

# **ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED BOULDERS WIND FARM NEAR VREDENBURG IN THE WESTERN CAPE**

**Property Values, Tourism and Economic Issues Report**  
*Prepared to inform the Social Impact Study: Scoping Phase*  
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## **ABBREVIATIONS**

CAGR	compounded average growth rate
DM	District Municipality
EIA	environmental impact assessment
EMF	environmental management framework
GDP	gross domestic product
GDP-R	gross domestic product per region
IDP	integrated development plan
IPP	independent power producer
IPAP	Industrial Policy Action Plan
IRP	Integrated Resource Plan
LM	Local Municipality
MW	mega watt
NDP	National Development Plan
NEA	not economically active
NGPF	New Growth Path Framework
REIPPPP	Renewable Energy Independent Power Producer Procurement Programme
SDF	spatial development framework

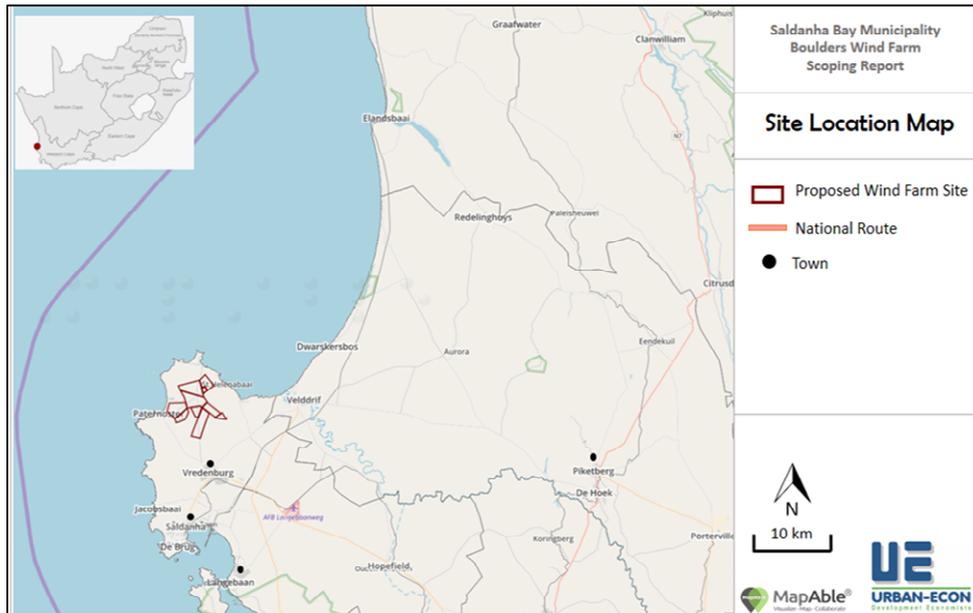
## **1. INTRODUCTION**

This document is prepared by **Urban-Econ Development Economists** (Urban-Econ) in response to a request by **Savannah Environmental (Pty) Ltd** (Savannah Environmental) to undertake a **property values, tourism, and economic issues analysis** to inform the social impact assessment study undertaken by Tony Barbour for the proposed Boulders Wind Farm. The report sought to focus on the issues raised by interested and affected parties (I&APs) with regard to property values and tourism. Moreover, a preliminary analysis of potential economic issues is undertaken.

This particular report is prepared to inform the scoping inputs for the project managed by Savannah Environmental, which will inform the environmental impact assessment (EIA) process. The aim of the report is to provide baseline information with respect to tourism activities, economic dynamics, and property-related trends in the area to assist in identifying the potential issues that the proposed project may create with respect to these dimensions. The report also aims to outline the approach towards the identification and analysis of the potential issues, which will be undertaken in the EIA phase of the project and again will inform the social impact assessment study.

### **1.1 Brief description of the project**

The Vredenburg Windfarm (Pty) Ltd company proposes to develop a wind farm near Vredenburg, Western Cape. The proposed development is a wind farm with a contracted capacity of up to 140 MW to be constructed and operated within a project site identified by the developer. The project is located in the Saldanha Bay Local Municipality (LM) within the West Coast District Municipality (DM) in the Western Cape. The site is located on the West Coast Peninsula and is about 10 km from the Central Business District of Vredenburg.



**Map 1-1: Location of proposed Boulders Wind Farm**

The project site under consideration for the development of the Boulders Wind Farm consists of 10 farm portions, namely:

- » Boebezaks Kraal 2/40
- » Boebezaks Kraal 3/40
- » Boebezaks Kraal 5/40
- » Frans Vlei 2/46
- » Schuitjes Klip 3/22
- » Davids Fontyn 9/18
- » Schuitjes Klip 1/22
- » Het Schuytje 1/21
- » Davids Fontyn 7/18
- » Uitkomst RE/6/23

## **1.2 Scope and purpose of the study**

The purpose of the study is to determine the key economic parameters applicable to the study area and identify potential benefits and issues of the proposed project that are to be examined in greater detail during the Environmental Impact Assessment phase. In addition, the report aims to provide context to property and tourism related concerns raised by Interested and Affected Parties (I&APs) through the public participation process. The report is prepared in support of the social study and is used as an input into the scoping report that is compiled by Savannah Environmental.

The structure and method of this analysis report is as follows:

- » Create an economic profile for the study area using secondary data, highlighting economic drivers of the area
- » Derive potential effects that might ensue during construction and operation of project given status quo
- » Preliminarily describe the potential impacts identified by interested and affected parties using facts derived from baseline information

- » Delineate gaps in knowledge and request data to aid investigation in the next phase
- » Outline methodology for study completion in the next phase.

### **1.3 Data gathering and consultation process**

The project utilised secondary data in order to provide a substantive foundation for the study.

- » Stats SA Census, 2011
- » Quantec Research Standardised Regional Data, 1995–2013
- » Official Tourism, Trade & Investment Promotion Agency for Cape Town and the Western Cape: [www.wesgro.co.za](http://www.wesgro.co.za)
- » West Coast accommodation information: [https://www.tripadvisor.co.za/Attractions-g312653-Activities-Western\\_Cape.html](https://www.tripadvisor.co.za/Attractions-g312653-Activities-Western_Cape.html)
- » West Coast National Parks: [https://www.sanparks.org/parks/west\\_coast/](https://www.sanparks.org/parks/west_coast/)
- » West Coast Attractions: <https://www.safarinow.com/destinations/west-coast/popularattractions.aspx>
- » West Coast Accommodation: <https://www.lekkeslaap.co.za>

### **1.4 Assumptions and Limitations**

- » The secondary data sources used to compile the socio-economic baseline (dynamics of the economy) although not exhaustive, can be viewed as being indicative of broad trends within the study area.

## **2. BASELINE PROFILE AND POTENTIAL ECONOMIC EFFECTS TO BE EXAMINED**

This chapter presents the analysis of the economic issues that are expected to ensue as a result of the development of the proposed project. The issues evaluated in this section are also informed by the concerns raised by interested and affected parties; therefore, the assessment took a targeted approach towards the analysis of the potential issues. However, in instances where the economic specialist was able to identify issues in addition to those raised by the Interested and Affected Parties, these were also included in the assessment.

As a result, the following potential issues were identified and are examined in greater detail:

- \* Increase in production and GDP due to expenditure
- \* Employment creation due to the execution of the project
- \* Improved standard of living due to household income
- \* Effect on tourist repeat visitation
- \* Effect on property values due to change in the landscape

Furthermore, the potential economic issues identified arise as a consequence of the construction and operation outcomes from the proposed Boulders Wind Farm.

This chapter further indicates key economic characteristics of the study area directly before each aspect. This is essential as it provides both qualitative and quantitative data relevant to the communities and economies under observation, creating a baseline that assisted in identifying the sensitive receptors and potential effects.

## 2.1 Production and GDP-R and possible effects to be examined

### 2.1.1 State of the Regional and Local Economy

In 2016, The Saldanha Bay Municipality's economy was valued at R5 783 million in constant prices. The Saldanha Bay Municipality contributes close to a third of the economy of the West Coast DM and 1% to the economy of the Western Cape. Over a period of ten years (2006-2016), the municipality's economy grew at a positive compounded annual growth rate (CAGR) of 1.5% per year.

**Table 2-1: Saldanha Bay and Western Cape structure of economies**

Economic Sector	Western Cape (GDP in 2016 prices)			Saldanha Bay Municipality (GDP in 2016 prices)		
	GDP (R'mil)	% of GDP	CAGR (2006-2016)	GDP (R'mil)	% of GDP	CAGR (2006-2016)
Agriculture, forestry and fishing	15 323	4%	2,2%	852	15%	2,2%
Mining and quarrying	948	0%	-0,5%	28	0%	-2,5%
Manufacturing	58 767	15%	0,9%	1 266	22%	-0,2%
Electricity, gas and water	6 963	2%	-1,3%	44	1%	-1,4%
Construction	17 028	4%	4,4%	238	4%	3,8%
Wholesale and retail trade, catering and accommodation	62 857	16%	2,5%	848	15%	3,2%
Transport, storage and communication	39 581	10%	2,4%	435	8%	-0,7%
Finance, insurance, real estate and business services	118 082	30%	3,3%	1 088	19%	4,1%
General government	42 208	11%	3,6%	607	10%	3,5%
Community, social and personal services	25 943	7%	1,9%	377	7%	3,0%
TOTAL	387 700	100%	1,9%	5 783	100%	1,5%

(Urban-Econ calculations based on Quantec, 2017)

The economic sectors with the greatest contribution to the GDP-R (gross domestic product per region) of the Western Cape are the finance and business services sector and the trade sector. At a local scale of the Saldanha Bay Municipality, the key GDP-R contributing sectors are manufacturing and finance and business services, and wholesale and retail trade, catering and accommodation. The Catering and Accommodation services component has shown stagnant (1%) growth over the past five years. The economic sectors with the least contribution to the overall GDP-R of Western Cape and Saldanha Bay Municipality are the mining and utilities sectors.

The area includes a **Port of Saldanha Bay**, which hosts an iron ore terminal from where iron ore mined at Kumba Iron Ore is exported and ArcelorMittal, among other manufacturing companies. The area also hosts **Saldanha Bay Industrial Development Zone (IDZ)** or, as later designated, a Special Economic zone (SEZ),

which is aimed to serve as the primary oil, gas and marine repair engineering and logistics services complex in Africa.

As a result, the transport sector and iron and steel manufacturing are among the key economic drivers in the Saldanha Bay Municipality. Over the years, the manufacturing industry has declined by 0.2% from 2012 to 2017; however, it remains the largest contributing economic sector to the Saldanha Bay Municipality GDP. This negative effect was possible to be offset by the above-average growth rate observed among the tertiary industries with the exception of the trade sector which experienced a decline from 2015 to 2016.

**2.1.2 Potential effect on Production and GDP-R**

The table below outlines the potential effect on production and GDP-R during construction and operations.

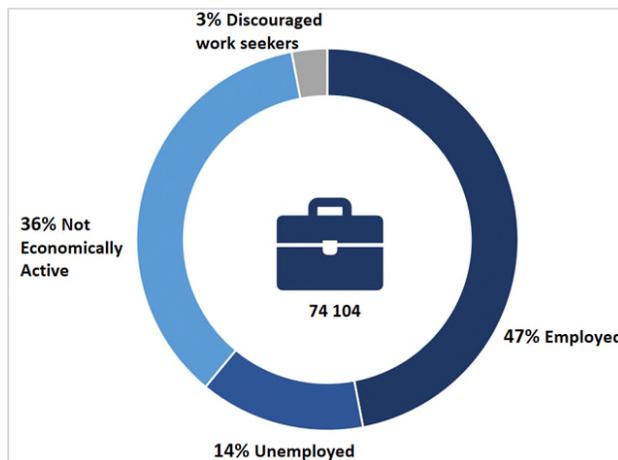
<b>Issue</b>		
Increase in production and GDP-R of the national and local economies due to capital expenditure during the construction phase and operation phase.		
<b>Issue</b>	<b>Nature of Issue</b>	<b>Extent of Issue</b>
Stimulation of national and local economies due to capital and operational expenditure which will increase production and GDP-R.	A positive effect to production and GDP-R due to the investment made, which will further improve the GDP of the Saldanha Bay Municipality.	The scale of the effect will be from a local to a national level.

**2.2 Employment and possible effects to be examined**

**2.2.1 Labour force and dynamics status quo**

Employment is the primary means by which individuals who are of working age may earn an income that will enable them to provide for their basic needs and improve their standard of living. As such, employment and unemployment rates are important indicators of socio-economic well-being. The following paragraphs examine the study area’s labour market from a number of perspectives, including the employment rate and sectoral employment patterns.

According to Census 2011 data, the working age population of the Saldanha Bay Municipality was about 74 104. Amongst these, 45 152 were economically active. Not economically active (NEA) persons are those who do not contribute to production of goods and services either due to age (i.e. students or pensioners), personal circumstances, or lack of desire to seek employment (i.e. discouraged job



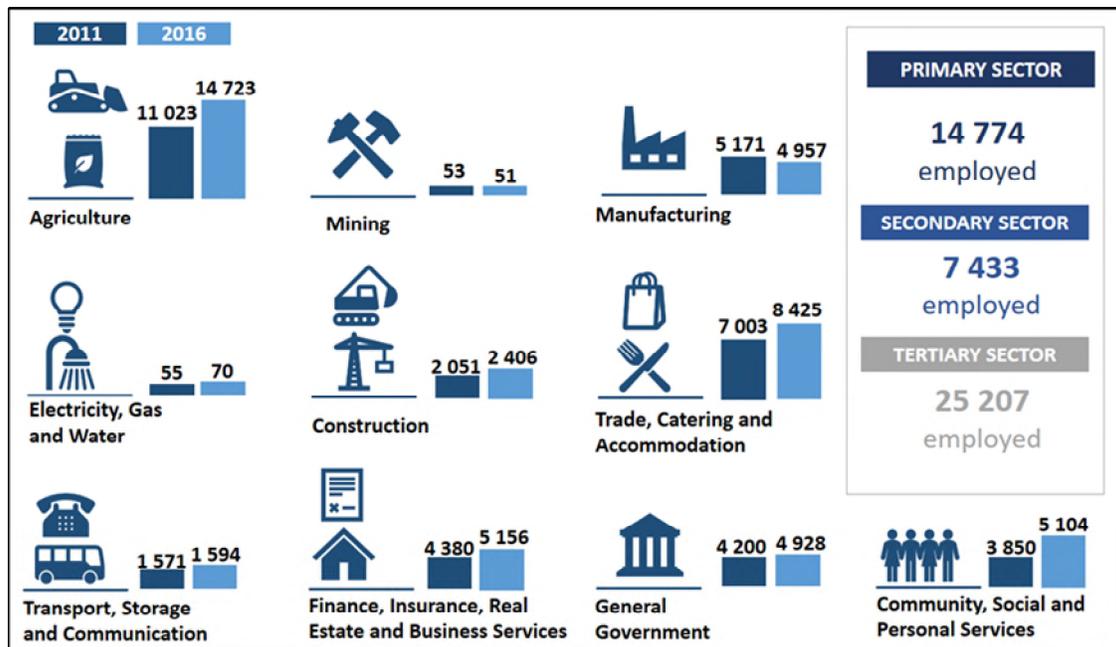
**Figure 2-1: Labour Force statistics for Saldanha Bay Municipality 2011 (Census,**

seekers). The Saldanha Bay Municipality had 26 665 NEA persons in 2011. The employed labour in the municipality was estimated at 34 926, whilst the unemployed labour was about 10 587. This results in an unemployment rate of 23%.

In the town of Vredenburg, 13 414 of the working age population are employed, whereas 4 709 are unemployed. This indicates a 26% unemployment rate. In the case of Paternoster, the unemployment rate (10%) is significantly lower than that of the municipality and is the closest town in terms of the small population size. Conversely, Saint Helena Bay has the highest unemployment rate of 30%.

A majority (80%) of the employed labour work within the formal sector, whereas a minority (20%) work within the informal sector. Within the formal sector, 41% are semi-skilled, closely followed by 40% low-skilled and the minority remainder are highly skilled.

The agriculture, forestry and fishing sector employed the largest number of people in the Saldanha Bay Municipality in 2016. This is attributed to the coastal location with numerous fishing activity. The mining sector conversely employed the least. A decline in employment across most sectors of the economy took place between 2008 and 2010. This can be attributed to the global financial crisis, followed by the national economy's recession observed during this period. The agriculture, forestry and fishing sector particularly experienced a decline in employment numbers from 2007 to 2011 in the area. The exceptions have been the general government and utilities sector, which has consistently experienced growth in employment over the past ten years.



**Figure 2-2: Employment figures per economic sector 2011 and 2016 comparison for the Saldanha Bay Municipality (Quantec, 2017)**

This illustrates the high reliance that the local economy has on the fishing and agricultural activities, tourism activities, and activities associated with the Saldanha Bay

IDZ. Observing 2011 and 2016 employment data, it is evident that most economic sectors have increased their labour absorption during this period with the exception of the manufacturing and mining sectors.

### 2.2.2 Potential effect on employment

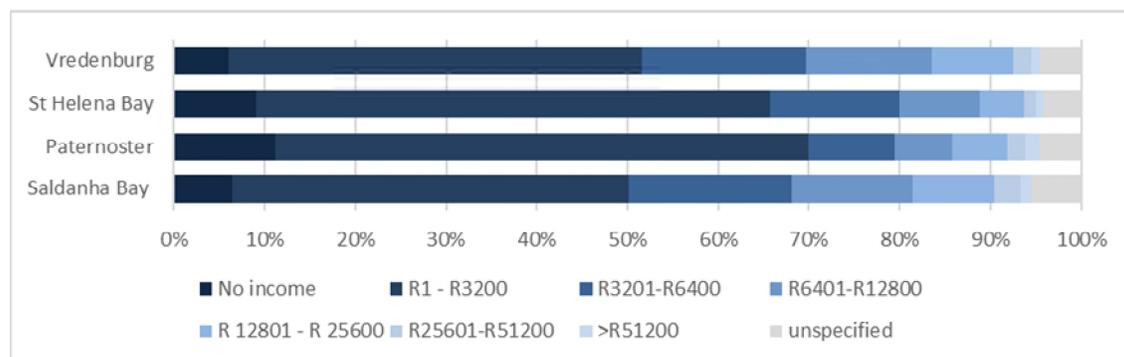
The table below outlines the potential effect on employment during construction and operations.

<b>Issue</b>		
Temporary and long-term employment creation in local communities and elsewhere in the country.		
<b>Issue</b>	<b>Nature of Issue</b>	<b>Extent of Issue</b>
Impact involves the creation of direct, indirect and induced employment opportunities related to the construction and operation of the proposed wind farm.	Job creation will temporarily reduce unemployment as a result of the construction of the wind farm. 14% of the working-age population is unemployed in the area.	The impact will occur at national and local levels.

## 2.3 Income levels and possible effects to be examined

### 2.3.1 Current situation with regard to income levels

The average monthly household income in the Saldanha Bay Municipality is R10 759 (2011 figures adjusted to 2017 prices), with 6% of households earning no income. Overall, 44% of the households within the Saldanha Bay Municipality earn up to R3 200 per month. In the town of Vredenburg, 6% of the households have no income and 46% earn up to R3 200; their average household income is about R9 847 (2011 figures adjusted to 2017 prices). The closest settlement to the proposed project site is Paternoster and as the closest community and possible labour pool, it has also been analysed. A great proportion of the study area observed earns between R1–R3 200 per month, as indicated in Figure below; on average, a household in Paternoster earns about R6 886 (2011 figures adjusted to 2017 prices).



**Figure 2-3: Income levels across Study Areas (Quantec, 2017)**

### 2.3.2 Potential effect on household income

The table below outlines the potential effect on household income during construction and operations.

<b>Issue</b> Household income will lead to the improved standard of living for households directly or indirectly benefitting from employment opportunities.		
<b>Issue</b>	<b>Nature of Issue</b>	<b>Extent of Issue</b>
Income will be derived from the employment created during the construction and operation phase.	The impact is positive as it improves the standard of living for the benefitting households, even if the income is temporary in nature.	The impact will occur from local to national levels.

## **2.4 Tourism sector and possible effects to be examined**

### 2.4.1 Tourism Status Quo

Tourism has been identified as one of the key focus points with regard to the greater encompassing Vredenburg area. Historically, tourism has been a great driving force behind the economic development in this region of the Western Cape. In truth, the local tourism sector has deep roots in this area and has engrossed itself in almost every aspect of the local populace.

The key tourism significance of the proposed wind farm relates to its strategic location within the Cape West Coast Peninsula. Of particular interest are the major towns bordering the proposed location of the wind farm (WF), namely St Helena Bay, Patenoster, and Vredenburg. These towns are located ~7 km, 7 km and 14 km, respectively, from the proposed site. The regional road R399 provides the most direct link between these towns; therefore, it is likely that the wind farm will be visible to residents and tourists to the area travelling on this road as is the already existing wind farm West Coast One.

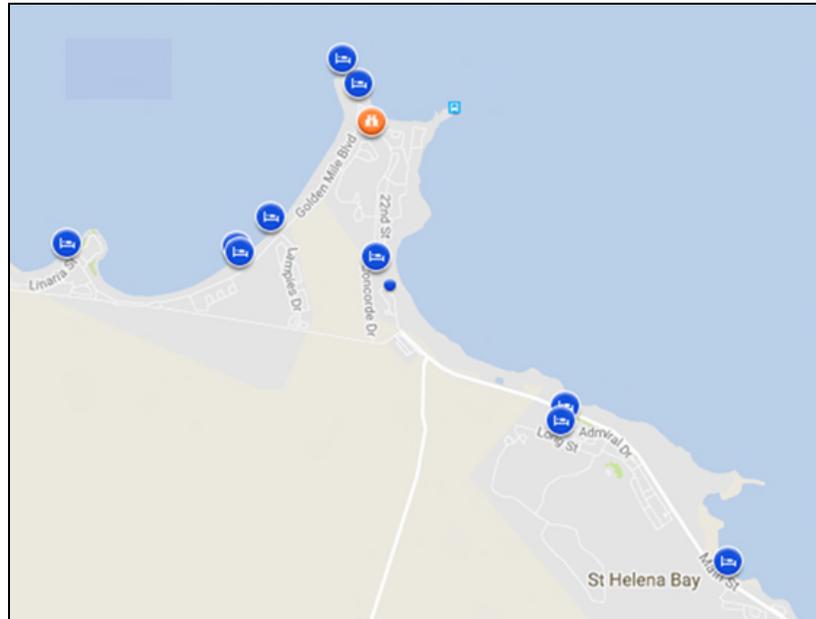
Key tourism attractions for this area include the beach fronts hosting numerous aquatic species, the nature reserves, a wind farm and the natural visual aesthetic of the area. Golf estates, beauty spas and fun parks additionally drive the attraction of tourists into the area and contributes to the local tourism economy.

### ***St Helena Bay***

St Helena Bay is one of the world's principal fishing centres. It is well known for its snoek, especially during the winter months. Southern right whales can be sighted at the bay during the months of June to November. The bay is additionally popular for dolphins with schools of over 1 000 dolphins having been sighted at times. In addition, the bay hosts a variety of marine birds, penguins, and large colonies of seals.

Visitor trends for 2016 show that the majority of visitors to St Helena Bay were overnight visitors (91%) with an average stay of two nights. Visitors were led by the

domestic market which contributed 94% of the total number of visitors to the bay. The majority of the visitors were from Western Cape followed by Gauteng. International tourists were predominantly from Germany and Namibia. The majority of tourists visited the beaches and went for scenic drives. Self-catering and guesthouses (see Map 2-1) were the preferred form of accommodation used by the tourists, where between R500 and R1 000 was spent per day. The majority of visitors also spent between R500 and R1 000 on other daily activities (WESGRO, 2017).



**Map 2-1: Accommodation offerings at Saint Helena Bay (TripAdvisor LLC, 2017)**

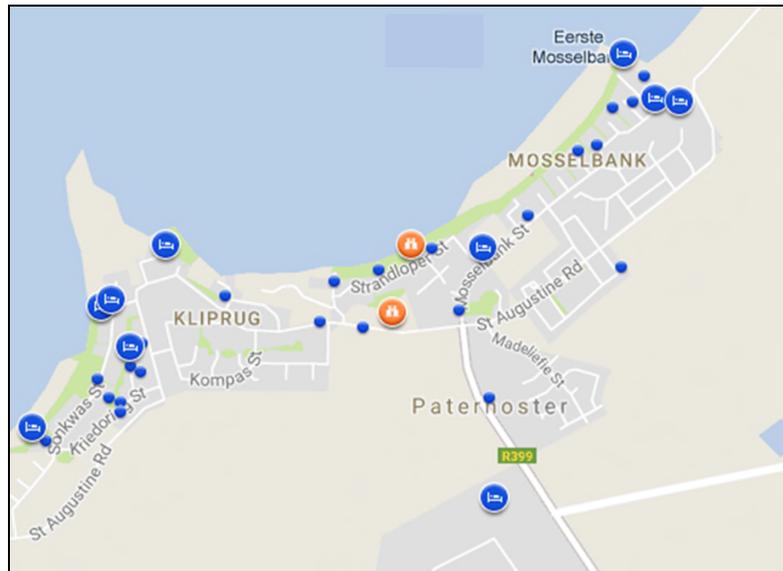
### ***Paternoster***

According to the Cape West Coast visitor trends as published by WESGRO, in 2016 Paternoster was one of the busiest towns in the region with an increase in tourist flow recorded by the tourism offices.

The main tourism activities include whale watching and a visit to the Cape Columbine Nature Reserve. This reserve boasts the last manually controlled lighthouse to be built in South Africa. Everyday life in Paternoster is still very much associated with the sea and the fishing industry, but it is to this historic fishing village that the visitors come to in order to relax.

As per the 2016 visitor trends, the majority of the visitors to Paternoster were domestic visitors (66%), of which most (52%) came from within the Western Cape, while 24% were from Gauteng. The international market was made up of mostly Germans (46%) and tourists from the United Kingdom (21%). Self-catering and guesthouses were the most popular form of accommodation used by the tourists. The majority of guests spent between R500 and R1 000 on accommodation, and the same amount was also spent on daily activities (WESGRO, 2017).

The diagram below shows the extent of accommodation in Paternoster. As illustrated, there is an extensive range of accommodation, which is an indication of high levels of tourist flows to the area.

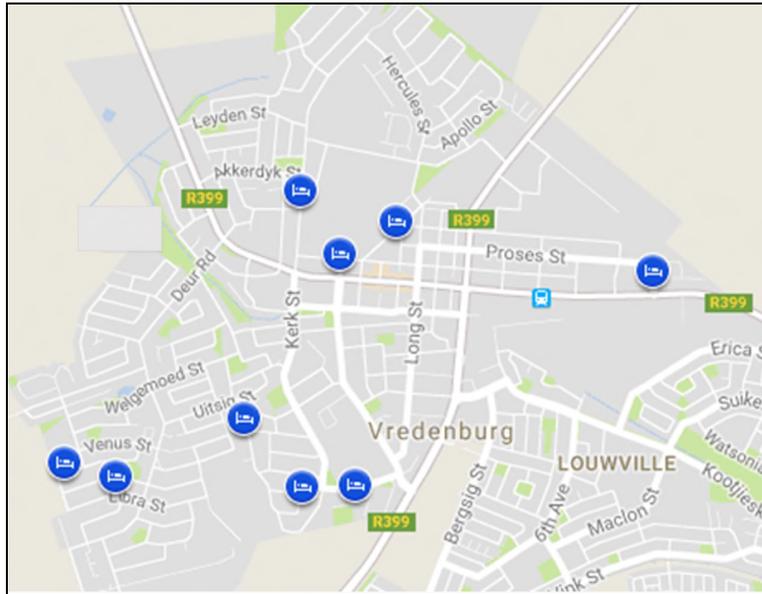


**Map 2-2: Accommodation offerings at Paternoster**

### ***Vredenburg***

Vredenburg is the administrative centre and the West Coast's commercial hub for the surrounding rural communities of wheat, sheep, and dairy farmers; it also has a number of fish factories and outlets.

Although Vredenburg is located inland, it is ideally situated as a base for day trips to the surrounding West Coast towns and attractions. Within 20 km of Vredenburg are both the West Coast Fossil Park; the long, white beaches of Paternoster; and the Cape Columbine Nature Reserve. Also in close proximity are Langebaan and the West Coast National Park, for fauna and flora, as well as Jacobsbaai and St Helena Bay. The diagram below shows the accommodation offerings in Vredenburg, which are modest when compared to those of St Helena Bay and Paternoster.



**Map 2-3: Accommodation offerings in Vredenburg**

#### 2.4.2 Potential effect on tourist visitation

The table below outlines the potential impact on tourism during construction and operations. A preliminary finding is that even after West Coast One, an increase in tourist flow occurred in Paternoster.

<b>Issue</b>		
A possible change in tourism economic activity due to the retention/increase/decrease of repeat visitors to the area linked to the presence of the wind farm.		
<b>Issue</b>	<b>Nature of Issue</b>	<b>Extent of Issue</b>
The wind farm may change the landscape's quality and perception of the area and therefore affect the tourism sector.	The impact may be positive or negative.	The impact will take place on the project site, therefore on a local scale.

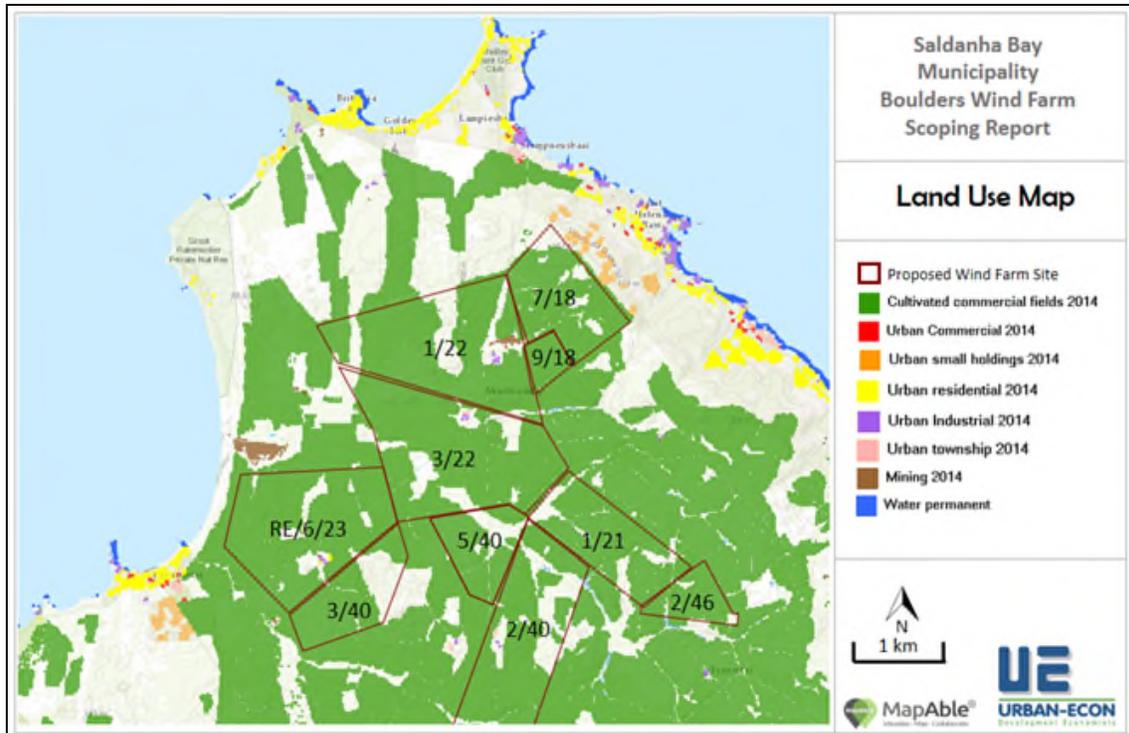
### **2.5 Property trends and possible effects to be examined**

#### 2.5.1 Current information of land use and property market

This section investigates the various dynamics of the proposed site. Map indicates the current land uses of the proposed project site and its surroundings. As indicated, all the farm portions house cultivated commercial fields. Additional land uses identified per farm portion are outlined below.

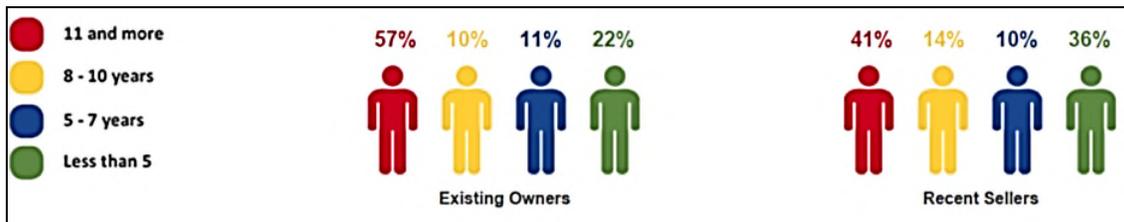
- » Farm Schuitjes Klip 1/22 has small-scale mining and industrial activities occurring on a portion of the land.
- » A segment of Farm Schuitjes Klip 3/22 has an industrial land use, sheep farm and a township adjacent to it.
- » A segment of Farm Boebezaks Kraal 2/40 has an industrial land use and a township adjacent to it.

- » The remainder of Uitkomst 6/23 has an industrial land use, mining and an adjacent residential settlement.

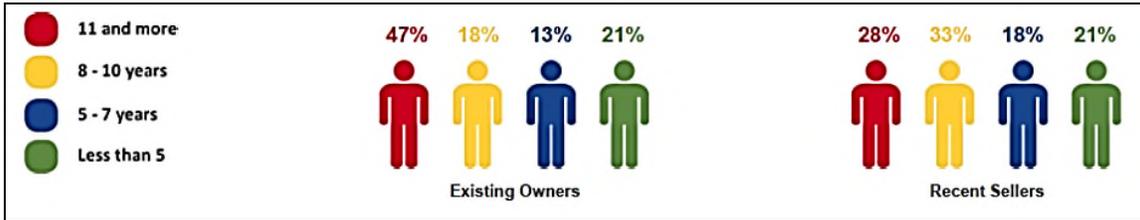


### 2.5.2 Period of ownership data

This section demonstrates the duration of property ownership in Vredenburg, Paternoster and Saint Helena Bay.

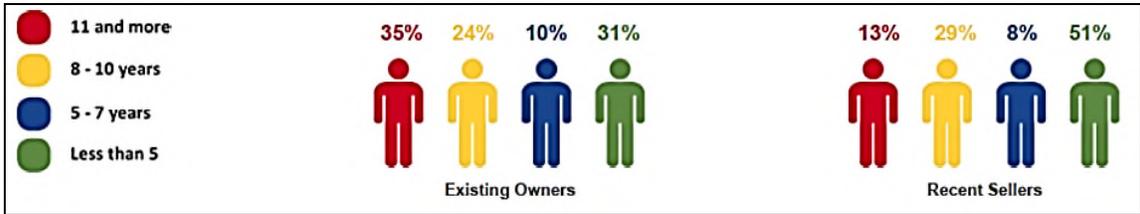


The figure above is indicative that over half of the property owners in Vredenburg have owned their property for over 11 years. Similarly, 41% of recent sellers had owned their property for a period greater than 11 years. Therefore, most property owners in Vredenburg have been residing in the area for a notable duration of time.



**Figure 2-5: Ownership duration in Paternoster**

In the case of Paternoster, a similar deduction can be made that most property owners have been residing in the area for a long duration (>8 years).

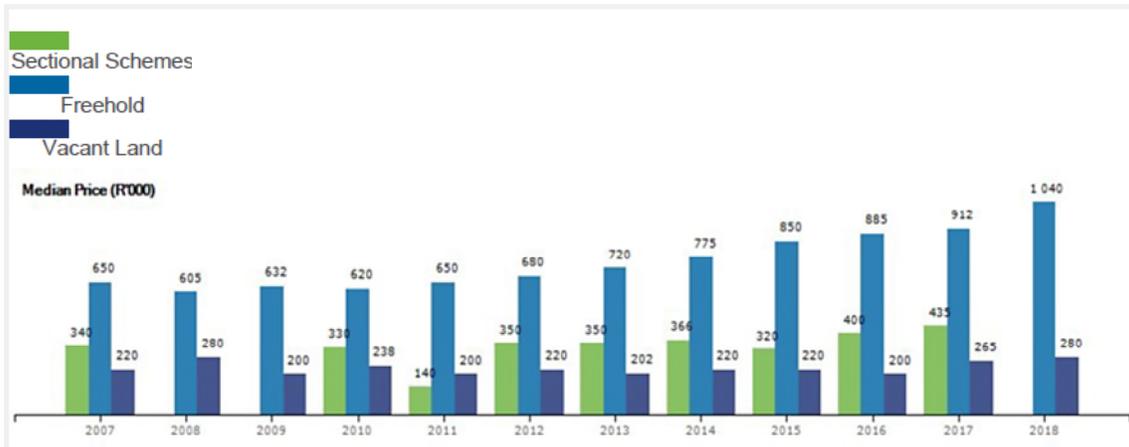


**Figure 2-6: Ownership duration in Saint Helena Bay**

The ownership duration of property owners in Saint Helena Bay indicates that most existing owners have been located in the area for a period over eight years. Furthermore, relatively new owners who have been in the area for less than five years are close to a third of the property owners in Saint Helena Bay. This illustrates that the area has been receiving a notable number of new property owners in the past five years. Correlated, over half of recent sellers had only lived in Saint Helena Bay for a period of five years or less.

### 2.5.3 Average Property Values in study area

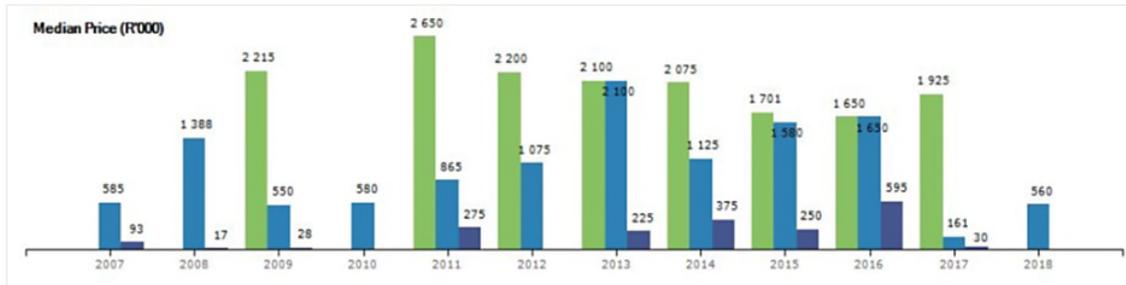
The purpose of this section is to provide the median property values in Vredenburg, Paternoster and Saint Helena Bay over the past 10 years.



**Figure 2-7: Property values over ten-year period in Vredenburg**

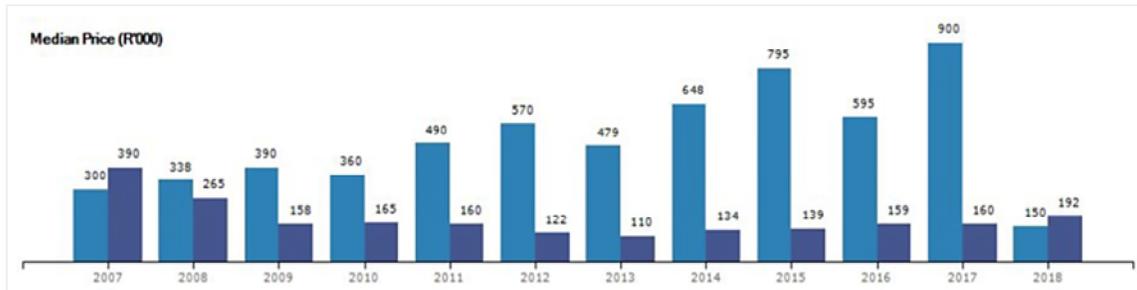
From the trend above, it is evident that the property prices for sectional titles in Vredenburg have fluctuated between R140 000 to R435 000 in the past ten years. The

reasons for this will be investigated in the next phase. With regard to Freehold property, the prices have been gradually increasing since 2010 and have nearly doubled in 2018.



**Figure 2-8: Property values over ten-year period in Paternoster**

In Paternoster, properties with the highest values are sectional schemes, followed by freehold property, whilst vacant land has the lowest market activity and relatively lower prices. The highest property values were recorded in 2011 and lowest in 2010.



**Figure 2-9: Property values over ten-year period in Saint Helena Bay**

Saint Helena Bay has had an active property market skewed to freehold property, and no sales in sectional schemes in the last ten years. The highest property values were recorded in 2017.

<b>Issue</b>		
The change in the state of environment may potentially reduce/upsurge the property market activity and render some of the properties less desirable/more attractive to selected buyers due to the presence of a windfarm.		
<b>Issue</b>	<b>Nature of Impact</b>	<b>Extent of Impact</b>
Property market activity will be stimulated or deterred by the prospect of a windfarm.	The impact may positively, negatively or neutrally influence a prospective property investor/buyer.	The impact will take place in surrounding residential communities.

## 2.6 Existing and planned developments to be considered

The manner in which a proposed project will influence the zone of influence is determined by the baseline conditions of that environment, which includes other proposed projects. Such projects, depending on their timing in relation to the proposed

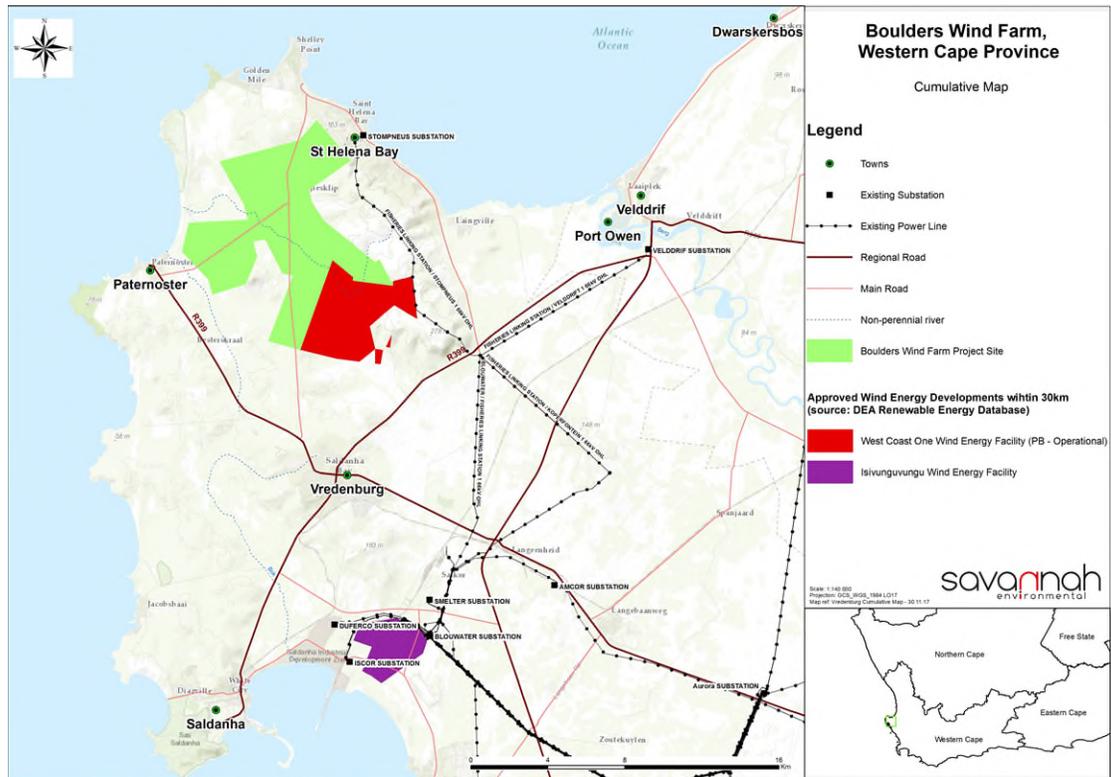
project, which is the subject of this scoping report, may influence the manifestation and significance of economic aspects that could result from the proposed project.

The Department of Energy's (DoE) Independent Power Producers Procurement Programme (IPPPP) was established at the end of 2010 as one of the South African government's urgent interventions to enhance the country's power generation capacity. The programme's primary mandate is to secure electrical energy from the private sector, drawing from both renewable and non-renewable energy sources (IPP Office, 2017).

In the context of the Western Cape, 2 332 GWh has contributed to the national grid from 2013-2017, of which 1 948 GWh (84%) was from wind. The province attracted 7.4% or R14.3 billion of investment into REIPPPP, and by end of September 2016, R6 billion of project value has already been invested. The projects achieved a 45% localisation rate and created 782 of job years in construction within the province.

**Table 2-2: Existing and planned developments near proposed project**

<b>Project Name</b>	<b>DEA Ref. No</b>	<b>Approximate distance from the Boulders Wind Farm project site (from the centre)</b>
West Coast One Wind Energy Facility	12/12/201581	Directly adjacent and ~5km SE
St. Helena Community Wind Energy Facility	12/12/20/2157	~8km south-east
Wind and Solar Energy Facility at Nooitgedacht	12/12/201781	~12km south-east
Isivunguvungu Wind Energy Facility	12/12/20/2339	~21km south



**Map 2-5: Renewable Energy projects near Project Site (provided by Savannah Environmental)**

Map above indicates the renewable energy applications in close proximity to the project site. Evidently, numerous wind projects are proposed to be developed within a 30km radius; however, two have been built and are operating in the immediate proximity to the project site - the West Coast One Wind Farm with a contracted capacity of 94 MW and Hopefield Windfarm with a capacity of 65.4MW. Project construction of West Coast One started in 2013 and operations commenced in 2015 (Windlab, 2017).

The above projects, proposed for development and already built, will be taken into consideration in the cumulative contributions during the EIA phase as their proximity will yield and contribute to the Boulders Wind Farm's cumulative effect in the region.

### 3. CONCLUSION

Vredenburg Windfarm Pty (Ltd) is proposing to develop a wind farm with a contracted capacity of up to 140 MW. The project is planned to be located in the Saldanha Bay Municipality within the Western Cape Province. The proposed site will directly affect 10 farm portions near Vredenburg.

The direct surrounding of the proposed project site comprises of tourist attractions and dominant fishing activity. Overall, the economy has a notable base and makes a considerable contribution to the district economy. The agriculture, forestry and fishing economic sector is the key economic sector in the municipality, with transportation, tourism and manufacturing comprising other economic drivers. Close to half of the

working-age population in the local economy is employed, and the unemployment rate is 26%, similar to that at national level.

The municipal economy can utilise the investment to diversify its economic base and lead to the improvement of standards of living among local households through the increased income levels and access to improved services, which can be achieved by raising the local municipality's revenue base through taxes and rates paid by new businesses. The proposed project is therefore likely to create a positive effect on the local economic development and the economic environment in the municipality in general; however, some negative effects may be expected and will be investigated in the succeeding phase.

Overall, the **following effects are envisaged to be investigated in greater detail during the EIA phase:**

- » During construction:
  - \* Increase in production and GDP-R of the national and local economies due to capital expenditure
  - \* Temporary employment creation in local communities and elsewhere in the country
  - \* Household income will lead to the improved standard of living for households directly or indirectly benefitting from employment opportunities
  - \* Effect on tourist repeat visitation
  - \* Effect on property values due to the change in the landscape
- » During operation:
  - \* Sustainable increase in production and GDP-R of the national and local economies due to operation expenditure
  - \* Long-term employment creation in local communities and elsewhere in the country
  - \* Household income will improve the standard of living for households directly or indirectly benefitting from employment opportunities
  - \* Increase in government revenue stream due to payroll taxes and income taxes
  - \* Effect on tourist repeat visitation
  - \* Effect in property values due to the change in the landscape

During the EIA phase, the following **approach to the analysis of economic aspects will be followed:**

#### Economic Modelling

In order to estimate the direct and follow-on effects of the proposed project expenditure, an economic modelling technique will be utilised. The modelling exercise makes use of an economic model developed on the basis of the Western Cape Province's SAM updated to 2018 figures. The SAM is a comprehensive, economy-wide database that contains information about the flow of resources that takes place between the different economic agents in this case in the provincial economy. A set of models will be developed to

quantify the potential issues of the proposed wind farm during construction and operation. The models will apply to the aspects detailed below.

- » Key economic considerations during construction:
  - \* Increase in production and GDP-R of the national and local economies due to capital expenditure
  - \* Temporary employment creation in local communities and elsewhere in the country
  - \* Household income will lead to the improved standard of living for households directly or indirectly benefitting from employment opportunities
- » Key economic considerations during operation:
  - \* Sustainable increase in production and GDP-R of the national and local economies due to operation expenditure
  - \* Long-term employment creation in local communities and elsewhere in the country
  - \* Household income will improve the standard of living for households directly or indirectly benefitting from employment opportunities
  - \* Increase in government revenue stream due to payroll taxes and income taxes

#### Tourism-related Issues Methodology

In the EIA phase a general trend analysis will be conducted looking at the accommodation numbers. If there was a visible change in trend after the construction of the West Coast One Wind Energy Facility it must be analyzed to determine whether the effect of the existing wind farm on such a trend change can be identified, dissociating it from any other potentially influencing factors (where survey is required, it will be undertaken). The existing West Coast One Wind Energy Facility will be used as a case study.

It should be noted, however, that the tourism sector is subject to many forces and a single factor such as a wind farm would not be the only aspect, which could affect the tourism sector.

#### Property Values effect Methodology

To provide an overview of the possible effects on property values:

- \* Two case studies will be conducted on recently completed wind farms in the Western Cape and elsewhere in South Africa. The approach envisages to investigate the change in property prices before and after the completion of the respective wind farms, utilising the Lightstone software. The Lightstone software enables access to property market data.
- \* The changes in property prices will then be compared to the average property price changes nationally and provincially to determine whether a wind farm affects surrounding property values compared to the average.
- \* In addition, real estate agents will be contacted and engaged with to debunk the property market status quo in the region.

It should be noted, however, that the property market is subject to many forces and a single factor such as a wind farm would not be the only aspect, which could affect property values.

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