the provisions of item 4 of Schedule 1.

- **Schedule 1 to the Act**

Objects and policies.—(1) The Memorandum of Incorporation of a non-profit company must—

(a) set out at least one object of the company, and each such object must be either—

(i) **a public benefit object**; or

(ii) an object relating to one or more cultural or social activities, or communal or group interests; and

(b) be consistent with the principles set out in sub-items (2) to (9).

(2) A non-profit company—

(a) **must apply all of its assets and income, however derived, to advance its stated objects, as set out in its Memorandum of Incorporation**; and

...

(4) Despite any provision in any law or agreement to the contrary, upon the **winding-up or dissolution of a non-profit company**—

(a) no past or present member or director of that company, or person appointing a director of that company, is entitled to any part of the net value of the company after its obligations and liabilities have been satisfied; and

(b) the entire net value of the company must be distributed to one or more non-profit companies, registered external non-profit companies carrying on activities within the Republic, voluntary associations or non-profit trusts—

(i) having objects similar to its main object; and

(ii) as determined—

(aa) in terms of the company's Memorandum of Incorporation;

(bb) by its members, if any, or its directors, at or immediately before the time of its dissolution; or

(cc) by the court, if the Memorandum of Incorporation, or the members or directors fail to make such a determination...

2. Fundamental transactions.—(1) A non-profit company **may not**—

(a) amalgamate or merge with, or **convert to, a profit company**[26]; or

(b) dispose of any part of its assets, undertaking or business to a profit company, other than for fair value, except to the extent that such a disposition of an asset occurs in the ordinary course of the activities of the non-profit company.

C. <u>Discussion</u>:

1. In terms of sections 25 of SEZA, *which as far as could be ascertained has not yet come into operation*, a licensee must upon designation of an area as a Special Economic Zone (SEZ) establish an entity to manage it. In the case of a provincial government or a provincial public entity licensee, the entity <u>must</u> be established as a *provincial government business enterprise* contemplated in section 1 of the PFMA.

2. A provincial government business enterprise is defined as an entity which -

- is a juristic person under the *ownership control* of a provincial executive;
- has been assigned financial and operational authority to carry on a business activity;
- as its principal business, provides goods or services in accordance with ordinary business principles; and
- is financed fully or substantially from sources **other than** a Provincial Revenue Fund or by way of a tax, levy or other statutory money.

Such a government business enterprise can either be established by way of provincial legislation, which is not desirable in the present matter, or by establishing a company, which will provide the enterprise with the required juristic personality. (A provincial department or provincial government component cannot be established, as these institutions are not juristic persons.)

[26] Which includes a SOC – see section 8(2)(a)

It is assumed that the entity to be created will meet the requirement that it be substantially funded from sources **other** than public money, and that the relevant provincial department or Wesgro **will exercise ownership control** by appointing the majority of members of the board or governing body, or being able to cast the majority of votes at meetings of that board or governing body.

3. Given these requirements, as long as either the provincial government in terms of section 38(1)(m) of the PFMA or Wesgro, a Schedule 3C provincial public entity[27] in terms of section 51(1)(m) apply to the National Treasury (or if Wesgro establishes the entity, also the provincial treasury's approval in terms of section 54(2)(a) of the PFMA) for approval in respect of establishing the entity **BEFORE** actually establishing it, no obstacle exists in principle preventing the establishment of the required entity.

4. Indications have been given that the establishment of a non profit company (NPC) is the preferred option. Again, as long as the requirements referred to above are met, there is no reason not to follow this route. The other option, establishing a State-owned company (SOC), is also possible within this scenario.
5. It should be cautioned that the terms "NPC", "SOC" and "government business enterprise" should not be confused. NPC's and SOC's are two types of companies, whereas "government business enterprise" is a category of entities within the public administration for purposes of the PFMA only, dealing with two separate albeit interrelated issues. NPC's and SOC's can be government business enterprises, but are are not necessarily that – and a statutory entity can be something another than a company (e.g. water boards) and still qualify as a government business enterprise. The view that an NPC can be established and then "amalgamated into a provincial government business entity" is, with respect, imprecise. If Wesgro, having met the requirements of sections 51(1)(m) and 54(2)(a) of the PFMA, establishes an NPC (or SOC, for that matter), and it meets the requirements set out in the definition of "provincial government business enterprise", it will automatically by operation of law be regarded as a provincial government business enterprise, to be included in Schedule 3D to the PFMA[28], and this qualifying for purposes of section 25 of SEZA.
6. If it is correct to assume that there is no time advantage in the registration and establishment of a an NPC over an SOC, as seems to be suggested, it would be prudent to consider the advantages and disadvantages of both before finally deciding on the preferred option, since both will require prior notification of and approval by the National Treasury and the Western Cape provincial treasury, and the MEC for Finance, before so being registered and established. It should also be borne in mind that an NPC cannot be converted into or amalgamated or merged with an SOC. Given that both could from the date of registration qualify to be provincial government business enterprises, regardless of which option is chosen - by operation of law and not because of application or approval to be so classified –

[27] See Public Institutions Listed in PFMA Schedule 1, 2, 3A, 3B, 3C and 3D as at 23 May 2014, published by the National Treasury
[28] In terms of section 47(1)(a) of the PFMA

the long-term needs of the entity should be indicative of the choice to be made. If the NPC option is chosen, it should be understood that it can never in the long run be turned into another type of entity, and that its operations will always have to be conducted in accordance with the Companies Act's and corporate governance requirements pertaining to an NPC.

7. Although there are no immediate grounds to presume this, but the requirement for an NPC – namely that it should have a public benefit object – should be perhaps be considered. Can the establishment of a company which will be a government business enterprise ("as its principal business, provides goods or services **in accordance with ordinary business principles**") have a public benefit object? Are NPC's not specifically intended to operate away from "business principles", and should the "public benefit object" not be interpreted in that way? It might be prudent to verify this matter with the Companies and Intellectual Property Commission (CIPRO).
8. It is difficult to understand the reasoning why a licensee must in terms of section 25(1)(a) of SEZA establish an entity to manage the SEZ and provide it with the resources and means necessary to manage and operate the SEZ, when one of the requirements to qualify as a government business enterprise in terms of section 1 of the PFMA is to be financed fully or substantially from sources other than the relevant Provincial Revenue Fund or by way of a tax, levy or other statutory money – these statements seem to be contradictory, and could ostensibly create an obstacle. Why should a licensee be a business enterprise, when it is mandated only to manage the SEZ (and in a conflict of legislative drafting, at the same time also the mandate of the SEZ operator under section 32 of SEZA), to develop and implement a strategic plan within the framework of dti's Special Economic Zones strategy, to issue an SEZ operator permit and to approve applications for locating businesses in the SEZ – typically the functions of a non-business statutory regulator?

D. Conclusion

From a compliance legal point of view, there is no preference between an NPC and an SOC, as both will if they meet the same requirements for registration, both in terms of the PFMA as well as the Companies Act, in order to qualify to be a provincial government business enterprise for purposes of sections 23 and 25 of SEZA.

WP KRULL

Annexure 4: Memo on operational and governance framework

16 September 2014

Mr Alfred Tau

Department of Trade and Industry

77 Meintjies Street

Pretoria

0002

Per email: AlfredT@thedti.gov.za

Dear Mr Tau

RE: MEMORANDUM ON THE SPECIFIC OPERATIONAL AND GOVERNANCE FRAMEWORK RELATED TO ATLANTIS SPECIAL ECONOMIC ZONE

1. Introduction

1.1 The Department of Trade and Industry (" **dti**") has sought further information regarding the operational and governance framework of the proposed Atlantis Special Economic Zone ("**ASEZ**") and the different options available in terms of a establishing a Special Economic Zones (**"SEZ**") entity.

1.2 The Special Economic Zones Act 16 of 2014 ("**SEZ Act**") makes provision for the following overall governance framework regarding Special Economic Zones (**"SEZ**")

- SEZ Advisory Board;
- Applicant who is awarded SEZ license;
- SEZ entity with SEZ Board; and
- SEZ Operator.

1.3 The SEZ Advisory board is established in terms of section 7 of the SEZ Act and will consist of 15 member board appointed by the Minister of Trade and Industry. The board will be made up of 7 members from different government departments and state owned entities, 3 members representing organised business, labour and civil society and 5 independent members appointed for their knowledge, experience and expertise.

1.4 An SEZ entity must be established by the holder of an SEZ license to manage a SEZ. The licensee will appoint an SEZ board of directors for the efficient governance and management of the business affairs of that SEZ. The constitution of the SEZ board will be discussed below.

1.5 The SEZ entity must appoint an operator to develop, operate and manage the SEZ. The SEZ operator will be a company according to section 33 of the SEZ Act have its own distinct board of directors. Only in the case of a SEZ entity established by a Public Private Partnership ("**PPP**") licensee, can that SEZ entity be allowed to also develop, operate and manage the SEZ.

1.6 The above governance framework is summarised in a flow chart in **Annexure A**.

1.7 When assessing the operational and governance framework of a proposed SEZ entity, in addition to assessing the type of entity that is established, all applicable legislation needs to be considered. The primary pieces of legislation governing this will be the -

- Special Economic Zones Act 16 of 2014;
- Public Finance Management Act 1 of 1999 ("**PFMA**");
- Municipal Finance Management Act 56 of 2003 ("**MFMA**");
- Municipal Systems Act 32 of 2000 ("**MSA**");
- Municipal Structures Act 117 of 1998; and
- Companies Act 71 of 2008 ("**Companies Act**").

1.8 In terms of section 23 of the SEZ Act, the type of entity applying for the designation of a SEZ will determine the type of entity SEZ to be established. The SEZ entity that may be established and the enabling legislation are summarised in the table below -

Table 30 Type of SEZ entity

Applicant	SEZ Entity	Legislation establishing entity
National Government	National Government Business Enterprise	PFMA Companies Act
Provincial Government	Provincial Government Business Enterprise	PFMA Companies Act
Municipality	Municipal Entity	MSA Companies Act
Public Entity	National or Provincial Government Business Enterprise	PFMA Companies Act

Municipal Entity	Municipal Entity	MSA Companies Act
Public Private Partnership	Company	PFMA Companies Act

1.9 When applying for the designation of an SEZ, certain governance aspects need to be included in the feasibility study. According to regulation 9(1)(e)(ii) of the draft SEZ Regulations ("the Regulations"), provided to Deloitte by the Department of Trade and Industry, the business plan for the SEZ needs to include information and analysis on the following:

> "*Ownership structure of the Special Economic Zone including a shareholders' agreement indicating nature and extent of shareholding, requirements for transfer of shares and requirements for the distribution of assets upon liquidation or deregistration*"

This requirement could, to a large extent, determine the type of entity to be established by a future licensee.

2. National or Provincial Shareholders

2.1 Entities established in terms of the PFMA

2.1.1 The PFMA is applicable to public entities which include national government business enterprises and provincial government business enterprises.

2.1.2 A public entity means "a national or provincial public entity". Public entities can be grouped into two broader categories, which are national or provincial government business enterprises and national or provincial public entities. National and provincial public entities are established in terms of national or provincial legislation, funded by national or provincial revenue funds, taxes or levies. These are accountable to Parliament and the provincial legislature respectively.

2.1.3 The definition of a National Government Business Enterprise is:

"an entity which—

(a) is a juristic person under the ownership control of the national executive;

(b) has been assigned financial and operational authority to carry on a business activity;

(c) as its principal business, provides goods or services in accordance with ordinary business principles; and

(d) is financed fully or substantially from sources other than—

(i) the National Revenue Fund; or

(ii) by way of a tax, levy or other statutory money"

2.1.4 A Provincial Government Business Enterprise is defined as follows:

"an entity which—

(a) is a juristic person under the ownership control of a provincial executive;

(b) has been assigned financial and operational authority to carry on a business activity;

(c) as its principal business, provides goods or services in accordance with ordinary business principles; and

(d) is financed fully or substantially from sources other than—

(i) a Provincial Revenue Fund; or

(ii) by way of a tax, levy or other statutory money."

2.1.5 A PPP is defined in Treasury Regulations for departments, trading entities, constitutional institutions and public entities dated March 2005 ("PFMA regulations") issued in terms of the PFMA as:

"*a commercial transaction between an institution and a private party in terms of which the private party –*

(a) performs an institutional function on behalf of the institution; and / or

(b) acquires the use of state property for its own commercial purposes; and

(c) assumes substantial financial, technical and operational risks in connection with the performance of the institutional function and/or use of state property; and

(d) receives a benefit for performing the institutional function or from utilising the state property, either by way of:

(i) consideration to be paid by the institution which derives from a revenue fund or,where the institution is a national government business enterprise or a provincial government business enterprise, from the revenues of such institution; or

(ii) charges or fees to be collected by the private party from users or customers of a service provided to them; or

(iii) a combination of such consideration and such charges or fees;

2.1.6 An important definition in determining what type of entity is under consideration is the definition of ownership control. The PFMA defines ownership control in relation to an entity as

"*the ability to exercise any of the following powers to govern the financial and operating policies of the entity in order to obtain benefits from its activities:*

(a) to appoint or remove all, or the majority of, the members of that entity's board of directors or equivalent governing body;

(b) to appoint or remove that entity's chief executive officer;

(c) to cast all, or the majority of, the votes at meetings of that board of directors or equivalent governing body; or

(d) to control all, or the majority of, the voting rights at a general meeting of that entity;

2.1.7 While the SEZ Act makes provision for SEZ's, this must be distinguished from the requirement for a national or provincial public entity to be "established in terms of legislation". A national or provincial government business entity can be established to perform a range of different functions and activities, a national or provincial public entity will only be established to perform the function as set out in the legislation in which it is established in terms of.

•

2.1.8 Schedule 3 of the PFMA provides a list of entities that are considered "Other Public Entities". These are divided into four distinct categories which are listed under the following headings:

i. Part A: National Public Entities
ii. Part B: National Government Business Enterprises
iii. Part C: Provincial Public Entities
iv. Part D: Provincial Government Business Enterprises

2.1.9 The differentiating aspects of national and provincial public entities and national and provincial business entities are:

i. The source of its funding:

- A schedule 3A and 3C entity, as mentioned in the definitions provided in paragraph 2.1.2 above, will receive almost all its funding from one or more of the sources of income.

- Schedule 3B and 3D entities, as mentioned in the definitions provided in paragraphs 2.1.3 and 2.1.4 above, can be funded fully or substantially from sources other than a national or provincial revenue fund or by way of a tax, levy or other statutory money.

ii. Restrictions

- Section 66 (4) prohibits the borrowing of money, issuing of a guarantee, indemnity or security, or entering into any other transaction that binds or may bind that entity to any future financial commitments by **provincial public entities** not listed as a provincial government business enterprise in schedule 3(d). The Minister may, in writing, permit a public entity mentioned in subsection (3)(*c*) or (*d*) to borrow money for bridging purposes up to a prescribed limit, including a temporary bank overdraft, subject to such conditions as the Minister may impose.

- Section 66(3) (d) only places a prohibition on provincial **government business enterprise** borrowing money, issuing a guarantee, indemnity or security, or entering into any other transaction that binds or may bind that entity to any future financial commitments. This needs to be authorised by notice in the Government Gazette by the Minister: The MEC for finance in the province, acting with the concurrence of the Minister, subject to conditions that the Minister may impose.

iii. Miscellaneous

- Schedule 3B and 3D entities need to submit a shareholders compact to their shareholders setting out performance measures and indicators in terms of regulation 29.2 of the PFMA regulations

- Schedule 3A and 3C entities need to submit an annual strategic plan to the relevant executive authority

The above considerations could influence both the capabilities and the powers of the different entities.

2.1.10 A PPP is a contract between a public sector institution and a private party, in which the private party assumes substantial financial, technical and operational risk in the design, financing, building and operation of a project. Should a PPP wish to be utilised as the vehicle to for the implementation of an SEZ, the National Treasury PPP Manual states that all projects need to be registered with the relevant Treasury. After such registration an inception feasibility study needs to be conducted, where after a procurement process needs to take place. This includes preparation bid documents which includes a draft PPP agreement. There will still be a further three Treasury Approvals before a PPP will be at an operational stage. Should a PPP be granted an SEZ license, it must establish an SEZ entity in the form of a company.

2.1.11 In a conventional PPP there will usually be a representative from the public sector institution and one from the private party. These two representatives will report to the accounting officer of the public sector institution involved. The accounting officer will then report directly to Parliament or the relevant Provincial Legislature. A flow chart, derived from National Treasury PPP Manual Module 1: South African Regulations for PPPs, describing the parties involved in a typical PPP structure has been attached here to as **Annexure B**.

2.1.12 In our experience dealing with PPP's we have found that the time needed to progress from registration of the project to the feasibility study stage is seldom achieved in a period less than one year, depending on the complexity of the project. For this reason the viability of a PPP as an implementation vehicle for the ASEZ has to be questioned.

2.2 Leasing Models and Other Business Activities under the PFMA

2.2.1 According to regulation 32 of the PFMA regulations, a lease is classified as *"a finance lease if it transfers substantially all the risks and rewards incidental to ownership of an asset. Title may or may not eventually be transferred." An operating lease is defined as "a lease other than a finance lease".*

2.2.2 Regulation 32.2.2 of the PFMA regulations states that the accounting authority of a public entity may, for the purposes of conducting the public entity's business, enter into lease transactions without any limitations provided that such transactions are limited to operating lease transactions.

2.2.3 In the case of a national public entity listed in Schedule 3A, any finance lease needs to be entered into by the Minister of Finance **("the Minister")**

2.2.4 A national and provincial government business enterprise listed in schedule 3B and 3D may only enter into a finance lease if authorised by the Minister by notice in the national Government Gazette. In the case of a schedule 3B enterprise the lease needs to be entered into by the accounting authority of the entity, while the Member of the Executive Committee responsible for Finance in the province, acting with the concurrence of the Minister, may enter into finance leases in the case of a 3D entity. These leases will be subject to any conditions that the Minister may impose.

2.2.5 The PFMA (section 66(4) read with regulation 32.2 of the PFMA Regulations) make no mention of who may enter into a lease agreement on behalf of a schedule 3C entity or what authority is needed.

2.2.6 The above authorisations and functionaries are excluded in the case of a PPP SEZ licensee.

2.2.7 When a public entity acquires or disposes of a significant asset or with the commencement or cessation of a significant business activity, section 54(2) of the PFMA requires the prior written approval from the relevant treasury and submission of relevant particulars of the transaction to its executive authority for approval. The approval mentioned above may however be exempt by the relevant executive authority.

2.2.8 In a practice note issued by the National Treasury on applications for approval, under section 54 of the PFMA, when determining the significance of the commencement or cessation of a significant business activity, as stated in section 54(2)(e), a business activity that falls within a public entity's core business does not fall under the ambit of the stated definition. An activity that falls outside the public entities core business should be regarded as significant if its rand value falls within the parameters outlined in the table below:

Table 31 Significance to core business

Elements:	% range to be applied against Rand value
Total Assets	1% - 2%
Total Revenue	0,5% - 1%
Profit after tax	2% - 5%

2.2.9 There is no limitation placed on public entities by the PFMA as to the types of business activity that may be carried out by such a public entity. Any limitations placed on a public entity with regard to business activity allowed will be listed in the entities constitutional documents.

2.2.10 Provincial government business enterprises and provincial public entities are summarised, along municipal entities, in table 3 in **Annexure C**.

3. Entities established and governed by the MSA and the MFMA

3.1. Section 3 of the PFMA states that in the event of any inconsistency between the PFMA and other legislation, the PFMA will prevail. Should the MSA or the MFMA contain any provision that is inconsistent with the PFMA, the provision contained in the PFMA will apply.

3.2. The MSA provides for the following kinds of municipal entities:

- a private company;
- a service utility; and
- a multi-jurisdictional service utility established by two or more municipalities.

3.3. A municipality may also establish a PPP in terms of section 120 of the MFMA. Should it wish to enter into a PPP, the conditions contained in section 120 need to be complied with.

3.4. A municipal entity can be established as private company by one or more municipalities or be a private company in which one or more municipalities have acquired or hold an interest. If the two or more municipalities collectively, have effective control of the private company then it will be a municipal entity. Should a national or provincial organ of state have ownership control (as defined in the PFMA in section 1) in the company, then it will be considered a public entity to which the PFMA applies.

3.5. A municipal entity taking the form of a private company must restrict its activities to the purpose for which it is used by its parent municipality. It also has no competence to perform any activity which falls outside the functions and powers of its parent municipality. These functions and powers will be those provided for section 8 of the MSA.

3.6. Should a municipality wish to establish a municipal entity in the form of a service utility, it may pass a by-law establishing a service utility. According to section 86I of the MSA, a service utility is a juristic person and a municipal entity under the sole control of the municipality which established it.

3.7. In terms of section 87 of the MSA, two or more municipalities can, by written agreement, establish a multi-jurisdictional service utility. This can be in their municipal areas or in any designated parts of their municipal areas.

3.8. The MFMA prohibits municipal entities from performing certain activities. These prohibited activities are stated in section 164 and include, inter alia, the conducting of any commercial activities outside the borders of the Republic or activities that would not form part of the powers and functions assigned to that municipal entity in terms of the Constitution or national or provincial legislation.

3.9. Section 1 of the MFMA provides the following definition of financing agreement:

> *"includes any loan agreement, lease, instalment purchase contract or hire purchase arrangement under which a municipality undertakes to repay a long-term debt over a period of time."*

3.10. Part of the definition of debt is "a monetary liability or obligation created by a financing agreement, note, debenture, bond or overdraft, or by the issuance of municipal debt instrument".

3.11. The above definition would include any of the proposed leasing structures intended to be utilised by the Atlantis SEZ. Section 45 and 46 of the MFMA allow a municipality to incur short term and long term debt subject to certain conditions and approvals. The MFMA therefore will not prohibit a municipal entity from entering into a long term or short term lease, however the constitutional documents will need to allow, or at least not prohibit, the SEZ entity from entering into the lease.

3.12. The operational and governance considerations relating to municipal entities mentioned above are summarised in Table 3 of **Annexure C**, along with provincial public entities.

4. International Best Practice compared to the South African position

4.1. International best practice regarding the governance of SEZ's is to have private participation on the board of the SEZ entity managing the SEZ. It has been stated[29] that regardless of the particular institutional structure adopted, the most successful programs in developing and transition countries are those that maximize private sector participation, not just in development and management, but also in the formulation of zone policies and governance.

4.2. The SEZ Act states, in section 25(5) that a licensee must appoint a SEZ Board which must be responsible for the efficient governance and management of the business affairs of that SEZ.

Furthermore, in section 25(7) that the Minister must make regulations regarding governance principles that must be complied with including, inter alia, the constitution of SEZ boards.

4.3. Regulation 15 of the draft SEZ regulations provided to Deloitte, provides that following with regard founding documents that need to be provided in the feasibility study:

> "*The founding documents of the Special Economic Zone Board must provide for the following matters:*
>
> *a. Board role and responsibilities;*
> *b. Board membership and term*
> *c. Chairman of Board;*
> *d. Board committees;*
> *e. Board meetings;*
> *f. Board performance;*
> *g. Conflict of interest; and*
> *h. Review of founding documents."*

4.4. The composition of the board of directors is not specified in the draft SEZ regulations, nor in the SEZ Act.

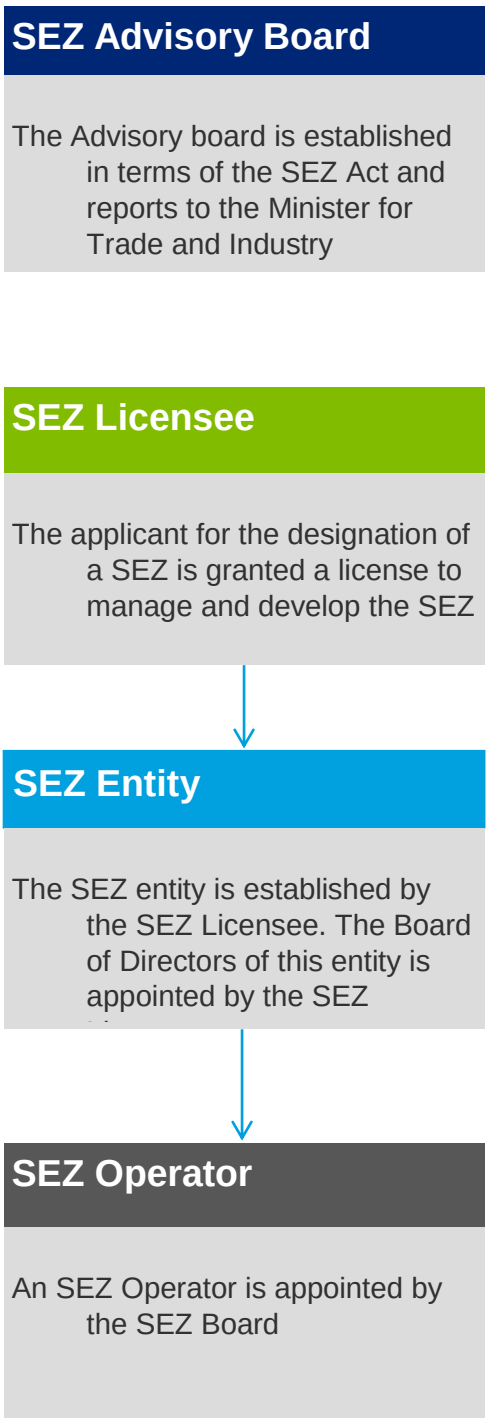
4.5. In section 93E(1) of the MSA states that the board of directors of a municipal entity must have the required range of expertise to effectively manage the activities of the entity, it must be composed of at least one third non-executive directors and must have a non-executive chairperson. No specifics are given to the exact composition of the board.

[29] Pre-Feasibility Study for the Establishment of a Model Industrial Estates Program in Alexandria, Volume 1: Policy, Legal, Regulatory and Institutional Framewoks, dated June 2007.

4.6. As the composition of the board of directors is not specified in the SEZ Act, the draft SEZ regulations, the PFMA, the MFA or the MSA, the Companies Act will then regulate the number of directors on the board of directors of the SEZ entity. This will allow for private representation on the board, in line with international best practice.

Appendix A

Flow chart of SEZ governance framework



SEZ Advisory Board

- The SEZ Advisory Board is constituted in terms of section 7 of the SEZ Act. The main function of the Advisory Board is to advise on policy, monitor implementation, consider applications for designation and operator permits and liaise with the SEZ Board.
- Advisory Board does not take part the operation and governance of the SEZ. Can only advise the Minister to end license

SEZ Licensee

- The applicant for designation may be any one of the entities mentioned in section 23 of the SEZ Act.
- Establishes SEZ Entity to manage and operate the SEZ
- Appoints SEZ Board

SEZ Entity

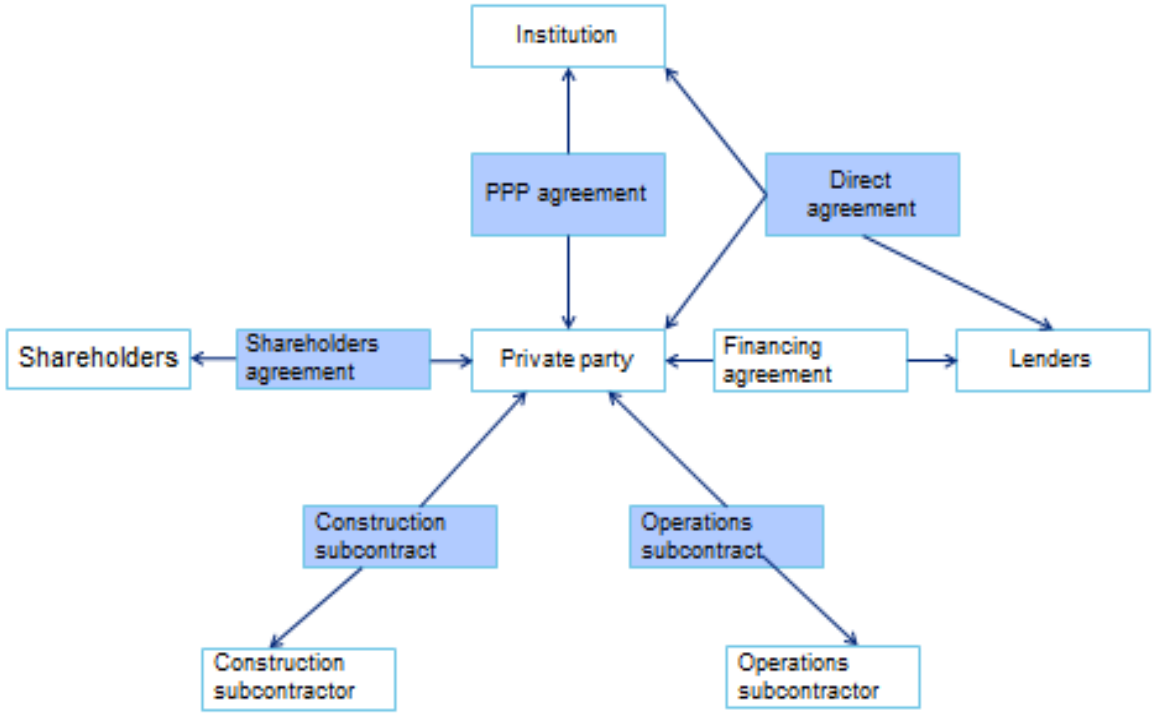
- Established by SEZ Licensee depending on the type of licensee
- Manages and operates the SEZ. This will include concluding lease agreements
- Appoints SEZ Operator (unless SEZ entity is established by PPP licensee, the SEZ entity may also operate SEZ)

SEZ Operator

- Appointed by SEZ Board after tender process
- SEZ Operator is tasked to develop, operate and manage the SEZ

Appendix B

Below is a flow chart, derived from National Treasury PPP Manual Module 1: South African Regulations for PPPs, describing the parties involved in a typical PPP structure:



Appendix C

Table 32 Summary of Municipal, Provincial Government Business Enterprise and Provincial Public Entity

	Governance	Jurisdiction	Funding	Borrowing\Leasing
Municipal Entity	• Board can be appointed and removed by parent municipality • Accountable to parent municipality • Councillor and/or an official of the parent municipality appointed as non-participating observer at meetings of the board of directors, shareholder meetings and to exercise the parent municipality's rights and responsibilities	• Activities restricted to that of parent municipality, unless consent is obtained from relevant municipal council. • No competence to perform activities falling outside of parent municipality's functions and powers.	• Receives funding from parent municipality	• Will only be able to conclude leases' which are not prohibited in terms of constitutional documents and within the municipality's jurisdiction.
Provincial Government Business Entity - Schedule 3D	• Board may be elected by shareholders in terms of the Companies Act. • Board elects Chairman and CEO • Management accountable to the Board • Board accountable to shareholders (Minister) • Must submit corporate plan for three year period to accounting officer for a department designated by the executive authority and to the relevant treasury	• Performs functions within the respective province	• Financed fully or substantially from sources other than a tax, levy or provincial revenue fund • Is more commercial and self-sufficient in nature than provincial public entity	• May only borrow if authorised by PFMA and other legislation • May only borrowing, issue guarantees and other commitments if authorised in the Government Gazette by the Minister. • Must submit a three year borrowing programme to the MEC for Finance in that province • Must submit quarterly reports on the approved borrowing programme to the MEC for Finance in the province • May enter into operating leases without limitations • May only enter into finance leases if approved by Minister in Government Gazette

Annexure 5: Disaster Risk Assessment

A. Introduction

Definition of a Disaster

According to the Department of Co-operative Governance and Traditional Affairs (COGTA, 2005), the term “disaster risk management” refers to integrated multi-sectoral and multidisciplinary administrative, organisational and operational processes and capacities aimed at lessening the impacts of natural hazards and related environmental, technological and biological disasters. However, natural hazards are often not the primary cause for concern. Both man-made and natural hazards only pose a significant impact or threat due to the existence of a vulnerability of some kind. Thus, if the hazard can be controlled and the vulnerability reduced (or alternately, resilience increased), the impact of the disaster may be lessened. Disaster risk reduction therefore refers to all the elements that are necessary to minimise vulnerabilities and disaster risks throughout a society or area. It includes the core risk reduction principles of prevention, mitigation and preparedness (*ibid*). In this report, the terms “disaster management” and “disaster risk management” are used interchangeably but they are intended to have the same meaning.

The key to understanding the difference between an emergency and a disaster lies in the scale thereof. Based on the International Strategy for Disaster Reduction (ISDR) definition of a disaster (ISDR, 1998) and the South African Disaster Management Act (Act 57 of 2002) (hereinafter referred to as The Act), a disaster can be classified as an immediate or a slow-onset event which is beyond the capacity of local resources to handle. An emergency therefore encompasses an event that can be managed using locally and readily available (on-site or in-community) resources, and is usually of short duration (some hours at most). The key to effective development, including development of the Atlantis Special Economic Zone (SEZ), is to prevent, minimise and mitigate disasters to reduce the diversion of resources from other urgently needed services. If disasters are avoided or the impacts thereof reduced, the response need is reduced, thereby freeing up resources for improvement of conditions that support sustainable development.

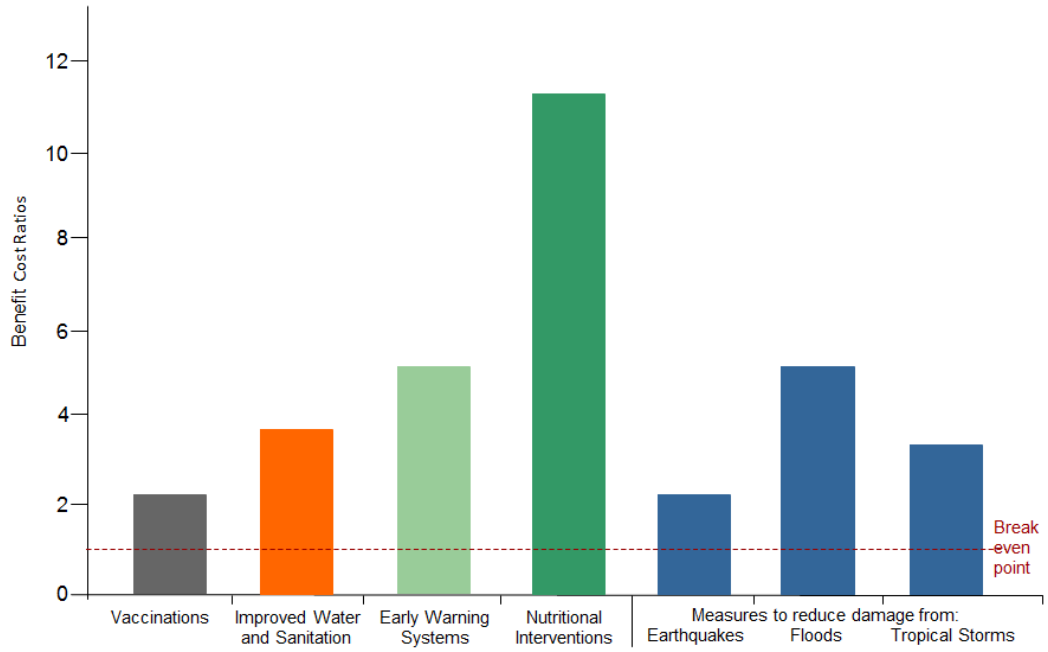
A key concern in regards to areas such as the Atlantis SEZ is the effect that compound disasters may have – i.e. where one disaster lead to another or where two disasters occur at or near to the same time (RADAR, 2010). Compound disasters reduce the effectiveness of prevention and mitigation measures, as well as response and recovery capacity.

Resources to address emergencies may be available on-site or in the vicinity of the SEZ through trained staff or via agreements with local inhabitants, municipalities or organisations, and would fall within the ambit of the daily operating environment of a development such as the SEZ. Events that occur outside of this ambit, and which exceeds the capacity of the local industry(ies)/operator(s)/community(ies) to cope with this event, thereby necessitating external assistance or the use of external resources (including manpower, equipment or financial assistance) would constitute a disaster. In the context of this report, disaster risk encompasses environmental, infrastructural, socio-cultural and economic risks.

Disaster risk in relation to the Atlantis SEZ

Risk is a burden but it may also present opportunity, and risk management can be a powerful instrument for development (WDR, 2014). The median cost-benefit ratios across a range of studies are shown in Figure 34. Above the dotted line which represents the break-even point, expected benefits exceed expected costs – in all cases, even the 25th percentile of the ranges of estimates are above the break-even point:

Figure 34 The benefits of risk management often outweigh the costs



Source: Wethli, 2013 for the WDR (2014).

This report focuses on disaster risk in particular and the early identification thereof in terms of the Atlantis SEZ as a means to highlight such opportunities. The opportunities include risk reduction and increased resilience to withstand disaster impacts as well as recommendations to implement multiple positive outcomes for example the implementation of measures and infrastructure that could not only benefit disaster risk reduction, early warning and response, as well as recovery, but at the same time serve a purpose to enhance the quality of life of the community that depends on or resides in the vicinity of the SEZ.

The key principles that provide the backbone of this report are guided by the need for long term physical and economic sustainability, and consider impacts on and from an area much wider than the SEZ as well as events that may trigger multiple hazards being realised simultaneously or in a compounded manner. These principles includes sustainability on the level of households (as the first line of support to confront risk and pursue opportunity), the community (where cohesiveness and connectedness create resilience), the enterprise sector (fostering resilience and prosperity), financial drivers and tools, policy considerations (e.g. considering standard disaster risk management policy/guidelines for SEZ's region/countrywide), and the role of the international community (*ibid*) in assisting to provide a stable environment in which the SEZ could function. Such international impacts in particular relate to the perception of investors of a particular SEZ and its surroundings in relation to disaster risk, which also consider the supporting services and recovery options in the event of disasters occurring. The integration of the principles of sustainability requires collective action and effective communication between institutions and the community.

The disaster risk assessment and this associated report for the Atlantis SEZ follow the principles of responsible development and sustainable design, considering that there would be a significantly greater level of detail of investigation and implementation required once the site is being allocated to specific functions, operators and/or businesses.

Disaster risk management is cost-effective, yet not always feasible (*ibid*). Therefore, priorities should be considered and implemented based on criteria that have to be established by the key parties involved in the establishment, development, management and operation of the SEZ. Such an exercise is not part of this report and will have to be concluded once there are more certainties and details available regarding the finer operational elements of the SEZ. In addition, a range of communications and collaborations are necessary to ensure that the opportunities that are presented by the risks identified in this report is pursued and realised where feasible.

The management of all these mentioned items requires a detailed disaster risk management plan, which cannot yet be finalised at this early stage of the SEZ establishment. Thus, disaster risk management options and impacts from elements outside of the SEZ as well as from the SEZ on the region are considered in broad terms.

Responsibility for Disaster Risk Management

The Disaster Management Act is designed to define the roles and responsibilities of primarily government role players before, during and in the aftermath of a disaster. To a large extent, disaster risk prevention, mitigation and minimisation are implemented during planning and implementation processes, where adequate planning and risk-averse behaviour gives rise to lower levels of risk. Thus, when development is planned and disaster risk addressed early on, the overall number of man-made and natural disaster risk frequencies, severities and probabilities can be reduced and/or managed.

South Africa is ranked low on the worldwide disaster risk preparedness index, being in the second quintile (i.e. between 20 – 40% prepared) (WDR, 2014). This is evident in the unbalanced implementation of disaster risk management across society, as explained below:

Although the Disaster Management Act and the South African Disaster Management Policy Framework (COGTA, 2005) is clear in regards to government and associated agent's involvement and the declaration of disasters, the role of the private sector is not addressed in significant detail. This gap leads to significant differences in disaster risk perception and the addressing of disaster risk in especially industrial areas.

Other Acts, including but not limited to the National Environmental Management Act (Act No 107 of 1998) (NEMA), National Water Act (Act No 36 of 1998), the Minerals and Petroleum Resources Development Act (Act No 28 of 2002), the National Heritage Resources Act (Act No 25 of 1999), the National Environment Management: Biodiversity Act (Act No 10 of 2004), the Constitution (Act No 108 of 1996), various Regulations related to development and building construction such as the Environmental Impact Assessment (EIA) Regulations (Government Notice Nos R543, R544, R545 and R546 of 2010), promulgated in terms of Section 24 of the NEMA, as well as the Occupational Health and Safety Act (Act No 85 of 1993), the Built Environment Act (Act No 43 of 2000), the Cape Town Zone Scheme Regulations (November 2012), the Electrical Machinery Regulations (2011), the Boundary and Fences Policy (2009), the Electrical Fence Legal Booklet (2013), the General Electrical Specifications (2004), the Guidance for Drainage and Stormwater (2000), and national standards including but not limited to the Energy in Buildings Standards (SANS 10400) are expected to fulfil the role of defining the responsibilities of private role players and guiding responsible implementation and sustainable development in regards to specific disaster risk.

For example: the EIA process is considered to guide environmental disaster risk based on greenfield or in this case brownfield development, and does so according to clear regulations and standards. However, such a singular process often approaches multi-disciplinary disaster risk from a singular lens, and cross-cutting as well as multiple hazards potential (i.e. multiple hazards realising place at the same time) is not generally considered.

The guidelines and regulations that focus on a singular discipline are not specifically aimed at disaster risk reduction, thus leaving a gap between the implementation of existing regulations and the need for cross-cutting considerations, which inevitably leads to inconsistent and unbalanced implementation of disaster risk reduction. In addition, and due to the Disaster Management Act being non-specific regarding disasters outside of government spheres, a significant difference exists in site/zone-specific disaster risk assessment, where practitioners develop *ad hoc* standards where few currently exist.

Aim and Objectives of this Report

The aim of this report is to provide feedback on a high-level/first order disaster risk assessment for the Atlantis SEZ sites and surrounding areas. However, based on the above explained conundrum, this report has a few specific objectives, which are to:

- Conduct a regional disaster risk screening/overview (covering an approximately 25 km radius around the site) to identify relevant man-made and natural hazards that may have an impact on the SEZ and *vice versa,* and assess the main related obstacles and opportunities.
- Identify vulnerable elements and locations in terms of the identified hazards (i.e. with the SEZ being the vulnerable element as well as where regional items may be the vulnerable elements);
- Introduce the potential role of groups and collective action at different levels of government and society to overcome the obstacles that may be encountered to manage the disaster risk that is related to the Atlantis SEZ;
- Consider hazards in terms of potential impact on the vulnerable elements/areas;
- Identify existing and required future manageability and capacity in regards to the priority disaster risks; and
- Propose details to be contained in the Disaster Risk Plan for the SEZ, focussing on considerations to address key risks identified during this assessment.

A secondary aim of this report is to highlight the need for similar assessments to be done for other development options, and in particular to move towards establishing a benchmark for disaster risk assessments for site development and SEZs in particular, in South Africa.

This assessment engages with disaster risk where it does not intend to overlap with any existing or earlier work undertaken regarding for example an EIA/Environmental Management Planning (EMP), Economic Assessment/Business Risk Strategy, or any other applicable regulations and reporting that is related to the SEZ which as a business hub is considered a brownfield development.

Assumptions of Report

This report assumes that the SEZ will be earmarked for predominantly sustainability focussed/"green" industries, of sizes as reported in associated documentation. This disaster risk assessment (and associated report) assumes that health and safety, as well as emergency management and emergency event contingency planning would form part of the SEZ planning, design, operational procedures, maintenance, and resource allocation based on day-to-day operations. Therefore, parameters related to safety and security as well as health and safety, including location and allocation of for example fire hydrants, medical response equipment, restrictions regarding movement of hazardous materials or objects are expected to be put in place as part of the operational procedures of the SEZ, and are thus not addressed herewith.

A range of documents were reviewed and considered and information contained therein will not be repeated in this assessment. These include existing reports and Atlantis SEZ-related studies that provide supporting knowledge for the assessment but will not be repeated/duplicated during the Disaster Risk assessment, such as:

- Risk and Development Annual Review of the Western Cape (RADAR, 2010);
- Western Cape Infrastructure Framework (2013);
- Provincial Spatial Developm3ent Framework (2013);
- City of Cape Town (CoCT) Integrated Development Plan (IDP) (2013/2014 review);
- Green is Smart: Western Cape Green Economic Framework (2013);
- CoCT Economic Growth Strategy (2013);
- Western Cape Broadband Initiative
- Cape Town Spatial Development Framework (CTSDF);
- Blaauwberg District Plan;
- CoCT Integrated Transport Plan (2013 – 2018) (2013);
- Draft Atlantis Revitilisation Framework (2012);
- Spatial Development Framework for the Atlantis SEZ;
- Geotechnical investigations in and around the Atlantis SEZ;
- Koeberg Emergency Plan;
- Environmental authorisation information (EMP, Water Use License, Waste License, Water Resources Management, Demand Side Management, Heritage Resource Management, Conservation permits, etc); and
- Any other resources accessed as listed in the References section of this report.

Although information from studies already done will not be repeated, reference will be made where needed to potential disaster risks, considering that incidents and emergencies that may occur on a small scale or within a specific sector (for example low impact but frequent power outages) are generally an indication of potential larger scale disasters. Where applicable, mention will be made of what can be considered short-term or day-duration events or impacts that are identified that relate directly to operational disaster risk, to enable consideration, prevention and minimisation of potential larger scale disasters. In addition, where short-term events may lead to significant operational impacts, for example where a disaster event or incident may lead to long-term economic disaster where the SEZ may not be able to operate for weeks or months at a time, this will be highlighted.

Where financial data are quoted in this report these refer to tangible direct damages to properties, sustained primarily by sector and private entities (RADAR, 2010). These terms are defined as follows (*ibid*):

- Tangible effects refer to losses which can be assigned a monetary value; and
- Direct effects include damage or destruction to physical assets, or even loss of life. This category represents damage to assets that occurred at the time of the actual disaster. The main items in this category include the total or partial destruction of physical infrastructure, buildings, installations, machinery, equipment, means of transportation and storage, furniture, damage to land, and the like.

Although these abovementioned effects can be quantified in a monetary manner, the intangible and secondary effects of disasters are often much more severe and long-lasting. In particular, disasters that have a social impact or that can be caused by indirect or underlying social risks are particularly difficult to quantify. Thus, these risks should be considered in a serious light and should be addressed wherever feasible.

Elements of Disaster Risk

Disaster risk is based on the confluence between a hazard(s) and vulnerable persons or environments, which may be countered by a capacity to manage the hazard(s) and/or vulnerabilities.

$$(R=[H \times V]/[M \times C])$$

Where:

- Hazard (H) is the cause of an event (consisting of probability, frequency, etc.);
- Vulnerability (V) relate to an environment, economy, community or infrastructure exposed to the risk (no vulnerability = no risk);
- Manageability (M) relate to the functional/operational options which are available at municipal/provincial/national level to cope with the risk; and
- Capacity (C) is the ability of the available intrinsic resources and resilience of the community, economy and environment to absorb the risk.

In this report, the hazards and vulnerabilities are listed and associated management practices or known capacities noted for individuals or combinations of elements posing risk. In addition to the risk equation, disaster risk has to consider the entire sphere of options that are available to manage the risk, including:

- Assessment;
- Promoting prevention;
- Ensuring mitigation/contingency planning;

- Early warning / readiness;
- Response; and
- Recovery-reconstruction.

These concepts have significant implications for the proposed SEZ and its long-term viability, as briefly described below. Only number one of five listed elements is covered in detail in this report. A complete disaster risk assessment and emergency planning protocol is called for, regarding individual future operations or functions within the SEZ, and also for the SEZ as a whole.

This assessment takes the form of an initial disaster risk screening. Once detailed land use and industrial operations have been defined/decided on, detailed disaster risk assessments would be required for each operation as well as for the SEZ as a whole, as and when needed (for example when a significant change in operations in the SEZ take place or when a large new factory/operator is intended to operate in the area).

If a hazard and/or vulnerable element in the risk equation do not exist, there is no disaster risk. Therefore, the prevention and reduction/minimisation of disaster risk via the reduction of exposure to hazards and reduction of vulnerability of affected persons or environments are key requirements for a safe and disaster-free SEZ. With prevention being the key method to reduce risk, the SEZ itself (and thus its owner/operator/management and staff) as well as individual industries, that form part of or operate in the SEZ, have to ensure that the overall disaster risk parameters are adhered to. Although natural disasters or mechanical failures are often attributed to engineering and design or resource factors, too often it is the human element of decision making and risk-taking that exposes vulnerable elements to hazard. The implied actions and responsibilities of operators and staff working in the SEZ associated with disaster risk requirements necessitate a specific state of affairs to remain constant throughout the operation of the facility. For example, the following should be guaranteed in order to avoid disasters:

- Effective operation and maintenance at site level as well as at SEZ level, meaning that even where the economic viability of the SEZ or any of the individual operators in the SEZ is stressed, maintenance and disaster risk reduction planning should not be limited or reduced. To this end, disaster risk management training should be provided to selected staff, while all staff should receive basic training in risk reduction on a site and SEZ level.
- All staff operating in the SEZ should be knowledgeable regarding operational issues (for example early warning and actions related to possible disaster events at the Koeberg Nuclear Power Station). Selected staff should be trained in selected disaster risk elements. For example media liaison and media communication protocols and message construction should be defined, and in cases of severe weather staff should not only be knowledgeable and consider real-time weather, but be able to read, understand and interpret severe weather warnings hours or even days ahead of time, from reputable sources or through on-site meteorological stations that could serve the entire SEZ. This being an example only (i.e. this may be applied to say violent service protests or to fire risk) requires a specific skills set, and arrangements with weather services, fire and emergency services, or public safety/protection services (with potential associated financial implication) as well as specific training arrangements.

Disaster mitigation can be implemented via acceptable and effective management and the implementation of operational instruments that counter unavoidable hazards or vulnerabilities: when the potential exists for malfunction or unforeseeable disruption in the operation of the SEZ, disasters may in fact not need to occur, since forethought and effective planning can reduce potential disasters to “emergencies” only. The capacity of staff who work in the SEZ and the community that resides in the vicinity of the SEZ to engage in active and timeous response to emergencies, thereby minimising disaster risk is crucial to the mitigation process. This implies regular training and practice, which form part of the operational functions of the SEZ.

Considerations for Future Disaster Management Planning at the SEZ

Should anything go wrong and disaster does strike, key elements to ensure effective response and reduced down-time or physical impact are:

a. How timely the response,
b. Emotional care for affected persons and bystanders, and
c. Media relations during and after the event.

Too often the neglect of these three elements leads to secondary and long-term impacts that could have been avoided. Thus, when the SEZ is finally established and operational, the SEZ as a whole, in collaboration with all the industries operating in it and communities involved in the area should have a disaster management plan that incorporates all these elements.

The disaster management plan should not only address the physical structure that has to be regained or repaired, but the marketed image of the SEZ as well. These include keeping record of all events at SEZ level, enabling the correct information to be made available when needed, and enabling confirmation of existing disaster risk management standards within the SEZ, customised to the Atlantis SEZ. Not all events are necessarily a disaster, however, the frequency of smaller events give an indication of what type of larger events and potential disasters could occur. Thus, record keeping and monitoring of small events across the SEZ is critical.

B. Background

a) SEZ-related emergencies and disasters

To date, no adequate information could be identified and secured to indicate events and emergencies of an industrial operation nature within Atlantis. Such information should in future be collated and maintained as part of the SEZ operational documentation.

If the SEZ is operated within allowable risk management limits, with adequate early warning systems in place, media communication procedures and fire and emergency services appropriate to the SEZ specific requirements, there should be no cause for concern regarding disaster risk. Thus, these systems should be prioritised based on the development plans for the SEZ, and implemented as soon as possible.

Internationally, industrial disasters show a high level of human error involved in the root cause. This means that not only could such disasters have been anticipated or prevented, but the cost related to its immediate and long-term impacts it could be either managed or planned/insured against, or reduced. This reduction in cost does not only relate to the response costs when an incident or disaster occurs, but has far-reaching societal impacts. The perception by society (both local and international) of unsafe or unreliable operations have a significant impact on the economic viability and sustainability of operations, since “bad news” spreads much faster and remains on the forefront longer than “good news”.

Therefore, the most important action that can be taken in regard to disaster risk is to **prevent** and **mitigate** potential disasters as best as possible, thereby ensuring long term sustainability of the SEZ and associated development in the region of the SEZ. Some incidents or emergencies that take place in the SEZ or at operations within the SEZ may not seem critical or of concern to the SEZ as a whole; however, the real economic and social disasters are hidden in the aftermath of accidents. It is the economic and social loss that the SEZ may face which is of greater concern often than claims against single operating companies or agents from for example environmental non-compliance or health and safety related injuries.

b) Methodology

South Africa’s National Disaster Management Framework (NDMF) specify guidelines for Levels 1, 2 and 3 disaster risk assessments, which are applicable to provincial and municipal disaster management planning. However, neither the Disaster Management Act nor the NDMF is specific regarding infrastructure developments including SEZs, and assumes the developmental and operational functions of the SEZ to cover potential disaster risks. Even though the design and operation parameters of individual industries may be strictly governed from a manufacturing and implementation point of view, with associated maintenance schedules and health and safety requirements, these do not involve regional disaster risk assessments or disaster management and reduction programmes except for what may be required by the manufacturers in terms of operating limits for individual factories.

Therefore, this assessment follows international best practice in identifying hazards and vulnerabilities (in no particular order), and gives comments based on potential risk prevention measures or operating solutions that could reduce the risk of disaster in the general zone of influence of the SEZ. The various hazards and vulnerabilities are not assessed in relation to each other and therefore priorities and hierarchies are not identified, as would usually be done in the case of provincial or municipal disaster risk assessments. Some of the specific foci of the disaster risk assessment involved site visits and discussions with stakeholders and representatives where such were available. However, a complete public participation programme was not implemented and thus the perceptions and realities of communities that live in or are affected by the SEZ and its hinterland have not been assessed.

A hazard level is indicated for each hazard, considering its impact, should it not be mitigated. The levels that are presented are:

- **Potential Fatal Flaw:** A reality if the *status quo* remains.
- **Critical Consideration:** Unless this element of disaster risk is addressed, the sustainability of the SEZ could be in jeopardy.
- **General Consideration:** This element is manageable and has to be attended to during design/planning and operation of the SEZ.

- **Insignificant:** Although the hazard exists, its management would form part of the design and development of the SEZ, as well as day-to-day operations, and is therefore not considered to pose a significant risk towards a disaster.

Where available, scientific or statistical data have been is used to substantiate a discussion of each element of the risk equation described in Section 1.1.6 above that is applicable to this report. Once a decision is made to go ahead with the development of the SEZ and implement specific infrastructure or establish certain industries, the manufacturer operating parameters and an associated detailed disaster risk assessment would have been conducted for the operators. Such assessment would include cross-cutting and multi-hazard analysis, based on the potential impact that one industry and its operations may have on surrounding others. Such future assessment should include a detailed stakeholder and community interaction process, to ensure that the potential risk of societal rejection of the project is mitigated.

c) Key performance areas for disaster management planning

The following Key Performance Areas (KPAs) should form part of a disaster management plan, and are taken cognisance of in this report. The KPAs are based on the structure of the NDMF (DPLG, 2005):

- KPA 1: Establishing the necessary **institutional arrangements** for implementing disaster risk management within the SEZ as a whole. This would specifically address the application of the principle of co-operative governance for the entire SEZ as opposed to only implementing regulations merely on an industry-level within the SEZ. It also emphasises the involvement of all stakeholders in **strengthening the capabilities** of organs of state and the private sector alike to reduce the likelihood and severity of disasters.
- KPA 2: Addressing the need for disaster risk assessment and **monitoring** to enabling the setting of priorities, guide risk reduction action and monitor the effectiveness of related efforts. This requires regional monitoring of non-disaster events which may point to hazard and vulnerability presence and location. The focus would be in particular on implementation of monitoring and reduction programmes within the SEZ related to external threats from and to structures, services, communities and households.
- KPA 3: Introducing disaster risk management planning and implementation in the Atlantis and other SEZ's in a uniform manner, to inform sustainable development-oriented approaches, plans and programmes within each SEZ and between SEZ's that reduce disaster risk. This KPA requires alignment of the Disaster Management Act and the NDMF with SEZ-specific requirements and should give particular attention to the planning and integration of core risk reduction principles of prevention, mitigation and early warning into daily SEZ-related initiatives.
- KPA 4: Implementing priorities concerned with disaster response, recovery and rehabilitation that simultaneously address sustainable development objectives. This would lead to development of an integrated and co-ordinated policy on the implementation of response and post-disaster recovery in SEZ's. When a significant event or pending disaster occurs or is threatening to occur, it is imperative that there must be no confusion as to the roles and responsibilities and the necessary procedures that need to be followed. These measures would ensure effective disaster response, recovery and rehabilitation planning while at the same time providing enablers for community stability and sustainable development in the vicinity of the SEZ.

These KPA's would be associated with enablers, similar to what is defined in the National Policy Framework (*ibid*), but customised to the SEZ. However, this is not elaborated on in this report.

C. Hazards related to Atlantis SEZ

All impacts related to natural or man-made hazards to the SEZ are in the end economic in nature. The hazards listed may present negative economic impacts, thereby undermining the feasibility and long term sustainability of the operation. Thus, it is critical that the opportunities that are related to these hazards are recognised and that feasible options be implemented to mitigate and prevent these hazards from occurring while at the same time providing benefit to society in and around the SEZ.

What is referred to as risk from *natural hazards* are more often than not impacts based on man-made origin, since it is the interaction of humans with their environment that place or locating hazards or vulnerable elements in association with each other. For example: when a volcano erupts in the middle of the ocean and there are no vulnerable elements or negative impacts involved, it is not considered a disaster, but instead as a building of a landmass. Such a process could be considered truly natural; however, when such event occur where there are man-made structures and communities involved, the process is not so “natural” at all – it is the intersection of the hazard with the vulnerable element(s) and the resultant impact on humans, the environment and the economy that are of concern. In this section of the report, “natural” hazards refer to disaster impacts being of natural origin, whether or not human interference takes place. The section under “man-made” hazards, refer to hazards that cannot exist without human involvement (for example services that are delivered by a service provider and which communities or organisations rely on).

It is recognised that there are numerous hazards and vulnerabilities possible that may not be listed in this report. Such omissions are not deliberate and are either a result of no hazard known to be present, or due to a lack of information regarding specific hazards, vulnerabilities and manageability/capacity or information that could not be accessed/obtained during the course of the assessment. In some cases, the listing requires additional data collection and investigation once the development of the SEZ is closer to implementation – such needs are indicated where relevant. Recommendations are made for each hazard identified, in this section. General recommendations are included in section 1.4. There are a number of hazards that has cross-cutting risks and impacts, for example flooding and high winds may go hand-in hand with transport-related concerns; thus, some discussions provide multi-disciplinary views on more than one hazard and have to be read in conjunction with one another. Figure 1.3 provides a regional overview of the area with specific disaster risk elements indicated.

D. Natural Hazards

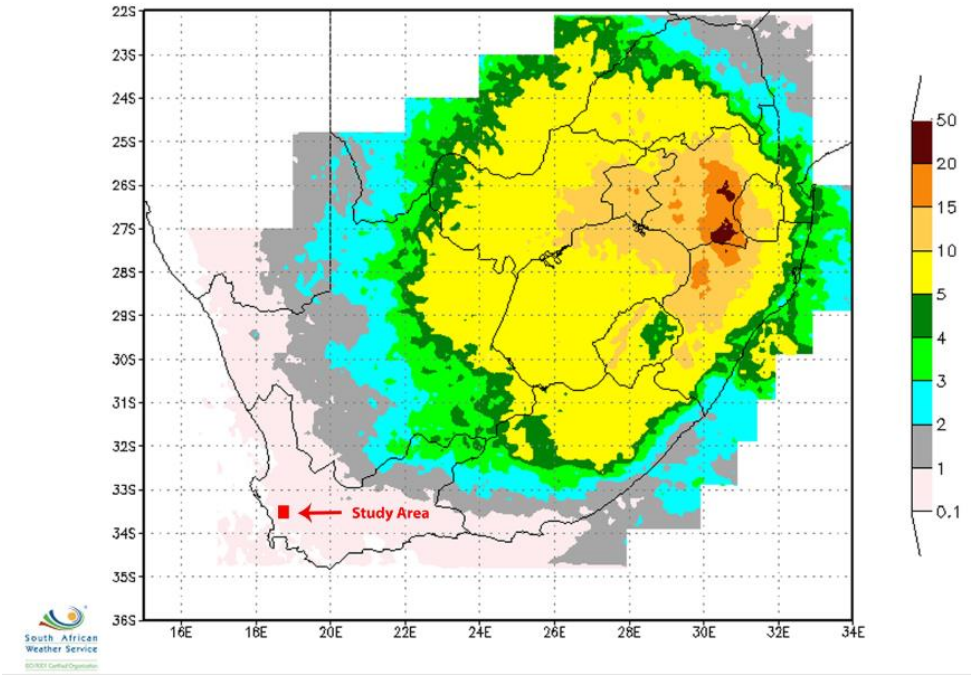
a) Lightning strikes

Category: insignificant

Lightning strikes may give rise to fires and incidents of electrical nature. This includes the possibility of harm or even death to humans, being in touch with metal structures, as well as potential power outages related to lightning dstrikes.

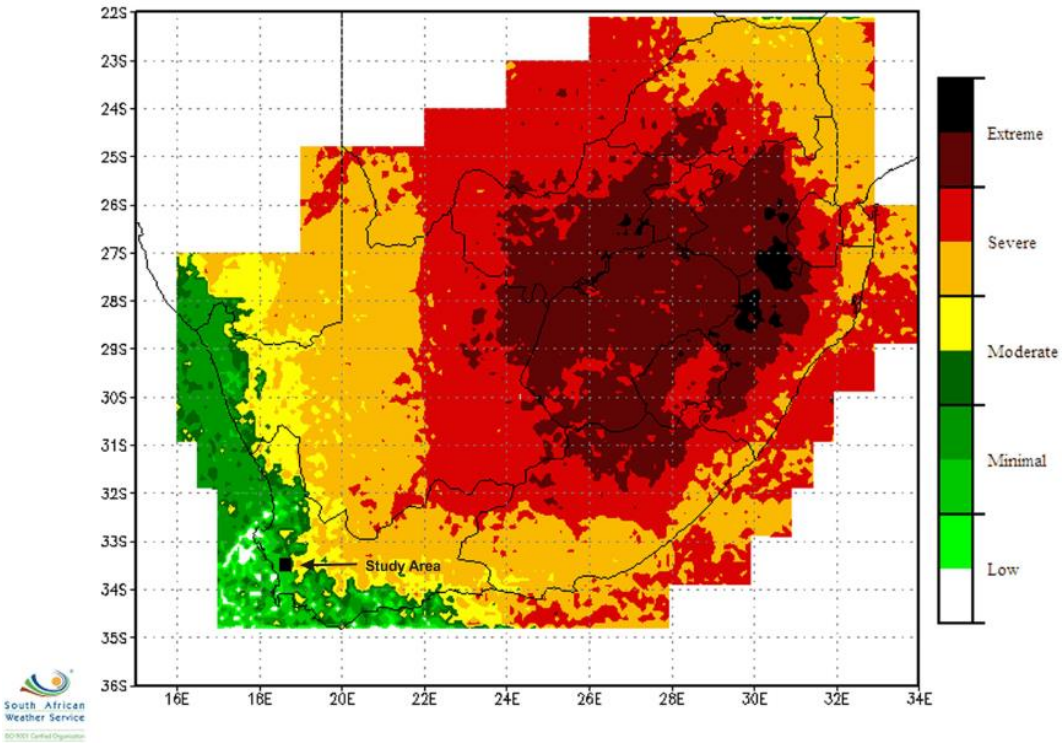
The area around Atlantis has an average Lightning Ground Flash Density point (‘lightning strike rate’) of between 0.1 – 1 per square kilometer (**Figure 35**), which relates to a low total lightning risk (Figure 36).Thus, lightning is not a significant concern to the Atlantis SEZ.

Figure 35 Lightning Ground Flash Density: Flashes per square km (2006 – 2012)



Source: South African Weather Services (SAWS, 2013)

Figure 36 Total Lightning risk for Southern Africa (2006 – 2012)



Source: SAWS, 2013

b) Wind direction, High Winds and Gust factor

Category: Critical Consideration – manageable via site-specific regulations/guidelines

The operating parameters of industries in the SEZ will be unique, based on their individual foci. Thus, each industry should consider their risk based on the information provided herewith. Their assessment would depend on the type of building(s) that are constructed, materials involved/being transported, and means of transport. For example: a waste recycling facility will need to consider wind speed since it may present a waste-related nuisance (air pollution/solid waste) to the area when blown off-site (thus requiring e.g. suitable fencing to catch wind-blown solid waste), or it may present fire risk when associated with fire hazards such as electrical flash-overs.

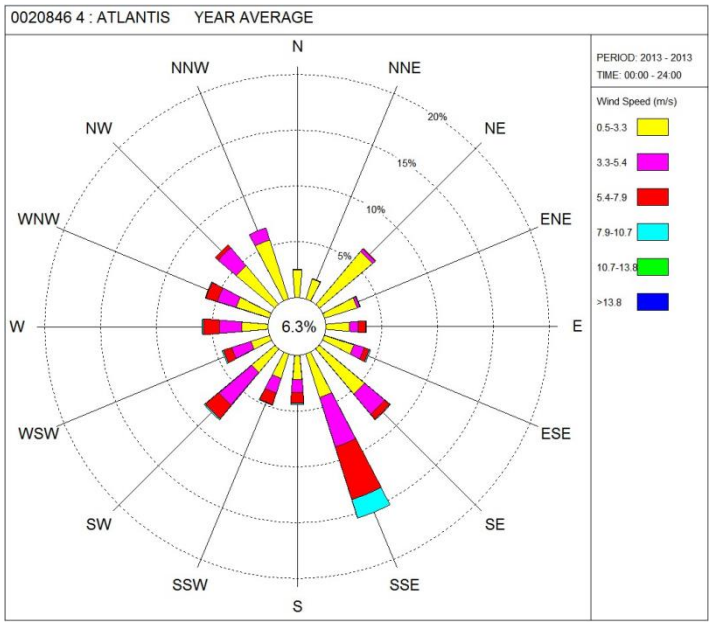
South African design codes (SABS standards) require all permanent structures to withstand a maximum wind speed of around 40m/s (BKS, 2011a). Wind speeds in the area vary mostly between 8 and 12 meters per second (m/s) but can reach up to 20 m/s in summer months. Although gust factor is unknown, the Atlantis SEZ and surroundings often experience significantly gusty winds during the months of December and January. The data presented in Figure 38 were measured and recorded at Atlantis during 2013. During summer, a high percentage (approximately 30%) of the velocities is in the range from 25 – 50 km/hr (13.5 – 27 knots). Winds are frequently strong and can attain gale force, in excess of 70km/h at times especially in the afternoons. Velocities exceeding 100km/h (54 knots) have been recorded (BKS, 2011a), especially when cut-off lows enter the area from the coast. One specific incident occurred in July 2008 when a cut-off low was associated with strong south-easterlies, resulting in direct damages of R 71.1 million (RADAR, 2010). Such wind speeds require significant consideration when structures are designed – especially roofing, so as to reduce the potential for building materials and on-site infrastructure to be blown apart, causing damages and having an impact on safety of workers and residents in the area. For transport/access-related concerns in relation to high winds/gusting winds, refer to section 1.3.1.3.

Winds are named from the direction it approaches. The prevailing wind direction throughout the summer months (October to March/April) (
Figure 39) is North-north-west (NNW) (i.e. coming from the NNW and blowing towards the SSE); while in autumn and winter it varies from South-westerly to South-easterly (Figure 40). The direction is important when individual factories/industries are planned/located, to minimise pollution-effects to surrounding areas. The impact in this regard from a disaster risk consideration is the potential for aggravation of fires related to industry operations, where areas towards the SSE of the Atlantis industrial area may be in danger.

The direction of the wind when considering fire risk related to electrical flash-overs from the power lines towards the southeast of Atlantis does not translate into a significant risk since those wind directions dominate during winter months, which is the rainy months when grass and veld is wet, thereby reducing the prevalence of fires.

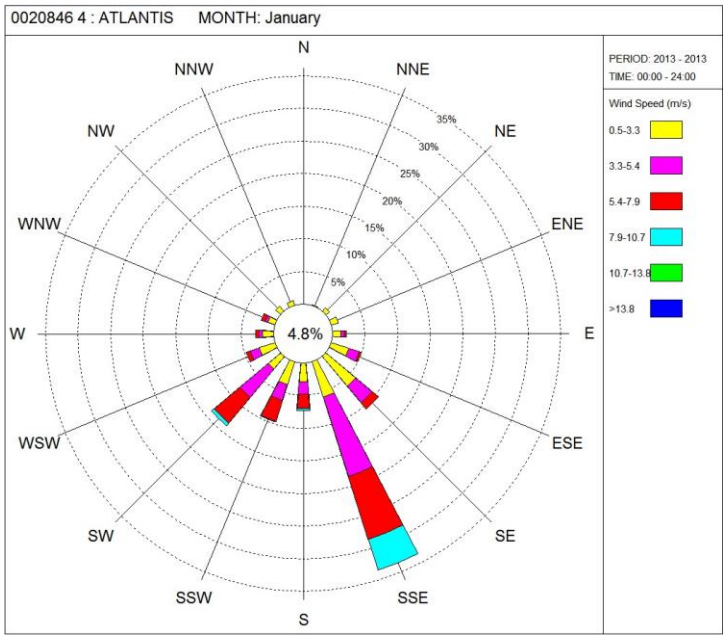
Wind speeds, rainfall and severe storms can be accurately predicted days in advance. The accuracy of the prediction increases closer to the time of occurrence. It is therefore recommended that the Atlantis SEZ include in its regional operation a monitoring process to ensure effective communication between SAWS and in turn with the various operators/industries within the SEZ. The communication would be needed particularly when severe storms are predicted or when significantly high winds and gusts are expected, and infrastructure or materials has to be tied down or brought inside factory buildings, or when staff health and safety is of concern.

Figure 37 Average Wind Speed and direction at Atlantis



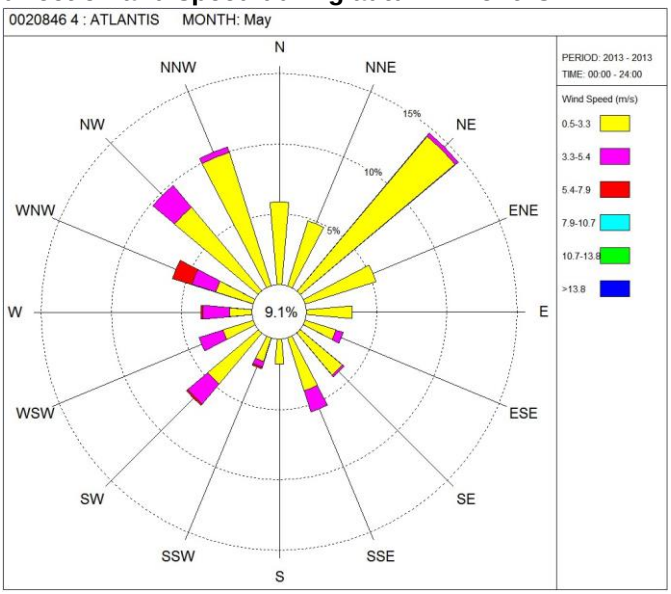
Source: SAWS, 2014

Figure 38 Wind Speed and direction at Atlantis during January 2014, representing the general wind direction and speed during summer months, between October and March



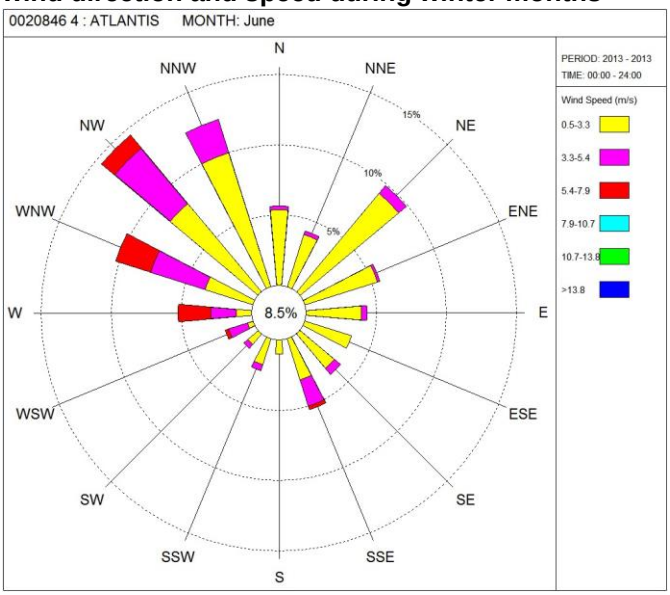
Source: SAWS, 2014

Figure 39 Wind Speed and direction at Atlantis during May 2014, representing the general wind direction and speed during autumn months



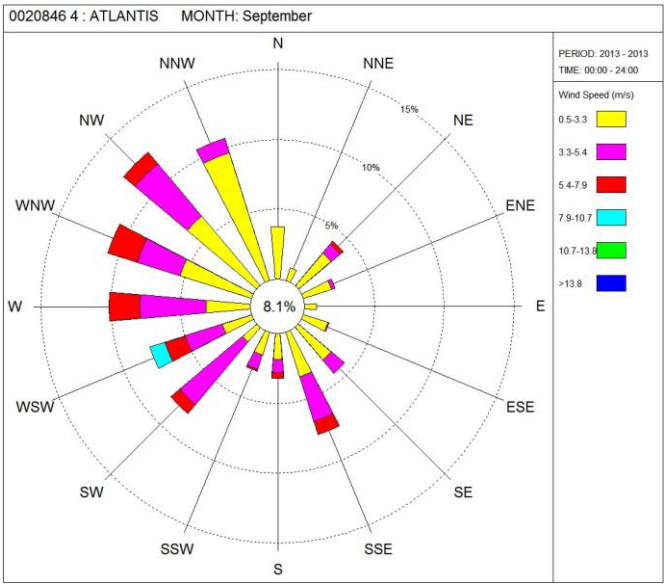
Source: SAWS, 2014

Figure 40 Wind Speed and direction at Atlantis during June 2014, representing the general wind direction and speed during winter months



Source: SAWS, 2014

Figure 41 Wind Speed and direction at Atlantis during September 2014, representing the general wind direction and speed during spring



Source: SAWS, 2014

c) Floods

Category: General Consideration

The Department of Water Affairs (DWA) no longer provides 1:x00 (e.g. 1:50 or 1:100 etc.) year flood details for development consideration purposes, due to historical misinterpretation and subsequent legal pursuits against DWA. The misinterpretation stems from the fact that a "1:x00 year flood" means that there is a probability that one flood of that particular height may occur in x00 years". Unfortunately, the reality of probabilities of this nature is that it is indeed possible to have multiple floods reaching that height in any given year, after which this frequency may in turn affect the flood return period statistics. Thus, the *probability* of a particular flood happening being expressed as 1:x00 is merely an indication of the potential height and return period based on *historical* flood frequencies and rainfall. With climate change on the forefront of debates, historical records are considered in some circles to be unreliable, therefore reluctance emerge to express flood hazards in this manner. Therefore, this assessment interpreted the floodline of the river south-east of the Atlantis SEZ in a non-specific manner.

Floods present a relatively low risk to the effective operation and economic viability of the Atlantis SEZ. The reason for this is that floods are not site-related, but that floods may cut off certain transport routes to and from the SEZ. This could have an impact on ease of operations and health and safety statistics of industries in the SEZ and for temporary periods of time, however it is not expected to be significant in reducing the effectiveness of the SEZ as a whole.

d) Hail storms

Category: General Consideration

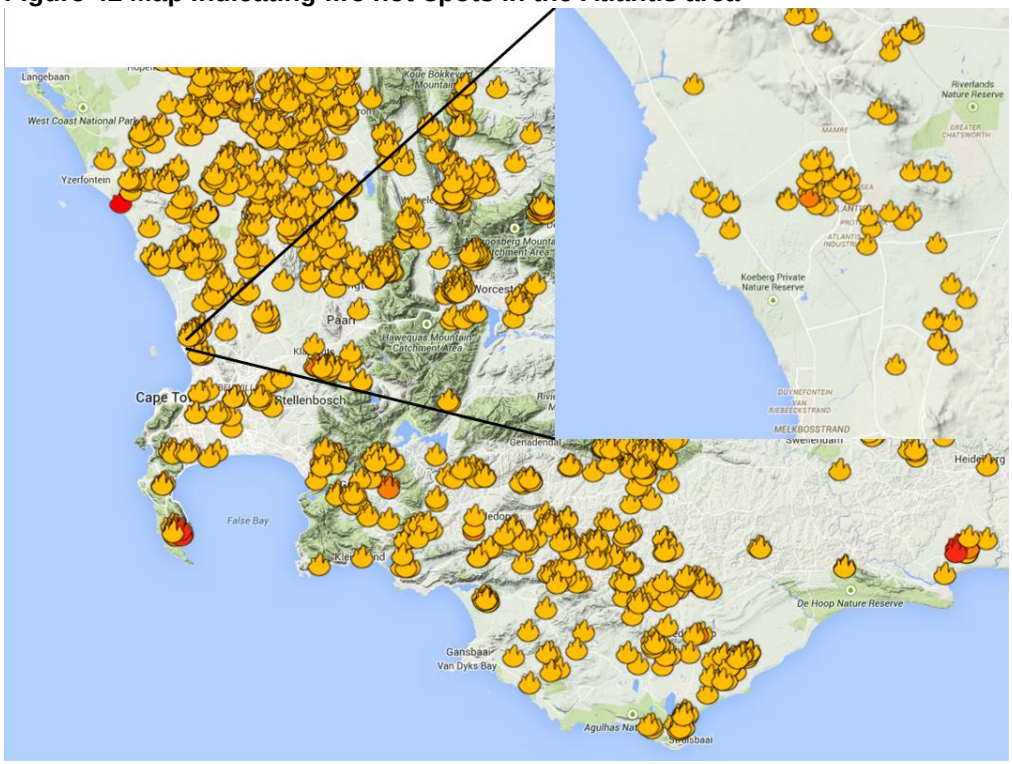
In the Risk and Development Annual Review of the Western Cape (RADAR, 2010:2), mention is made of one significant disaster that occurred in the area near Atlantis, between 2003 and 2008 – a hail storm that occurred in Haarlem in the Western Cape, where 389 hectares of fruit trees were damaged, 35 small traders impacted, and 194 permanent workers and 160 temporary workers were left unemployed as a result. The direct damage costs were estimated to be R 9.4 million. Little other information is available. Thus, as is the case with high winds and gusts, consideration should be given to factory building materials/covering when it is being constructed, at an individual site level. Such requirements should be made known to operators and investors, to ensure that they understand the risk and related mitigation and insurance measures regarding potential hail damage. The risk to the Atlantis SEZ as an operating entity, however, is not significant.

e) Fire

Category: Critical Consideration – manageable via provision of suitable Fire Emergency Services in Atlantis SEZ

Fires are prevalent in the Atlantis area (Figure 42), although not as much as in other areas of Southern Africa. Although flash-over fires could occur especially in areas where high voltage powerlines run (Figure 43), the servitudes underneath the powerlines seem to be well-maintained and the dominant wind direction would generally direct fires away from the SEZ, towards the south-west.

Figure 42 Map indicating fire hot-spots in the Atlantis area



Source: AFIS, 2014

Figure 43 Eskom high voltage power lines south of Atlantis SEZ

Source: AECOM, 2014

The primary concern regarding fire in Atlantis is related to the potential for small, insignificant fires to turn into disastrous events, due to wind strength. If a fire occurs, the chance for it to spread rapidly and increase in ferocity is significantly high. In addition, large open spaces (especially during the early stages of development) as well as the proliferation of dumping/storage of flammable materials in the industrial area is of concern (Figure 44). These elements can be managed via effective SEZ operational management and monitoring, as well as SEZ-wide fire safety procedures and drills (i.e. not only as required by site, but for the entire SEZ).

Figure 44 Unused tires dump/storage site in Atlantis industrial area

Source: AECOM, 2014

The current level of risk being regarded a Critical Concern in terms of fires in the Atlantis SEZ is not as much related to the probability of the hazard, but rather the lack of manageability and capacity to manage and contain a fire disaster should it occur. This assessment is based on information that the nearest fire services to the SEZ are located at the Koeberg Nuclear Power Station, and there is currently no evidence of an effective communication mechanism between Koeberg and Atlantis in case a major fire breaks out. The nearest Municipal fire station location and capacity could not be determined, and unless the latter is able to respond quickly and with adequate knowledgeable manpower to be able to contain industrial fires (taking into consideration a need to understand the industrial materials and operations that are envisaged in the SEZ), this hazard pose a significant concern to the Atlantis SEZ.

The impact of fire risk in the Atlantis SEZ can be effectively addressed by locating a Fire Emergency service within the SEZ, with adequate capacity and knowledge regarding industrial fire and emergency management. This service could also function as a communication channel in case of other emergencies, such as weather-related events, or nuclear disasters. In addition, there should be an SEZ-guided monitoring and maintenance procedure with regards to Health and Safety matters within the SEZ (which include Fire emergency procedures) as opposed to relying only on individual operations to implement guidelines and legislation related to fire management.

During the site visits, no fire hydrants were identified or visible. This information should be researched and obtained, and if available, be made part of the abovementioned procedures and SEZ-wide fire management strategy. If there are no fire hydrants in the Atlantis SEZ, short-term alternative options should be implemented, for example provision of remotely enabled/mobile fire services, until such time as formal services can be provided. This plan and its implementation should be done in close cooperation with the fire and emergency services of the District.

E. Man-made Hazards

a) Condition of access roads

Category: Critical Consideration – manageable via maintenance, upgrade, monitoring, restriction and enforcement

The N7 freeway is suitable for the purpose of the Atlantis SEZ operation, from a Disaster Risk Perspective. The R27, although suitable for such purpose, could be considered too narrow to handle significant increased traffic volumes, especially freight traffic increase. Although only an in-depth transport study could determine the exact requirements that may be needed from the R27, this is a definite need and budgetary allowances should be made to enable the widening/upgrade of the road. This requires engagement with the Department of Transport and Municipality.

Although not directly related to the sites that form part of the SEZ, the condition of regional roads and facilities that would serve the SEZ and its operators/workforce signal a potential decline in road transport effectiveness. When comparing the condition of access roads, entry points to Atlantis industrial area and safety on some of these roads, there is visible and dramatic decline in maintenance visible. This is a Critical Consideration in the sustainability and feasibility of the SEZ, since if the condition of the road access cannot be by-passed with alternative modes of transport (such as rail), or with increased control as to the use of particular roads for selected purposes and to a specific safety standard, a dramatic increase in budget and operational costs are expected to ensure maintenance and upkeep of vehicle fleets that serve operators/factories in the SEZ. This may be a direct cost to the individual facilities, but will have a knock-on effect on the viability and effectiveness of the SEZ.

When considering storm occurrences, high wind velocities and floods in association with each other, the currently desire-transport routes to and from the SEZ is under significant pressure. Although the highways and regional roads are not generally affected by flooding, site visits in September 2014 indicated that roads leading to and from Atlantis industrial area are under significant pressure when considering potential for flooding and falling trees/branches to obstruct routes and cause a danger to human health and goods transportation

In contradiction to the section on *Access*, stipulated on page 11 of the Atlantis Spatial Framework (2014): the R304 is not noted in the freight movement network. However, during site visits it was observed that a significant amount of heavy vehicle traffic, including construction, freight and fuel was transported on this road, with some vehicles travelling at significant speed. Site visits also indicated a significant commercial heavy vehicle and hazardous materials transport load on the Philadelphia road towards the T-junction with the R340.Although some of the observations indicated local use (e.g. for operations to which the R304 provide a service for example a sand quarry, many used the road as thoroughfare to the N7. There are signs at the entrance to the R304, approximately 15 km south of Atlantis, from the turnoff of the N7, stating that only local residents should use the road. However, despite the signs and the clearly unsuitably narrow, step drop-off at places on the side of the road, and poorly paved condition/potholes on the particular road, a number of heavy vehicles were observed using the route during different times of the day and on different days during the week. Of these, a large number were also driving at speeds excessive to safe use of the road, considering its poor condition. This road is probably used as opposed to the N7/Philadelphia turn-off since it is significantly shorter than alternative options when travelling from Cape Town. This is despite the N7 highway being in a much better condition and designed to withstand the weight of the heavy vehicles. The proposed R300 extension cannot be commented on at the time of this report being compiled, however it may alleviate the current pressure on the R304.

The hazards of flooding and falling branches which may obstruct these routes have already been discussed. Although this may cause temporary obstruction to transport at these particular crossings, it is the occurrence of multiple disasters which are of more concern. Should these roads the blocked off by any particular incident (for example high winds causing fallen branches), evacuation routes could be compromised. Thus, the repair and maintenance of roads that are generally considered not part of the SEZ operational ambit should be better maintained.

Roads such as the R304 in the vicinity of the Atlantis SEZ are in desperate need of maintenance and/or upgrading, even if it is not to be used by industries operating from the Atlantis SEZ. The assessment of the access roads to the SEZ and costs relating to repairs/maintenance and upgrade should be the subject of a separate study. However, this report does recommend that the R304 leading from the Southern side towards Atlantis be closed (with inspection posts at the entry and exit zones) to heavy vehicles not operating at industries that are served by the road. Signs indicating non-authorised use will not deter heavy vehicles from using their current routes, and therefore significant penalties should be incurred if used by unauthorised heavy vehicles, and that the road be repaired as a matter of urgency.

Traffic calming zones should be established at major intersections, areas where speeding occur, and in Atlantis near critical facilities and educational premises.

Specific transport routes should be designed within the SEZ and surroundings for selected vehicles, vehicle types and transport of specific materials to, from and within the SEZ. This is in particular necessary for the transport of Hazardous and Flammable materials. These routes should be monitored and enforced, and adequate major accident response capability enabled to respond to accidents relating to these (for example via fire and health emergency services).

b) Socio-cultural stability

Category: Critical Consideration – manageable via community participation and engagement

It should be noted that the analysis of statistics provided in this Section of the report is a reflection of similar areas elsewhere in the Western Cape as well as in South Africa Nationally. The critical consideration is therefore not unique to Atlantis and would not deter the development and operation of the SEZ as an entity. The disaster risk reduction process and solution related to this hazard in relation to the Atlantis SEZ is not contained in the SEZ itself, but rather in overall societal and developmental progress and upliftment programmes, which the SEZ in itself could be a part of.

In order to anticipate potential challenges in regards to socio-cultural stability, the SEZ management should ensure that effective communication and engagement takes place with the community in Atlantis before and during the SEZ establishment process, to minimise disruptions on operations and effectiveness of industries and businesses that form part of the SEZ and its hinterland. Media liaison and management of perceptions related to socio-cultural stability and the potential to utilise the SEZ as a catalyst for positive change in this regard should be used as a motivating factor, rather than being viewed as a potential disaster.

General perception and expectations

Perception has often one of the greatest influences on the implementation of economic facilitators such as the SEZ. Thus, the perceived stability and dangers related to social and public safety should be considered by SEZ management in order to convince investors and the public alike to invest in and move to Atlantis. During this assessment, no formal or informal interactions were held with stakeholders or residents operating in or living in or near Atlantis. Such investigation is necessary as part of future implementation and development programmes of thin order to gauge the level of confidence and safety related to the SEZ. At the same time, such engagement would enable development agents of the SEZ to provide accurate information and share future plans with residents in Atlantis. The engagement is the communities in and around Atlantis is critical to secure the sustainable long-term effectiveness of the SEZ – if the community support the objectives of the SEZ and are engaged in the processes that affect them, as well as positive spin-offs that may be gained by the entire community, the SEZ could the that much more economically and socially successful.

In reality, the development of a SEZ could take a decade or more from the time of this report being written, to realise to its full extent. This timing influences the positive economic impacts of the SEZ to trickle down to the community. Thus, the expectations of local businesses, investors and communities in and around Atlantis SEZ should be managed carefully to ensure that reality-based expectations are created.

Violent service delivery protests

There is not a significant amount of information readily available for protest action in the Atlantis and surrounding area. However, the Western Cape was reported in June 2012 to be the most protest-afflicted province (University of KwaZulu Natal Centre for Civil Society (UKZN CCC), 2012). Some specific incidents were recorded via news reports and provide a general indication of the level of community-based violent protests, which is prevalent in Atlantis:

In 2008, violent taxi protests took place against the City's Integrated Rapid Transit (IRT) (bus) system (West Cape News, 2008) which operates along the R27 trunk route to Blaauwberg. Known as the MyCiTi bus route which has been extended from Table View to Atlantis, the tensions between the taxi owners affiliated to the Atlantis Blaauwberg Taxi Association (BTA) and the City is ongoing (taking place in 2012 and again in 2014). The taxi industry claim that the reason for the violence was due to:

- uncertainty regarding the taxi industry role in the bus rapid transit system and how such a system may benefit them;
- they criticised the lack of employment opportunities for locals in the construction of the MyCiTi local bus depot;
- the claimed very few local have been employed in the maintenance of the Atlantis network; and
- more recently (August 2014) claiming that taxi driver earnings reduced from R 2000 per week along the route to R 600 per week.

Negotiations towards a peaceful involvement stalled and taxi representatives left the negotiating table (West Cape News, 2008). This situation calls for a critical engagement with the community and transport operators in and around the Atlantis SEZ, to ensure safe, stable and affordable access for workers to SEZ sites. The SEZ can only be effective if workers in the industries in the SEZ are able to travel safely and are enabled to attend their place of work on a regular and uninterrupted basis. Thus, discussion with the community and transport operators in the SEZ need to take place, and should for example include the MyCiTi bus Vehicle Operating Company (VOC) Kidrogen, since the discussions and transport planning involve among other measures possible compensation for taxi drivers and consideration of legal vs illegal taxi operations.

In August 2013, the multi-million rand state-subsidised People's Housing Project (PHP) in Witsand stalled due to soil problems not accounted for in the initial budget of R26.9 million (West Cape News, 2013). As a result, approximately 100 incomplete houses were vandalised by youths from adjacent townships and informal settlements, thereby escalating costs and further delaying completion. The residents in the area remain upset about delays and have been told that failure in housing delivery was a result of the Human Settlement Department withholding additional funds for completion of the project; however the City of Cape Town stated that the initial project funds were approved and dispensed and that there is no withholding. Such unbalanced information provision from stakeholders involved in the Atlantis region has an impact on the socio-economic stability of the entire SEZ.

In June 2012 the Atlantis community took justice into their own hands when a "mob justice killing" took place. Between 200 and 500 community members were involved in protests relating to the incident, in which the community (including the man accused of the mob killing) say they have "lost confidence in the police" (IOL News, 2012b).

In March 2014 women in Atlantis protested for harsher sentences of human traffickers. This followed an incident where two young children were subjected to human trafficking and a 25-year jobseeker was lured into prostitution, and thereafter was held prisoner, raped, beaten, abused, drugged and forced to work as a prostitute for a period of two years. Barbara Rass, Atlantis councillor and founder of the Atlantis Women's Movement, note that human trafficking was on the increase and that harsher sentences for traffickers are needed (IOL News, 2014). Although the Prevention and Combating of Trafficking in Persons Bill was signed into law in July 2013, giving South Africa a statute dealing specifically with human trafficking, the activity remain rife in Atlantis (also see section 1.3.2.2d) regarding child abuse and prostitution).

The residential community should not be regarded in separation from the SEZ – they function as an integrated unit and thus the communities in and alongside the SEZ should form part of the SEZ planning and discussion process. The days of simply calling a public meeting and informing residents of what is taking place in their neighbourhood is long gone. Significant public participation is necessary to improve the currently instable social environment in Atlantis, and improve the economic viability of the SEZ. The involvement of local ward councillors and community leaders in the Atlantis area is critical to address the issues related to public violence, in order to improve the viability of the Atlantis SEZ.

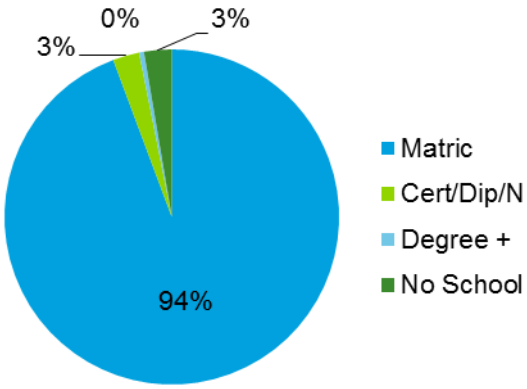
Demographics and income

Even though community stakeholders may have an understanding of the level of engineering expertise that would be required to operate some green economy industries, as is envisaged for the Atlantis SEZ, the expectation would still exist that significant direct local engagement (i.e. job creation) would be made possible via e.g. basic construction and operational services. These expectations should be managed from the start of the development of the SEZ, via community engagement processes, including any potential suggestions that communities may have in regards to their potential involvement and before and during the SEZ development process.

The following census statistics shed light on the potential areas of concern in Atlantis (StatsSA, 2011):

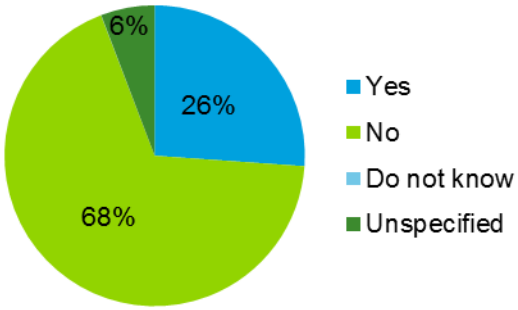
The level of education of residents in Atlantis is in general considered acceptable for effective disaster risk management planning in the community. However, the present level of school attendance for children of school-going are is significantly concerning, and signifies a long term critical concern not only in the community, but for the SEZ. If the level of education in future falls due to current low school attendance figures, the Atlantis SEZ will have fewer schooled workers to provide employment to, while at the same time crime and social disruption is expected to increase. School attendance should therefore in particular be addressed not only as a social element in Atlantis, but as part of a broader Atlantis SEZ sustainability strategy to ensure the SEZ's future long term success/effectiveness.

Figure 45 Level of Education



Source: StatsSA, 2011

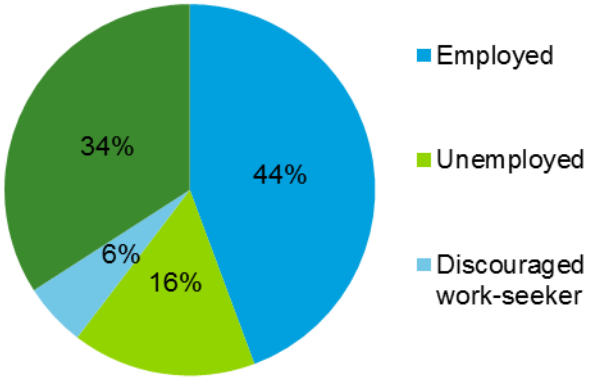
Figure 46 Present school attendance



Source: StatsSA, 2011

The employment status in Atlantis is low – only 44% of the residents, who are able to work, are employed. The development of the Atlantis SEZ could have a positive impact on this concerning statistic and would improve the economic situation in which the residents of the town and surroundings find themselves:

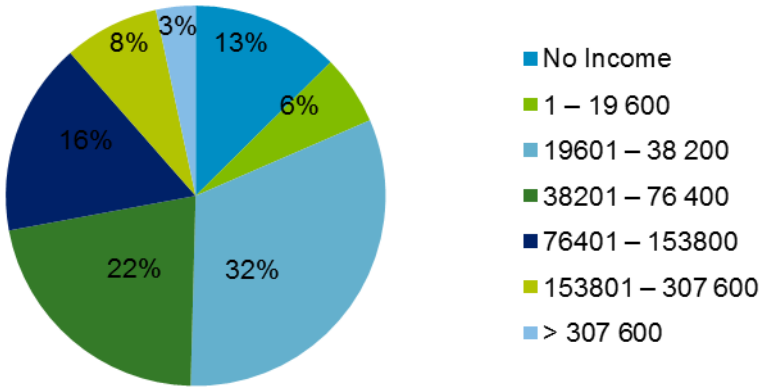
Figure 47 Employment Status



Source: StatsSA, 2011

The annual household income of residents in Atlantis is significantly low. This may be positively affected by the Atlantis SEZ, however only if there are active plans implemented that focus on employment of local residents where feasible. This situation reflects in the incidents of public violence and vandalism where residents protested violently against employment of non-Atlantis residents in services and functions provided within or to Atlantis.

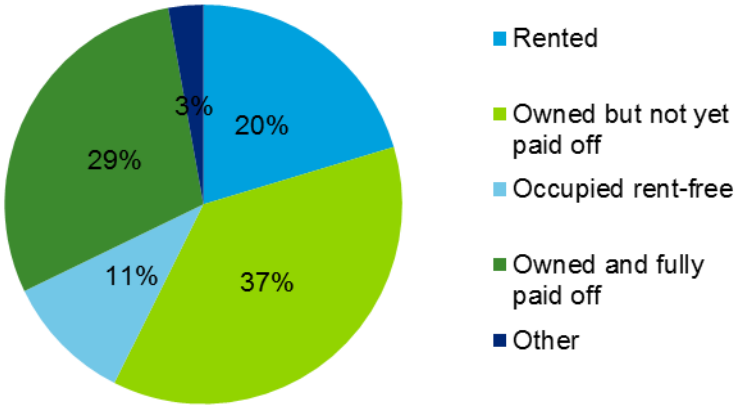
Figure 48 Annual Household Income



Source: StatsSA, 2011

With debt levels related to housing standing at 37% and renting constituting a large part of dwelling tenure (20%), a large proportion of the community is not owners of their properties. In general, such an insecure situation at household level gives rise to additional movement and insecurity within the community as a whole. The establishment of the Atlantis SEZ and associated job opportunities that may arise (if locals are able to fill positions or be trained to fill positions in local industries), could address this concern positively.

Figure 49 Tenure status per household



Source: StatsSA, 2011

The male to female resident ratio in Atlantis is 51% male vs 49 % female, with females showing a slightly higher level of schooling.

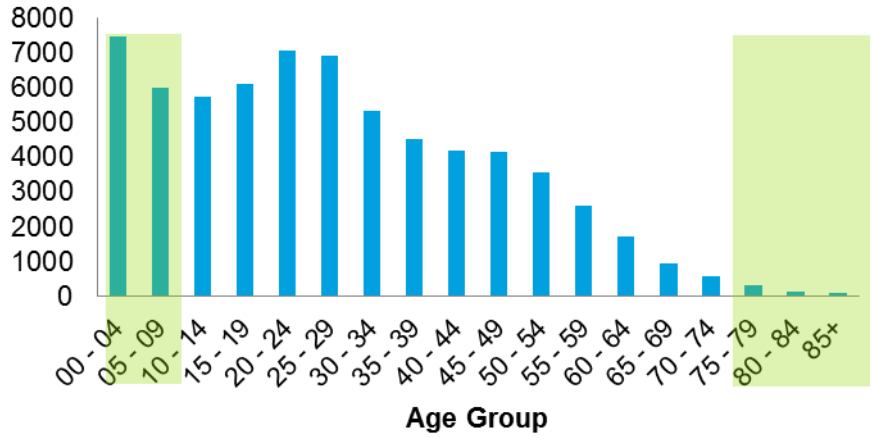
Children constitute a large age group in Atlantis, with the largest age group being between 0 – 4 years of age as measured in the 2011 Census. This distribution not only signifies a significant social concern, but also signifies an important element of disaster risk early warning and response. Should there be any disaster risk emanating from the SEZ (for example a large industrial fire), it means that a significant proportion of the community may not be in a position to avoid the impact of a potential disaster that may be imposed on them from within the SEZ. These statistics does present an opportunity, whereby school programmes in the SEZ in particular could involve disaster risk reduction and early warning elements, for example in particular in regards to:

- Industrial Fires and health and safety incidents,
- Nuclear and power station related disasters/explosions, and
- Earth tremors

In these three instances in particular, an increase in awareness and education of young children will assist in distributing the message to the rest of the community (since children could take the message home).

In addition, schools and educational facilities in the vicinity of the Atlantis SEZ should be engaged and form part of early warning measures that relate to the Atlantis SEZ, thereby ensuring community safety not only within the SEZ but in the broader region.

Figure 50 Age Distribution of people living in Atlantis

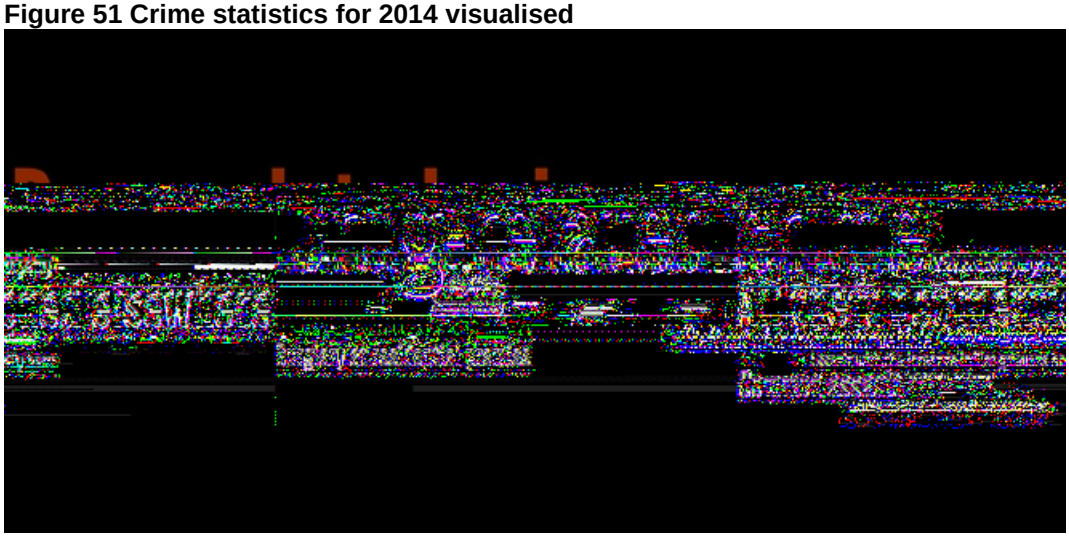


Source: StatsSA, 2011

c) Crime, especially drug-related concerns

Crime statistics for Atlantis SEZ during 2014 can be visualised as follows, where the size of the text represent the relative numbers of incidents of the specific kind occurring since 1 January 2014:

Figure 51 Crime statistics for 2014 visualised



Source: StatsSA, 2014

The statistics show that individual incidents/events of crime is, as elsewhere in the Western Cape, at the forefront, and on its own does not constitute a disaster. However, it is the culmination of the effects of the individual cases that brings a concerning picture to the fore. Considering the relatively small community of Atlantis (see demographics section), the number of crimes are concerning, considering that the development of the Atlantis SEZ will be dependent on a stable and safe investment opportunity perceptions. In particular, the drug problems that the community is experience is significant and unless this is addressed as part of the Atlantis SEZ development plan, and taken cognisance of by investors and developers in the area, it could present a Critical Consideration to the long term sustainability of the SEZ.

During the site visits, police patrols were visible throughout the industrial and residential area. Although this gives an indication of police activity, it also signifies the need for constant patrols. The underlying need for such patrols is of great concern to the stability of the SEZ – not only for individual operators or factories that may be subject to specific crimes, but of long term economic concern since it could deter investment in the SEZ.

In 2003, Atlantis was cited as an area where child abuse was rampant (IOL News, 2013). The survey of 272 pupils in four high schools in Atlantis indicated that 38% of children sampled in a survey in Atlantis had been sexually abused/raped and 12% had turned to child prostitution. The use of pimps were common and specific homes are known from which prostitution was “run unhindered”, with girls as young as 14 and 15 being involved. The report considered the more than 300 shebeens in Atlantis to be of paramount significance as a factor in understanding the cycle of abuse and exploitation of youth and children in the area. Although this report was done in 2003, it means that these young people are now, 11 years later, young adults, with a significantly scarred emotional background and potentially unstable personal life. Also, the ongoing manner of such behaviour in the community is spoken of on an informal level, although no recent statistics are available. This critical element of social break-down is expected to have a *significant* impact on the socio-economic stability of the Atlantis SEZ and has to be addressed through a collaborative process that engage the entire community, operators of the SEZ (who need to consider the social and emotional well-being and stability of their workforce in order to ensure effective operating capacity) as well as social, educational and health services in the area.

d) Societal instability based on external factors

Category: Insignificant

External factors that could lead to terrorism or sabotage in the region does not seem to be a significant concern. However, this may depend on the type of industries that enter the SEZ. Considering that such industries would be related to the green economy, it is not expected that such industries would generate a negative response in terms of potential sabotage or acts of terrorism.

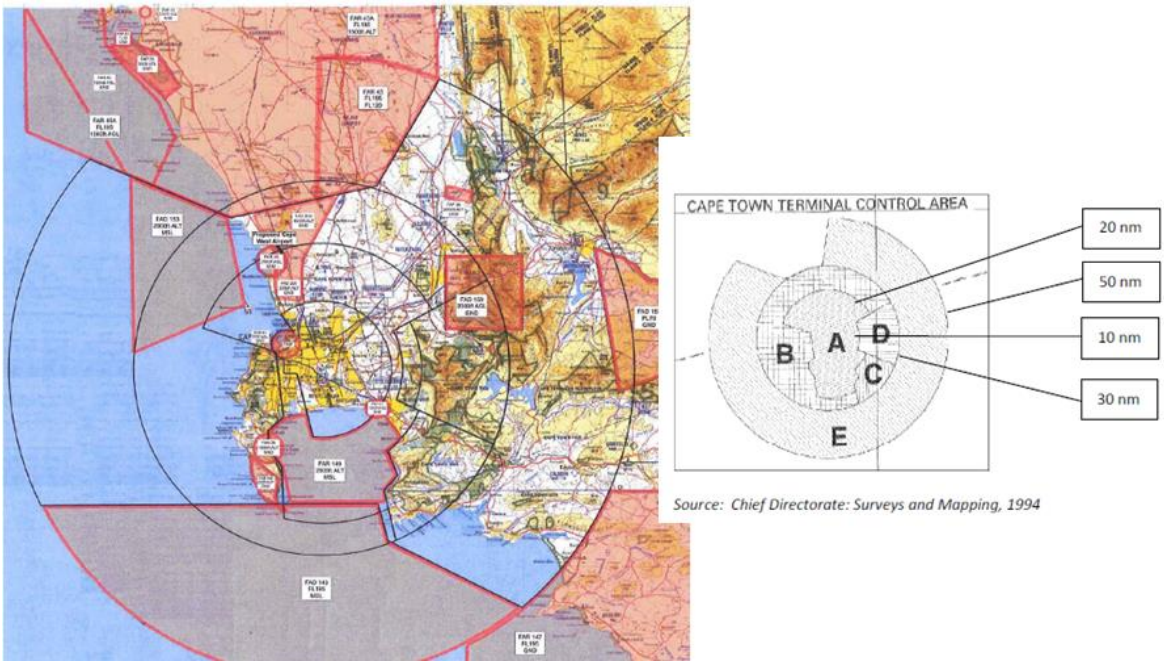
e) Aerial and aviation-related hazards

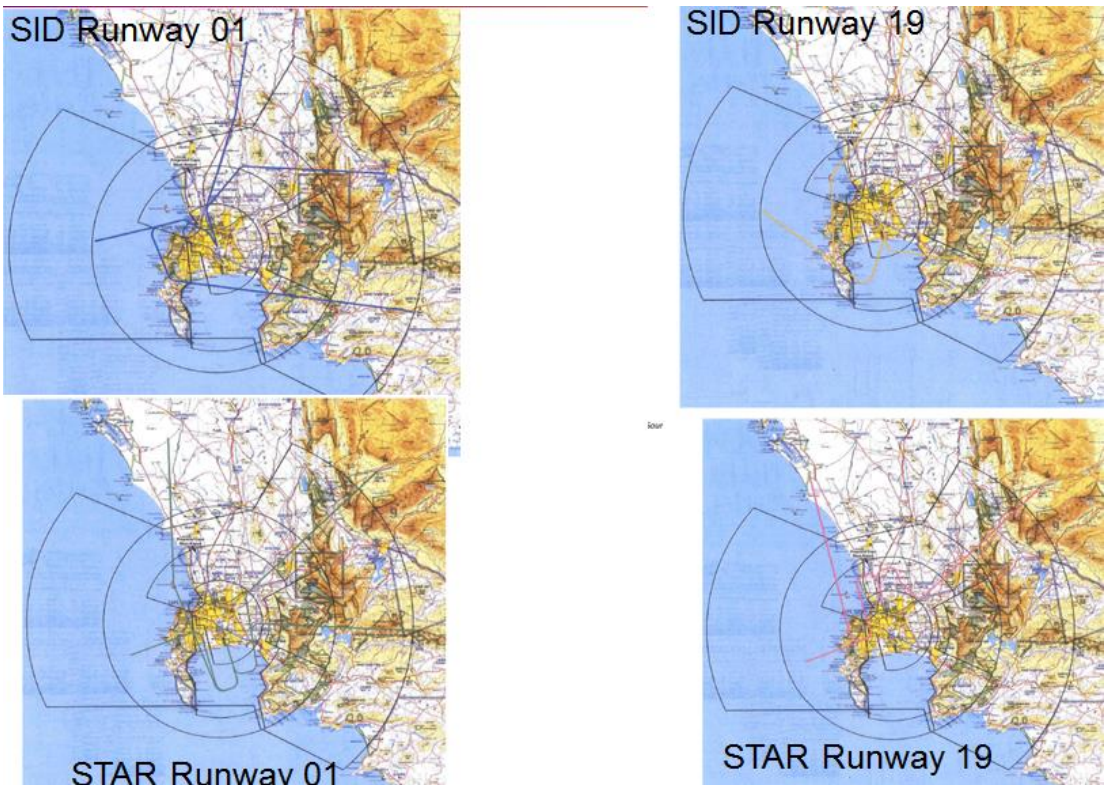
Category: General Consideration

When considering the Atlantis SEZ, there are currently no aviation related hazards that would present a significant impact. There is a remote controlled aircraft field approximately 5 km from the SEZ presenting no hazard to the SEZ, and an unmanned airstrip south of Atlantis, accessible from the R 27. The latter is used for pilot training and skydiving operations. Usually, a 1 nautical mile buffer is considered the most important zone of hazard – this zone falls towards the south of the Atlantis industrial area and SEZ and therefore would not have a significant impact on the SEZ. (A 1nm buffer is considered to be the area of hazard where possible accidents may occur (AECSA, 2014)).

Current approach funnels from the Cape Town International Airport (CTIA) does not affect the Atlantis SEZ. The air space over with the Atlantis SEZ will as it is currently, not affecting the SEZ in a hazardous manner. The images in Figure 52 show the flight paths to and from CTIA: for Standard Instrument Departure (SID) on Runway 01 and 19, as well as Standard Terminal Arrival (STAR) Runway 01 and 19, there is no zone of influence on Atlantis SEZ.

Figure 52 Control areas and runway approaches for CTIA





Source: BKS, 2011a

For the past decade there has been talk of the possibility of a second international airport in the vicinity of Cape Town, however there is currently no evidence that shows that the development is considered seriously, however it is expected that in two or three decades from now, such an airport will be required. Earlier studies showed that an area approximately 20km south of Atlantis may be suitable for such an airport.

Should such an international airport be considered south of the Atlantis SEZ, the following considerations would apply: Larger aircraft are less affected by strong wind velocities than smaller aircraft. Based on the dominant wind directions and a report regarding "Impact of CTIA and Cape West on each other" (BKS, 2011b), the orientation of the proposed runway of a possible large airport south of Atlantis airport would cause the approach/departure funnel to intersect with the Atlantis SEZ. Should such a development become a reality, the disaster management plan for the Atlantis SEZ will have to be reviewed. In such instance, the Department of Transport (DOT) and Air Traffic Navigation Systems (ATNS) has to be involved, and the National Airspace Committee (NASCOM) has to be presented with an information document related to the airport, its airspace requirements, and related impacts. Since this is not yet a consideration, the matter will not be elaborated on in further detail.

f) Bulk services supply failure: Bulk water, waste water treatment and storm water; solid waste

An assessment of bulk infrastructure requirements for the proposed Atlantis SEZ was undertaken as part of the pre-feasibility study. Key findings are summarised in the Atlantis SEZ Spatial Development Framework (AECOM, 2014) and therefore not repeated here.

g) Electricity supply failure

Category: Critical Consideration – manageability can be improved via on-site mitigation

Apart from the assessment of electricity infrastructure requirements for the proposed Atlantis SEZ that was undertaken as part of the pre-feasibility study and the key findings that are summarised in the Atlantis SEZ Spatial Development Framework (*ibid*), the following should be considered: Power outages of the local electricity supply grid, as with any business in South Africa can impact the Atlantis SEZ. Consideration should therefore be given by individual operators in the SEZ to provide their own back-up power generators to run their operations to keep the individual facilities operational during power outages. Of greater concern than power outages is the expected increase in cost of electricity over the next decade, with figures of up to 20% year on year increases being expected. Potential investors should be made aware of the arrangements which the Atlantis SEZ may be considering to ensure affordable and uninterrupted power supply.

h) Power station hazard

Category: Critical Consideration – early warning procedures need to be included in SEZ operations and all industries in the SEZ should be made aware of SEZ-wide early warning procedures and evacuation plans

The Koeberg Nuclear Power Station is situated approximately 8km southwest of Atlantis industrial area. Construction of the Eskom-owned and -operated Koeberg Nuclear Power station began 1976, and it was commissioned 1984. This pressurised water reactor is currently the only one of its kind in South Africa. Based on the above discussion, early warning procedures and evacuation routes thus have to be considered and included in the Atlantis SEZ operational process. Currently there is little information available regarding how local residents and industries would be made aware of a potential danger and how evacuation of industrial areas, residential, educational and health facilities in particular would respond to a warning of potential nuclear disaster risk. This gap needs to be addressed as part of the Atlantis SEZ disaster management plan, once the Koeberg UPZ and operational/early warning processes are made available for perusal.

Due to the importance of the concern, the following information is repeated from the Koeberg Emergency Plan: “All urban development within the KNPS Precautionary Action Zone (PAZ) (area within a 5 m radius of the Koeberg nuclear reactors and Urgent Protective action planning Zone (UPZ) (area within a 5km to 16km radius of the Koeberg nuclear reactors) must conform to the following restrictions necessary to ensure the viability of the Koeberg Nuclear Emergency Plan:

No new development is permissible within the PAZ (as defined above) other than development that is directly related to the siting, construction, operation and decommissioning of the Koeberg Nuclear Power Station or that is as a result of the exercising of existing zoning rights.” The Atlantis SEZ falls outside of this zone.

“New development within the UPZ (as defined above) may only be approved subject to demonstration that the proposed development will not compromise the adequacy of disaster management infrastructure required to ensure the effective implementation of the Koeberg Nuclear Emergency Plan (version approved by the National Nuclear Regulator (NNR)). Specifically, within the UPZ area, an evacuation time of 16 hours of the projected population, within any 67,5° sector to designated mass care centres (as appropriate), must be demonstrated by means of a traffic (evacuation) model approved by Council and acceptable to the NNR. The evacuation time must be measured from the time that the evacuation order is given. These development controls will be superseded by National ‘Regulations on Development in the Formal Emergency Planning Zone of the KNPS to ensure effective implementation of the Koeberg Nuclear Emergency Plan’ when approved.” The establishment of the SEZ therefore need to take the above requirements into consideration and adhere to the necessary requirements which thus require the need for an effective early warning system to be implemented in the SEZ and all operators within the SEZ.

Ankerlig an open cycle gas turbine power station is located in the Atlantis industrial area, presenting an explosion hazard. The Atlantis SEZ should implement early warning procedures to ensure that any potential related disaster is communicated to the SEZ and the industries operating in the vicinity of the power station.

Figure 53 Koeberg Nuclear Power Station

Source: http://en.wikipedia.org/wiki/Koeberg_Nuclear_Power_Station

i) Fire and Rescue Emergency Services

Category: Potential Fatal Flaw

See information in earlier Section regarding Fire hazard. Unless there is a service centre in the Atlantis area that was not identified during the course of the disaster risk assessment, it is critical that Fire and Rescue Emergency Management Services are provided to the SEZ, even if it is initially in a mobile form. This is since the existing available services are located too far away from the Atlantis area to provide speedy and effective industrial-related disaster response.

j) Public Protection Services

Category: Undetermined

No data was available at the time of this report being compiled. Additional research is required to determine the capacity and ability of the South African Police Force (SAPS) and military services that may be engaged in case of a major disaster in the Atlantis SEZ.

k) Health Services

Category: Critical Consideration – manageable via provision of medical services associated to industrial incidents in the SEZ

There are four medical facilities in vicinity of Atlantis. Unfortunately, only services provided at the one closest to the SEZ could be established at the time that this report was compiled – that of the Wesfleur Private Clinic. The other Clinics/facilities may be able to provide additional services and there is apparently a drive to update existing health services. However, adequate information in this regard could not be obtained at the time of this report being compiled.

Figure 54 Wesfleur Clinic

Source: AECOM, 2014

The capacity of the Wesfleur Clinic varies depending on how many people they treat a day, clinic staff did not want to estimate. Services that are offered include Family Planning, Child Health Care, HIV & AIDs, TB, Pap smears and STI's, and they have a satellite clinic. The clinic is open from 07:30 to 16:30 daily. These services are, however, not suitable for industrial purposes. As a mitigation method, the Atlantis SEZ should invest in either its own medical facility, or one or more of the existing facilities in the vicinity of Atlantis should be upgraded to cater for industrial incidents such as cut and pressure-wounds, burn wounds and the like.

F. Disaster management recommendations

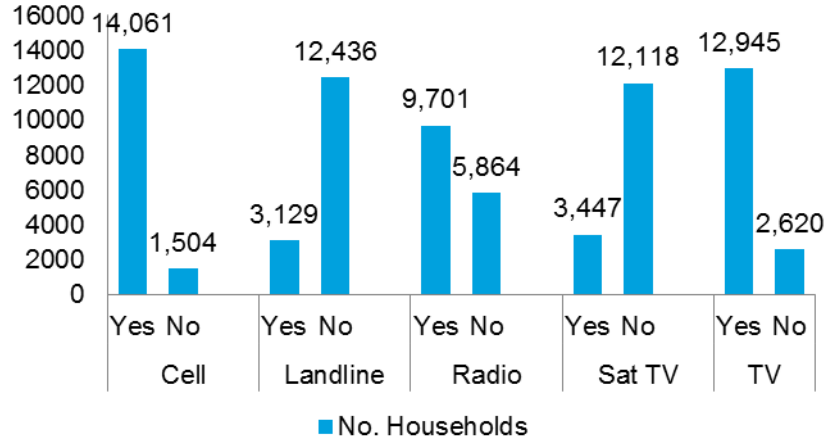
The Hazard-specific discussions and recommendations above relate to specific hazards and should be considered in more detail based on the specific industries and businesses that establish it in the Atlantis SEZ. In addition, the following should be considered:

a) Early Warning Processes

Census 2011 statistics indicate that cell phone connectivity, television and radio broadcasts would be the most effective way of reaching Atlantis SEZ workers and residents for purposes of early warning in case of an industrial or other disaster. The SEZ should ensure that adequate communication channels are established with each industry or operator in the SEZ to enable a communication network that allow fast and efficient early warning for especially disasters related to fire and power plant malfunctions (the latter at Koeberg or Ankerlig). In particular, it is necessary that health facilities, SAPS, schools and educational facilities (and potential future fire and rescue emergency services) in the Atlantis area be connected to the early warning network.

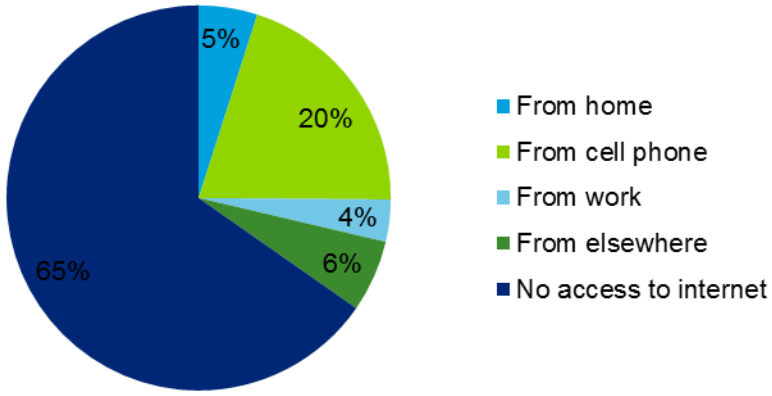
The schooling system and health care units in the area can also be used to establish disaster related communication channels.

Figure 55 Household communication services availability in Atlantis



Source: StatsSA, 2011

Figure 56 Internet access by residents of Atlantis



Source: StatsSA, 2011

b) Awareness and Training

The SEZ operator should consider inclusion of guidelines for industries that form part of the SEZ, to include training and skills development modules as part of their operational processes. Such options could upskill local residents (who seem to have at least matric graduation) and allow the local community to fill positions where possible, as opposed to transporting workers from externally into the area. Such a process will stabilise the community as well as reduce the potential for violent service delivery protests that are related to job security and a view of outsiders “taking” local jobs away from residents. If such a project is not embarked on or guidelines/requirements implemented for businesses that want to operate in the SEZ, the chances of social uprising and increase in already significant prevalence of violent protests are expected. Such an outcome could have a negative impact on the long term economic feasibility of the Atlantis SEZ since it could reduce investor appetite..

c) Establishment of SEZ Disaster Management Protocols and implementing agent

Considering the interventions presented in this report, both for hazard-specific disaster prevention, mitigation, early warning and response situations as well as in general, the following is recommended as an overall disaster management strategy for the Atlantis SEZ (and any other SEZ for that matter):

- Consider the small scale of the envisaged SEZ, sufficient early guidelines should be put into existence to ensure that operators and industries adhere to disaster management requirements from the start. It will be easier to establish the SEZ with recording processes and requirements in place, than to try and introduce it in retrospect.
- Consider provision of area-based disaster risk and operational maps, guidelines and planning services, as opposed to relying on site-specific risk management and disaster response. Thus, where industries are served as an agglomerate, as opposed to each having its own (potentially contradicting), plans, the SEZ would be better served as a whole. Such a process should span the entire disaster risk management continuum: from prevention and mitigation, to early warning, response and recovery.
- Establish a SEZ Disaster Risk Management Technical Task Team, of which the Health and safety representative or suitable senior competent person of every industry in the SEZ is a member.
- Provide basic disaster risk reduction and management training for staff who are involved in managing and operating the SEZ.
- Provide induction training for disaster risk management for representatives of new industries, and any specific new staff.
- Provide guidelines to regulate, and monitor that the above training/induction is transferred to on-site staff within each industry/operator.
- Monitor small scale incidents across the entire SEZ as well as in the community (e.g. re: violent protests). This is an extension of the usual health and safety monitoring, which is done at site level – it refers to a SEZ-wide incident monitoring system.
- Collaborate with the health centres in and around Atlantis: establish whether it is feasible to extend some of the services that are being provided, to cater for industrial incidents and accidents, or investigate the possibility of providing a SEZ-specific facility to cater for industrial accidents.
- Establish a fire emergency services facility for Atlantis SEZ, or even as part of one of the larger operators in the area, allowing them to extend services wider than their own operating entity. This will require collaboration and negotiation depending on the type of operation and services involved.
- Monitor and check that health and safety, fire and related regulations, and disaster management planning requirements are implemented by operators/industries in the SEZ, via a regular recording and checking mechanism.
- Implement traffic calming zones, restrictive zones and heavy/hazmat vehicle routes and implement measures to record and curb ignorance of reasons for such elements to be implemented.
- Consider road transport upgrades in the vicinity of Atlantis – especially the R 304 and the R 27.
- Make this report available to all industries in and around the Atlantis SEZ, and consider sharing information with the community at large.
- Give particular guidance on building/design details considering heavy winds and gust factor, as well as earthquake potential.

Finally, it is necessary that an SEZ such as the Atlantis SEZ implement an area-wide disaster risk management plan, monitoring and response mechanism. In an SEZ it is not adequate to depend on the ability of each industry to reduce disaster risk and respond to it if it does occur. It is the responsibility of each operator within the SEZ to form part of a larger integrated sphere of operating entities that care for the safety and reduced disaster risk in the entire area. At the same time, it is important that the community be engaged and made aware of mutually affecting disaster risks, in order to prepare them for potential impacts while at the same time making them aware of their own actions and resultant impact on the SEZ.

When the SEZ flourish, the community could flourish, and then the SEZ operates as a unified entity in regards to disaster risk management, its sustainability is significantly increased.

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