



Socio-Economic Study of Oil and Gas Development in the Falklands



A Final Report by
Regeneris Consulting

Falkland Islands Government



Socio-Economic Study of Oil and Gas Development in the Falklands

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Regeneris Consulting Ltd

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We were helped throughout this study by a Steering Group chaired by Jamie Fotheringham, Director of Policy in the Falklands Islands Government. However, the views expressed in this report are the independent views of Regeneris Consulting, not those of the Falkland Islands Government. Any errors and omissions remain the responsibility of the consultants.

List of Acronyms and Abbreviations Used

B&S	Borders and Southern
ExCo	Executive Council
FIC	Falkland Islands Company
FICS	Falkland Islands Community School
FIDC	Falkland Islands Development Corporation
FIG	Falkland Islands Government
FIGAS	Falkland Islands Government Air Service
FIMCO	Falkland Islands Meat Company
FIPASS	Floating Interim Port and Storage System
FLNG	Floating Liquefied Natural Gas
FOGL	Falklands Oil and Gas Limited
FPSO	Floating Production Storage and Offloading Platform
FTE	Full-time equivalent
GDP	Gross Domestic Product
LNG	Liquefied Natural Gas
MLA	Member of the Legislative Assembly
MOD	Ministry of Defence
MPA	Mount Pleasant Airport (and military base)
O&G	Oil and Gas
PMO	Premier Oil
PRP	Permanent Residence Permit
PWD	Public Works Department

1. Introduction

1.1 The round of exploration for oil and gas (O&G) that started in 2010 has resulted in the first commercially developable discoveries of oil in the waters of the Falklands. Work on the development of the Sea Lion field by Premier Oil is now underway, following the initial discovery by Rockhopper Exploration in 2010. The development of oil and gas fields in the Falklands will have very significant impacts on the Islands with their small resident population of around 3,000 people.

1.2 In November 2012, Regeneris Consulting with S2V Consulting¹ were commissioned by the Falkland Islands Government (FIG) to carry out a study into the social and economic impacts of the development of oil and gas in the Falklands. The study aims, as set out in the Invitation to Tender, were to:

- Inform FIG **masterplanning** for the emerging oil and gas industry
- Understand the **potential social and economic impacts** (both macro and micro-economic) of the Sea Lion development, future hydrocarbon exploration, and potential further phases of oil and gas production that may occur
- Enable FIG to **develop strategies** to optimise positive impacts and mitigate negative impacts.

1.3 The study team has carried out a number of tasks to complete this report²:

- Interviews with oil and gas companies with interests in the Falklands
- Creation and refinement of scenarios for the development of oil and gas
- A review of existing social and economic data on the Falklands
- Two fieldwork trips to the Falklands in November 2012 and January 2013
- A review of experience in other remote locations
- Presentation and discussion of the draft findings in the Falklands in April 2013.

¹ S2V Consulting are a specialist oil and gas consultancy based in Perth, Australia (<http://www.s2vconsulting.com>)

² There is a separate technical report with the detailed analysis and modelling work prepared for FIG. Consultees are included as Appendix A

2. Key Findings and Policy Recommendations

Key Findings

- 2.1 The development of the Sea Lion field by Premier Oil, further exploration and required infrastructure investment is going to create a very significant short/medium term spike in labour demand, immigration and need for accommodation between 2014 and 2017. Employment could peak at around 550 extra on-shore workers depending on the timing and scale of infrastructure investment. In the longer term the development will overall support around 170 jobs in the Falklands, plus 125 offshore jobs.
- 2.2 Under other scenarios the longer term increase in jobs would be much larger at 600 to 800 plus. The development of an onshore LNG plant would require several thousands of workers in its construction over a 3 to 4 year period and several hundreds in its operational phase.
- 2.3 The impact of Sea Lion on the Falklands GDP and on FIG revenues will be very substantial and of a far more transformational nature than the onshore impact of the development and production of oil. Potentially, the impact of additional future discretionary spending by FIG as result of higher oil revenues could have at least the same order of magnitude of impact onshore as the direct on-shore effects from the oil and gas sector.
- 2.4 The Sea Lion scenario on its own can be largely accommodated within existing plans for Stanley. However, it will require major infrastructure investment in port and land-based facilities. The short term labour market implications could be for a significant increase in wages and labour costs unless there is a supportive policy towards immigration to fill labour gaps.
- 2.5 The implication of more extensive development of oil and gas is that there would be significant urbanisation and expansion of Stanley and, we believe, a strong pull from Camp to Stanley. This will require proactive action by FIG to offset these natural pressures pulling population to Stanley. All scenarios will require careful consideration in terms of how population and housing growth and new facilities should be accommodated in and around Stanley. The proposed new port and relocation of industry there would represent a major upheaval and re-orientation of the town.
- 2.6 The Falklands will have to allow extra workers to come to fill the increase in jobs driven by oil and gas. There is no other solution to the demands that will be placed on the economy and labour market.
- 2.7 The overall pace and level of migration cannot be constrained by FIG if unintended consequences are not to emerge. However, the type of immigration can be controlled and to some extent encouraged by FIG. There is a clear need, given the likely levels of migration coming up, to have a more fit for purpose and streamlined system – albeit keeping important checks and balances.
- 2.8 A strong message from the consultation process was the desire to see a more permanent integrated type of immigration. This may mean changes to matters such as the ability to own property etc. for those on work permits and changes to the system to encourage a move to PRP status.

Summary of Scenario Impacts

2.9 The table below provides an overview of impacts under each of the modelled scenarios.

Table 2.1: Summary of Socio-Economic Impacts under each Modelled Scenario					
	Scenario 1: Sea Lion plus exploration	Scenario 2: Big oil, no gas	Scenario 3: Big oil, plus FLNG Gas	Scenario 4: Big oil plus land- based LNG	Scenario 5: Sea Lion plus land- based LNG
Scenario Summary					
Scenario Summary	One Oil Field (Sea Lion) Exploration finishes 2015	Three Oil Fields (including Sea Lion) On-going Exploration	Three Oil Fields One Gas Field – Offshore LNG On-going Exploration	Three Oil Fields One Gas Field – Onshore LNG On-going Exploration	One Oil Field One Gas Field – Onshore LNG On-going Exploration
Additional Employment Impacts (including direct, indirect, induced, super-multiplier and infrastructure accelerator jobs)					
Peak Onshore Employment <i>(baseline: 1,580 employees excluding MPA contractors)</i>	+ 550 In 2016	+ 1,350 In 2019	+ 1,350 In 2019	+ c. 4,000 In 2024	+ c. 3,800 In 2024
Steady State Onshore Employment <i>(baseline: 1,580 employees excluding MPA contractors)</i>	+ 170 From 2020	+ 600 From 2022	+ 800 From 2025	+ 1,300 From 2028	+950 From 2028
Offshore Steady-state Employment	+ 125 From 2018	+ 470 From 2021	+ 690 From 2025	+ 470 From 2028	+ 125 From 2028
Population Impacts					
Population Increase by 2030 <i>(baseline: 2,560 excluding MPA contractors)</i>	+ 240	+ 850	+ 1,160	+ 1,760	+ 1,190
Housing Impacts					
Additional Housing Numbers at Steady State <i>(baseline: 1,220 homes across Falklands)</i>	+ 90 From 2020	+ 300 From 2022	+ 400 From 2025	+ 600 From 2028	+ 400 From 2028

Summary of Policy Recommendations

2.11 Recommendations are set out section by section and are summarised here

Overall economic effects

- PR1/PR7/PR25/PR31: FIG needs to gear up its capacity to deal with larger volumes of migration and ensure its policies and procedures are fit for purpose.
- PR2: FIG needs to carefully plan how and when it spends future oil revenues recognising the additional economic effects this will produce.
- PR3: FIG should develop a long term capital investment plan for the next 10 to 15 years than can be flexed as the development of O&G progresses.
- PR4: It is important that there is a wider debate about what level and speed of future growth is desirable and how best to manage this.
- PR5: Contingency planning should be started now to deal with the potential Big Oil scenario.
- PR6: FIG should be starting initial thinking about onshore LNG.

Population and migration

- PR8: There is a need to manage carefully the nature of immigration, particularly any longer term immigration in terms of the countries and culture of those coming to the Falklands.
- PR9: FIG may wish to consider a proactive recruitment policy (for public service jobs and potentially for other jobs) in certain countries or with former Falkland Islands' residents who live elsewhere.
- PR10: If the focus on more family friendly immigration is taken up as a policy, then various changes to immigration policy will be needed.
- PR11: FIG needs to review the process by which people can transfer from work permits to PRP status.

Housing and Accommodation

- PR12: FIG needs to develop a strategy for housing development ensuring that in the short term the required house building takes place in the coming years to meet needs.
- PR13: FIG should lead or support the private sector to increase the rate of house building over the period 2013-15 to around 40 homes per year.
- PR14: FIG needs to plan for the provision of temporary workers accommodation for 200 to 300 workers.

Infrastructure

- PR15: FIG needs to ensure it has the dedicated capacity (either in-house or on contract) to plan, procure and manage several large scale infrastructure projects.
- PR16: There is a need for a clear 5 year investment and land strategy by FIG (as well as the long term capital investment plan (PR3)) covering:
 - Public services
 - Site preparation and servicing (linked to need for extra housing and temporary worker housing for the construction sector)
 - Release of land for O&G development near FIPASS
 - Utilities upgrade
 - Road maintenance and investment
 - Work on the new port, including access.
- PR17 & PR30: There is a case for FIG/PWD and the private sector to work more closely together in measures to increase local construction labour supply.
- PR18/PR32: There needs to be very careful planning linked to the proposed new port, to the satisfaction of key stakeholders.
- PR19: Early investment in upgraded water supply and electricity generation is needed.
- PR20: FIG will almost certainly need to boost output from quarries in the Falklands.

Public services

- PR21: There will be a need to ramp up recruitment across a number of professional areas to meet both the needs of managing the O&G sector, but also growing population.
- PR22: There is a need for a review of pay and conditions in some areas to make recruitment more attractive in the international jobs market.
- PR23: There is a need for FIG to look at how it recruits overseas staff, how to make bringing a family more attractive and how to make longer stays more attractive (in line with PR10).
- PR24: There may be a case for considering developing a different style of accommodation to house younger workers.

Labour market and skills

- PR26: FIG should work closely with the schools, existing students in FE/HE and oil companies to ensure an on-going programme of information and careers advice relating to opportunities to enter the oil and gas sector.

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- PR27: FIG might wish to set an overall target for existing Falkland Islands residents to enter well paid O&G jobs onshore or offshore by the steady state.
- PR28: Work placements, internships, apprenticeships and bursaries should be agreed and plans worked up with the oil and gas companies.
- PR29: FIG should explore opportunities to offer a package of local training or loans/grants to local people wishing to travel overseas for training.

Business opportunities and challenges

- PR33: The Tourist Board should work with FIG and local accommodation providers to ensure there is sufficient serviced accommodation.
- PR34: FIG should work with FIDC, the Chamber of Commerce and oil and gas companies to ensure an agreed local content policy and help local firms get “tender ready”.
- PR35: FIG should seek to maximise opportunities relating to increased O&G flights into the Falklands.
- PR36: FIG, working with FIDC, should explore a more proactive inward investment approach, potentially developing a closer relationship with economic / sector development bodies in Aberdeen.
- PR37: FIG could proactively explore and exploit any opportunities presented by the increase in population to increase competition in key services.
- PR38: There is a need for a robust town plan that sets out the locations for infrastructure and new housing for growth of 200, 500, 1,000 and even 2,000 in Stanley’s population over the next 20 years.
- PR39: As Stanley grows it is important that its historic centre is maintained, especially in the historic core.
- PR40: The growth in population in Stanley provides an opportunity to explore whether new facilities and services can be provided for residents and visitors alike.
- PR41: FIG may want to consider whether there should be planning policies controlling residential development in Camp to ensure that there is conservation of the environment and scenery.
- PR42: Given the very strong desire to retain a viable way of life in Camp there is a need for FIG to consider ways to counteract the migratory pressures towards Stanley, including:
 - Continued investment in infrastructure and services to support farms and settlements (water, power, telecommunications and education) - building on the past support from the Rural Development Strategy

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- Support for diversification and development in Camp to attract disposable income from Stanley residents, temporary oil and gas workers and leisure visitors
- Potential investment in business activities that provide food to the residents of Stanley and offshore oil workers (but probably only in the future as population and activity picks up).
- PR43: FIG should relook at and resurrect plans to expand Fitzroy and potentially for it to become a base for contractors working at MPA.
- PR44: FIG should consider whether there is the potential for a long term fabrication centre for the O&G sector and what would be a suitable location (in terms of ease of access to Stanley and deep water).

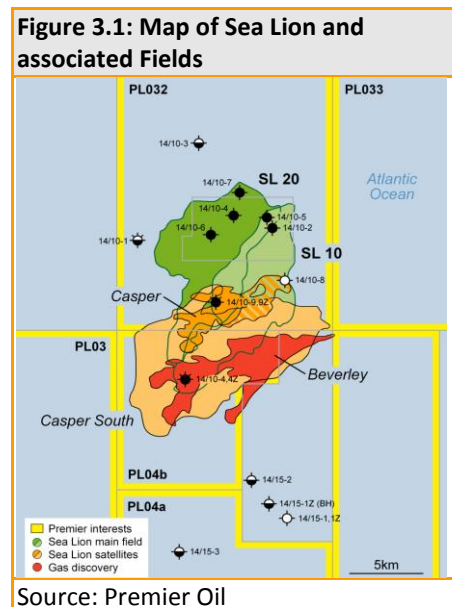
3. Development of Oil and Gas in the Falklands

Recent History of Exploration

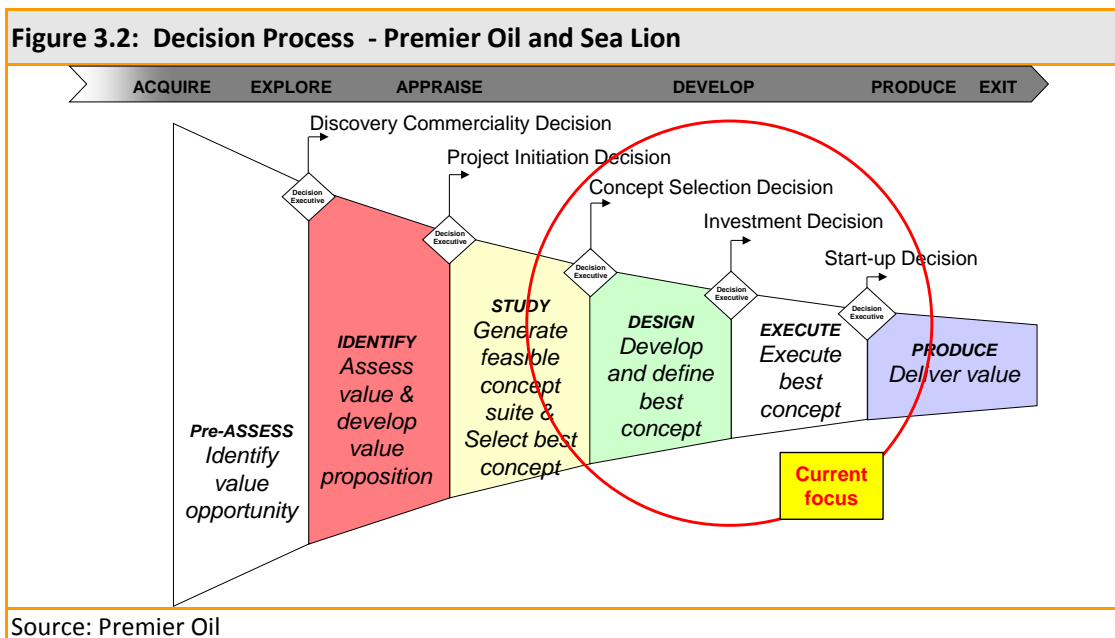
3.1 There are two main oil areas in the Falklands: the North Falklands Basin and the South Falklands Basin. There have been two main waves of interests in offshore oil and gas in the Falklands: the first in 1998 when six wells were drilled in the North Falklands Basin, but exploration stopped due to the large fall in world oil prices; the second wave commenced in February 2010.

Recent experience of O&G exploration since 2010

- Starting in February 2010 the Ocean Guardian rig drilled wells for Rockhopper Exploration (including the successful Sea Lion field), and Desire in the North Falklands Basin; then BHP Bilton in the South Falklands basin.
- During 2011 the Ocean Guardian rig remained in Falklands waters and was used by Rockhopper to drill several further wells, including several successful Sea Lion appraisal wells and successful appraisal wells on adjacent fields Casper, Beverley and Casper South. This drilling campaign lasted until January 2012.
- The Leiv Eiriksson rig arrived in the Falklands in January 2012 and was used to drill four wells in the deeper water of the Southern Basin, including two each for FOGL and Borders and Southern. Borders and Southern's (B&S) Darwin prospect displayed good quality gas condensate which B&S anticipate will prove commercially viable. The rig remained in the Falklands until December 2012.



- 3.2 The announcement of the successful \$1 billion farm-in agreement between Rockhopper Exploration and Premier Oil in July 2012 meant that the financial resources necessary to exploit the Sea Lion discovery were in place. Since then Premier Oil have been carrying out detailed appraisal work of the options for developing the Sea Lion field. Premier Oil expect to make their Concept Gate decision in the middle of 2013 after which detailed engineering and procurement processes will start and their Final Investment Decision is expected in the middle of 2014.
- 3.3 Mid 2014 is also the current target date for submission of the Field Development Plan for the Sea Lion field. FIG and others will have to review and approve this document before Premier Oil can move into the development phase of the project.



Impacts to date

- 3.4 The work involved in the exploration for oil and gas has already had economic and social impacts in the Falklands. The exploration and appraisal phase ran almost continuously during 2010-12 and typically involved:
- One drilling rig in Falklands waters at any one time, with accompanying anchor handling vessels and supply boats
 - Around 130 offshore workers on the rig / boats at any one time on a 28 days on/28 days off rota – with income tax payments being made to FIG
 - Around 60 workers onshore (although not necessarily all full time equivalent posts) working directly for O&G companies or in their local suppliers
 - Several local companies involved in the provision of goods and services to the O&G companies
 - Two support helicopters, providing for crew changes as well as search and rescue functions

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- Extra construction activity linked to the O&G sector: a complex of lay-down areas and warehouses was built by Byron McKay, a new hangar at Stanley Airport, additional houses were built and the Malvina House Hotel extension was precipitated by the O&G activity.

Falklands Firms Supplying the O&G Sector to date

- Byron McKay – provision of warehouse and laydown areas, house construction, charter agency, stevedoring
- Stanley Services – fuel supply, provision of accommodation (Malvina House Hotel)
- Falkland Islands Tours and Travel – provision of transport and logistics services
- International Tours and Travel – managing sales of additional seats on air charter flights
- Falklands Security Services – provision of security at oil yards and FIPASS
- Shorty's – hospitality during crew changes and accommodation (Shorty's Diner); construction work at oil yards, hangar at Stanley Airport and housing construction (Shorty's Construction)

Source: Regeneris fieldwork

Note: not an exhaustive list

3.5 This activity supported extra employment onshore in the Falklands and profits for Falklands' businesses, increased the Islands' GDP and provided additional tax revenues for FIG. The total extra tax revenue over the financial years covered by the exploration phase (2010/11 to 2013/14) has amounted to around £24m³. This has largely been put into an oil reserve by FIG to support future expenditure. We have not calculated the full economic impact of O&G activity to date, but have seen figures of an overall investment of £200m to £250m to date and an increase in GDP of the order of £20m to £25m during the exploration phase for the Sea Lion field alone. These figures are quite plausible.

3.6 The wider social impacts from O&G exploration have been limited with very few problems reported to us. Probably the most significant effect has been a short term impact on rental levels in the private rented market as a result of the demand from the O&G sector; however the true scale of this effect is unclear. There is some evidence of the construction activity linked to the development of new facilities leading to labour temporarily shifting from other sectors and FIG. The extra flights and shipping trips to the Falklands have had a beneficial impact in terms of increasing the supply of fresh produce for the Islanders. **Overall, the economic and social impacts to date have been relatively modest.**

New O&G Lay-Down Areas



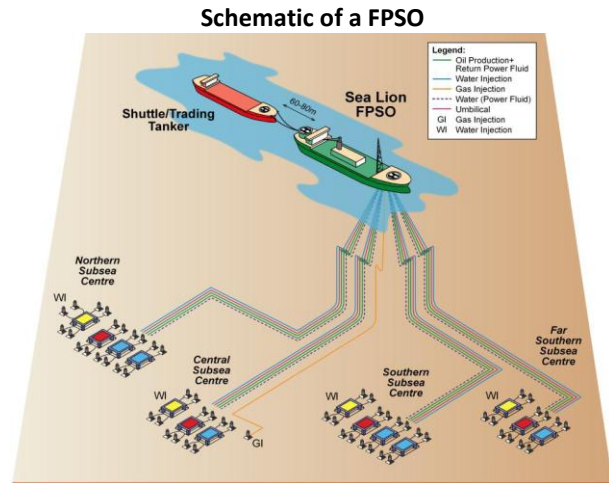
³ FIG will also benefit from further tax payments on capital gains arising by Rockhopper Exploration resulting from the \$1 billion Rockhopper-Premier farm-in agreement; however this figure was not known at the time of writing this report

Scenarios for the Future Development of Oil and Gas in the Falklands

- 3.7 There are many uncertainties and possibilities that will affect the scale and nature of the economic and social impacts from the development of oil and gas in the Falklands. A key element of this study is the development and use of a range of scenarios for the future development of oil and gas (O&G). The purpose of developing scenarios is not to set out every possibility, but rather to inform the Falkland Islands Government and the population and businesses in the Falklands about a plausible range of futures and the associated opportunities and challenges. In particular the scenarios are intended to help “stress test” the impact on the labour market, infrastructure and wider economy.
- 3.8 The scenarios are based on information prepared by FIG and O&G companies on the potential in the Falklands, and from detailed discussions with O&G firms operating in the Falklands. The scenarios were presented and discussed with FIG, with MLAs, with the Chamber of Commerce and in several public consultation meetings during January 2013. There is by definition, considerable uncertainty over the actual assumptions in the scenarios. The key factors we have fed into the development of scenarios are:
- 1) The scale of commercially exploitable oil and gas discoveries.
 - 2) The speed of the exploration, development and production phases for each new field.
 - 3) The main engineering options for production (and the consequent implications for the need for any specialist on-shore oil and gas facilities).
- 3.9 A total of five scenarios are explored in this report. Scenario 1 is the base case and the one that **provides the minimum basis for planning for FIG**. The key assumptions for this scenario are as follows:
- The development of Sea Lion field by Premier Oil occurring plus exploratory drilling in satellite fields in 2014.
 - There is further extended exploratory drilling in North Falklands Basin involving other licensees plus further exploratory drilling in the Southern Falklands Basin (FOGL and B&S).
 - In this scenario we assume one further round of exploratory drilling in 2014 and 2015 but not beyond i.e. that the further exploratory drilling is unsuccessful and so Sea Lion remains an isolated developed field. [Note: we suspect that this assumption is pessimistic and that even if the 2014-15 campaign of exploration is unsuccessful further exploration will take place in the future so long as the world oil price remains at current or similar levels].

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- For the Sea Lion field and its satellites we have assumed the development of 50 subsea wells for both production and injection with flexible flow lines and risers. These will be linked (“tied back”) to an FPSO (Floating Production Storage and Offloading Platform). The development of many these wells will take place before first oil, but also subsequently as further wells are drilled and linked to the FPSO (this process could take several years).
- A FPSO is a large vessel where the oil from the field is pumped and which stores the oil until it is offloaded to tankers which then leave direct for markets around the world. It is in effect a very large crude oil tanker that has been converted into a production, storage and offloading facility.
- The FPSO will have its own power generation, a heli-deck and living quarters for the c. 150 crew. For the production period offshore personnel are also required for the multifunctional support and platform supply/standby vessels. The work cycle for permanent offshore personnel will be 28-days (28/28 days on/off cycle).



Source: Premier Oil

3.10 In term of on-shore facilities the development of Sea Lion will require:

- A temporary harbour which would be built during 2014 and 2015 - as FIPASS is not suitable for the scale and volume of activity involved.
- An onshore base near the temporary port comprising an expanded lay-down and warehousing area with associated offices covering an area of around 22 hectares (to put this into context the facility previously built by Byron McKay for the exploration phase near the port is 6.5 hectares).
- The development in, due course, of a new port facility to provide a permanent base for Sea Lion activity and other O&G activity⁴.
- A base for helicopters to provide transport to and from the rigs and provide search and rescue support. We have assumed this is at Stanley Airport, as it was during exploration⁵.
- An additional office elsewhere in Stanley associated with other company activities.

⁴ This is FIG’s current position and requirement rather than an operational requirement of Premier Oil

⁵ FIG wish the base to remain at Stanley Airport, although Premier Oil have indicated that an alternative location might be MPA

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- A separate (temporary) bundled or reeled flowlines assembly base outside Stanley. This would be a base where the flowlines which connect the FPSO to wellheads and are several kilometres long are assembled⁶⁶.

3.11 The assumptions on timing under this scenario are:

- The further exploration activity takes place in 2014 and 2015
- The main development activity for Sea Lion commences in 2016 and lasts for up to five years, with first oil late 2017 and with development of wells continuing for a period of up to three years after production as started.

3.12 The main components of the other scenarios are summarised in Table 3.1 below:

- Scenario 2 “Big Oil”: assumes two further large oil discoveries which are exploited but around five years later than Sea Lion; it also assumes on-going exploration drilling through to 2030.
- Scenarios 3 & 4: as Scenario 2 but with a commercially exploited gas discovery. Due to uncertainties about future gas prices and the need to get long term contracts in place before investment the timetable for the development of any major gas field is later than for oil. We have considered two technological solutions: under Scenario 3 there is an offshore facility to liquefy gas (LNG); under Scenario 4 this would be onshore.
- Scenario 5: is a combination of Sea Lion plus a major onshore LNG facility, but no additional oil fields being exploited.

Key parameters	Scenario 1: Sea Lion plus exploration	Scenario 2: Big oil, no gas	Scenario 3: Big oil, plus FLNG Gas	Scenario 4: Big oil plus land-based LNG	Scenario 5: Scenario 1 plus land-based LNG
Oil field development	One field only (Sea Lion)	Three fields	Three fields	Three fields	One field
<i>Timing</i>	<i>First oil 2017</i>	<i>Sea Lion: first oil 2017 Other fields: first oil 2021</i>	<i>Sea Lion: first oil 2017 Other fields: first oil 2021</i>	<i>Sea Lion: first oil 2017</i>	<i>First oil 2017</i>
Gas field development			One major field	One major field	One major field
<i>Location of LNG facilities</i>			<i>Offshore</i>	<i>Onshore</i>	<i>Onshore</i>
<i>Timing</i>			<i>First gas: 2025</i>	<i>First gas: 2027</i>	<i>First gas: 2027</i>
Exploration	Finishes 2015	On-going	On-going	On-going	On-going

Source: Regeneris Consulting

⁶⁶ Note: Premier Oil are currently only investigating this possibility, but at present it appears likely that this would be the preferred solution

4. Source of Economic Impact

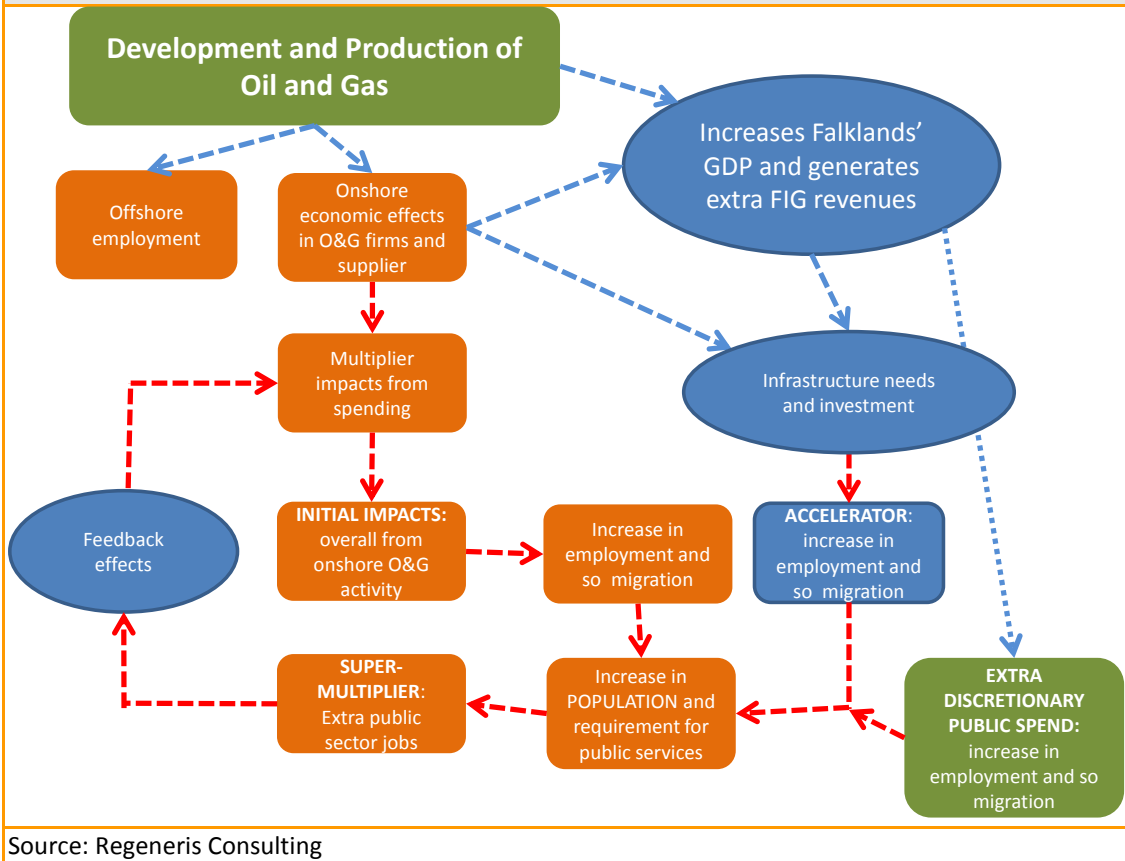
4.1 The development of oil and gas in the Falklands will lead to a number of complex and, to some extent interrelated, impacts. The overall approach is summarised in Figure 4.1 below. The key points are:

- The development and then production of O&G leads directly to an increase in the Falklands GDP and to extra revenues for FIG. These “macro” level effects are, as we will see, very large indeed relative to the existing Falklands’ economy.
- The primary focus of the study is to look at the impact “on-shore” from the development of O&G. This produces **initial direct** economic effects (employment, wages, profits and GDP) associated with the activity of O&G firms themselves and their main (1st tier) suppliers).
- There are then subsequent **initial multiplier** effects associated with this extra economic activity (largely out of the local spend from wages, but also from the extra local profits generated). Although there is a high import propensity in the Falklands, there are still significant multiplier effects.

4.2 The combination of the initial direct and multiplier effects produce what we call **core overall impact**. However, this is then enhanced by several other economic effects.

- As the labour supply is essentially fixed and fully used in the Falklands, any extra employment will require an increase in overall in-migration and the workforce on the Falklands, increasing population. The consequence of the increase in population is to increase the demand and need for public services which lead to what we call **super-multiplier effects** (extra nurses, teachers etc. and their extra spend in the Falklands).
- In addition, the capital investment in infrastructure and housing associated with the O&G sector directly, the increased economic activity and population growth, produces further economic effects as a result of the construction activity (**accelerator effects**).
- There are additional feedback effects in all cases as increases in population increase local spend, investment and so super multiplier and accelerator effects.

Figure 4.1: Types of Economic and Social Impacts from Oil and Gas Development in the Falklands



- 4.3 Finally, in addition to all of the above, the extra tax revenues for FIG are likely to lead to **extra discretionary spending** in the economy (whether in form of capital investment or extra public services or reduced income tax). This increased net spending – over and above what is required to meet the infrastructure and super-multiplier effects – could also generate economic impacts.

5. Economy and Society of the Falklands

- 5.1 The unique nature of the socio-economic context of the Falkland Islands is critical to understanding the impacts that the oil and gas sector will have on the local economy and society. This section outlines key socio-economic characteristics of particular relevance to this study.

The Falklands is a small-scale and very remote community

- 5.2 The usual resident population of the Falklands is just 2,560 people⁷. The Falkland Islands lie almost 8,000 miles from the United Kingdom, its primary economic partner.

⁷ Falkland Islands Census 2012. Excludes civilian contractors at Mount Pleasant Airport.

The town of Stanley is the economic centre, however the sustainability of settlements in the Camp is seen as a high priority

- 5.3 The majority of the population (over 2,000 people) live in the capital, Stanley. The town is the centre of virtually all economic activity in the Falklands beyond agriculture and tourism sites. The economic pull of Stanley has led to depopulation in Camp settlements in recent decades. Although this trend has reduced over the last ten years, Camp depopulation remains a significant local concern, and maintaining economic and social life in the Camp is a highly valued aim for Falkland Islanders.

Despite having fewer than 30 residents, Fox Bay is one of Camp's largest settlements



- 5.4 The Ministry of Defence base at Mount Pleasant Airport (MPA) towards the centre of East Falkland is a largely self-contained community, but provides the main airport base for international flights.

The Falklands has a limited economic and business base, reflecting its size

- 5.5 There are around 290 registered businesses on the Falkland Islands, of which it is estimated that around 130 are active. Analysis by GDP and employment highlights that public services, fisheries, agriculture, tourism and construction are all key sectors of the local economy. These five sectors account for around 85% of GDP and around two thirds of all jobs.

Falklands Chamber of Commerce



Falkland Islands residents are hard-working and resourceful

- 5.6 The employment rate for working age people (those aged 16-64) is 89.5%, with only 1.4% unemployed and seeking work. This is an exceptionally high level of employment by international standards, and means that there is virtually no spare capacity in the labour market.

- The majority of workers in the Falklands undertake a 40+ hour working week, and around half of Camp residents report working a 50+ hour week.
- The mean income level is £23,000, making it around 10% lower than the mean level for the UK. Around a quarter of Falkland Islanders supplement the income from their primary job with a second job.

Housing in Stanley mainly comprises detached homes in low density developments and there are few empty homes

5.7 There are over 1,200 homes on the Islands, with around 1,000 of these in Stanley. On average only 20 new houses are being built each year, largely detached houses in their own plots. Around three quarters of homes are detached houses and development is fairly low density. There are currently very few empty homes.

Low Density Housing in Stanley



5.8 The main hotel accommodation in Stanley includes the Malvina House Hotel (currently 35 rooms), Shorty's Motel (6 rooms) and the Waterfront Hotel (8 rooms).

The Falklands is a diverse but well-integrated community,

5.9 The vast majority of the population describe their nationality as Falkland Islander or British, however there are also significant community groups from Chile (5%) and St Helena (4%). The Falklands economy relies quite heavily on in-migrant workers, with 17% of its workforce on temporary work permits. These workers are particularly concentrated in both very high skilled jobs more commonly (e.g. where there may be insufficient people with required skills in the Falklands) and lower skilled jobs (e.g. where local people may not wish to apply for particular roles).

5.10 Crime and anti-social behaviour are very low in the Falklands, reflecting the small population and consequently the high levels of familiarity and sense of community.

6. Views of Islanders on Oil and Gas

6.1 The views and aspirations of Falkland Islanders on the oil and gas developments is a critical part of planning for and responding to the opportunities and threats that they present. This section sets out a summary of key findings from the community and stakeholder consultation undertaken as part of the study, including input from over 100 local people through community events in Stanley, Fox Bay, Goose Green and Hope Cottage as well as interviews with the Government officers, local businesses and other local bodies.

On Population Impacts....

6.2 There are diverging views about whether or not population growth in Stanley is desirable. While a larger population could provide critical mass to enable new sustainable activities in the town, some fear the loss of community and familiarity with other residents that population growth in Stanley might cause.

6.3 With a long history of people coming and going and of population change, Falkland Islanders are used to the realities of a transient and, in some respects diverse, population. People generally value and welcome diversity, and the benefits that people with new skills and talents bring.

6.4 If there is significant population growth then the approach to immigration is felt to be important. In particular, people were keen on encouraging more immigrants to settle in the Falklands rather than have a large proportion of the population continually arriving and leaving. People also highlighted a preference for English-speaking immigrants and for avoiding too great an influx from any one nation / community.



On Economic Impacts...

6.5 Falkland Islanders tend to describe themselves as hard-working, practical and adaptable, and there is a clear sentiment that the benefits to businesses and employees in the oil and gas supply chain should be earned rather than given. There is a recognised need to avoid the economy becoming overly-reliant on the oil and gas sector. As such, minimising any negative impacts and maximising any opportunities for other sectors is seen as important.

6.6 The additional occupation opportunities that the oil and gas sector will open are welcomed. The need for varied employment opportunities is recognised as being important in encouraging young Falkland Islanders to return to the Islands after college / university. It is strongly felt that ensuring there are clear and open career paths for young people into the oil and gas sector is of great importance.

On Physical Development Impacts...

6.7 Within Stanley it is felt that significant town growth would warrant a more structured and strategic approach to town planning, considering zoning plans for housing, offices and industrial land; future locations for schools and health facilities; defining a historic core of the town and having greater control of development in this area; and providing design guidance for new buildings to maintain the visual characteristics of the town. The development of a more robust Stanley Town Plan is felt to be of great importance.

6.8 There was a strong and widely held preference that any permanent housing built to accommodate growth in the oil and gas sector (or from wider impacts) should be integrated into the Stanley urban fabric, not in a separate enclave. Reflecting on previous periods of housing under-supply and perceptions that recent oil and gas activity has put pressure on housing rental prices, planning carefully for housing needs is seen as a highly important area.

6.9 The limited capacity in education and health facilities, power and water are recognised as concerns, and upgrading will be required in advance of growth. People are keen that the current quality of service is not negatively affected by oil and gas developments (in fact most would expect these services to improve given increased oil and gas revenues).

- 6.10 While recognising that the majority of oil and gas sector developments will naturally take place in Stanley, many people are keen to see opportunities for growth in Camp where possible, whether this is directly linked to oil and gas developments, or using oil and gas revenues to support economic growth in Camp in other ways.

On Social and Cultural Impact...

- 6.11 Much of the strong local sense of community and cohesion is felt to stem from the relatively small population on the Falklands and the fact that most people know, or at least recognise, one another. There is a concern that without managing population growth carefully and allowing time for in-migrants to assimilate into the local way of life, this cohesion could get diluted or washed away as a result.
- 6.12 Low levels of crime and a strong feeling of safety is highly valued in the local way of life. Ensuring strong management from oil and gas companies regarding the behaviour of their employees, and maintaining robust criminal record checks on work permit applicants is seen as being of great importance.
- 6.13 Additional flights to the Falklands, and the opportunities for delivery of new goods and services locally as a result of the greater critical mass of people and supply links (from the additional flights) are seen as a significant potential benefit.

7. Overall Economic Effects

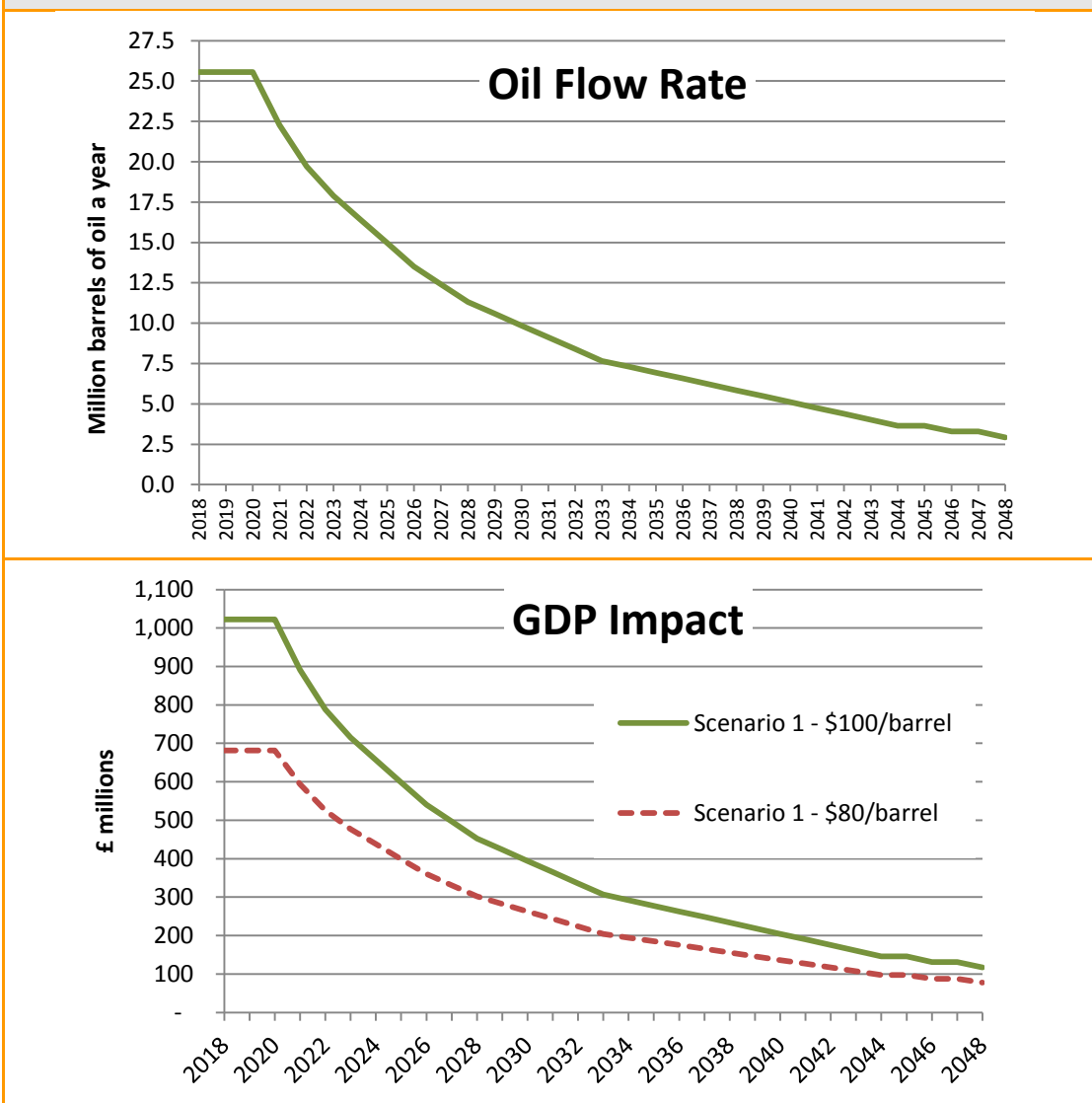
- 7.1 In this section we set out our best estimates of the overall economic effects of the development of oil and gas on the Falkland Islands' economy. The potential impact of oil and gas cannot be understated: under all the scenarios **there will be very significant impacts on the Falklands economy**. These impacts are large in absolute terms but, importantly, very large in proportional terms for what is currently a very small economy with an estimated GDP of just £140m in 2010 and total employment of around 1,600 (excluding work permit holders at MPA).

Impact on the Falkland Islands GDP

- 7.2 By far the largest impact on the Falklands GDP will come from the value of future offshore oil and gas production, rather than any land-based activities (except of course in Scenarios 4 and 5). In this respect oil and gas will be rather similar to the fisheries sector where the current contribution to GDP is much greater than the onshore economic footprint. The contribution to GDP will depend on flow rates and of course the future price of oil. Figure 7.1 provides an illustration of the possible impact on Falklands GDP from the development of Sea Lion alone. The forecast flow rates show a peak of around 26 million barrels of oil per year over the first three to four years of production, which then starts to tail off over time. The impact of the Falklands GDP and on FIG revenues follows this pattern over time.

7.3 Clearly, there is some uncertainty about the future price of oil which will impact on the contribution to GDP (and of course to FIG revenues), nevertheless based on the current world price of oil there would be a very substantial increase in the Falklands GDP from first oil (end 2017) onwards. As with fisheries it is important to note that the increase in the Falklands GDP is not the same as the increase in profits and incomes that will be experienced by the residents and businesses in the Falklands. A large proportion of the GDP created will of course be profits for the oil and gas companies operating offshore providing a return on their very substantial capital investment. The main part of this GDP that will be retained in the Falklands relates to payments made by oil and gas companies to FIG.

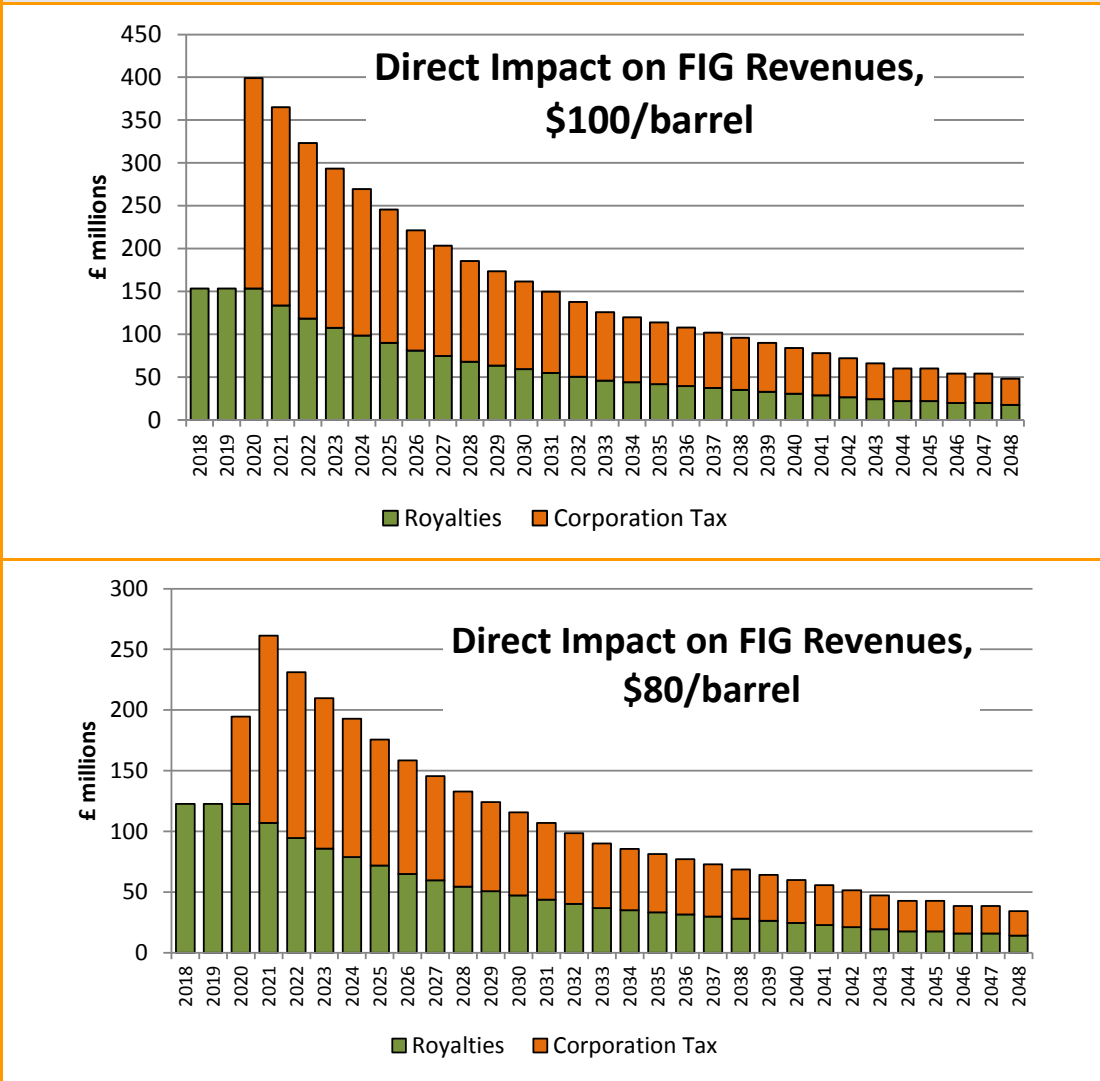
Figure 7.1: Illustration of possible annual oil flow rates and their impacts on GDP



Note: (1) annual oil flow rates based on projections set out in the 'Rockhopper Exploration Competent Person's Report on Certain Petroleum Assets in the Falkland Islands' (Gaffney Cline and Associates, April 2012). (2) GDP estimates assume a world oil price of \$100 or \$80/barrel and total costs of production of \$40/barrel; exchange rate assumed to be £1 to \$1.50. (3) FIG revenues based on \$100/barrel assumption; these exclude any extra income tax payments by offshore and onshore oil and gas workers and corporation tax payments by FI companies. (4) These GDP estimates exclude any impacts from further exploration activity.

7.4 We have also modelled the possible effect on FIG revenues from the development of the Sea Lion field. Again these estimates are illustrative only and are very sensitive to flow rates and the world price of oil. The average annual increase in FIG revenues modelled works out at around £110m a year based on \$80/barrel and £150m/year at \$100 a barrel.

Figure 7.2: Illustration of possible annual oil flow rates and their impacts on FIG revenues



Note: (1) annual oil flow rates based on projections set out in the ‘Rockhopper Exploration Competent Person’s Report on Certain Petroleum Assets in the Falkland Islands’ (Gaffney Cline and Associates, April 2012). (2) revenue estimates assume a world oil price of \$100 or \$80/barrel and total costs of production of \$40/barrel; exchange rate assumed to be £1 to \$1.50. (3) FIG revenues exclude any extra income tax payments by offshore and onshore oil and gas workers and corporation tax payments by FI companies. (4) FIG revenues estimates exclude any impacts from further exploration activity. (5) Forecasts of corporation tax assume that the capital costs of developing the Sea Lion field are \$4.8 billion (as per the Gaffney Cline report) and are offset against post royalty revenues before any corporation tax is paid

7.5 Under the other scenarios, the GDP and other macro-economic impacts will clearly both be scaled-up and also the profile of impacts will differ. It is possible to do this exercise for Big Oil scenario based on applying the Sea Lion assumptions to other discoveries; however for gas there is very considerable uncertainty about the future price of gas and what the value of gas produced in the Falklands would be (as this depends on an agreed long-term supply contract).

Employment Effects –Scenario 1: Sea Lion plus exploration

7.6 Of particular importance for our study and for FIG are the on-shore employment effects that could materialise. The overall likely impacts are shown below in Figure 7.3. The key points are:

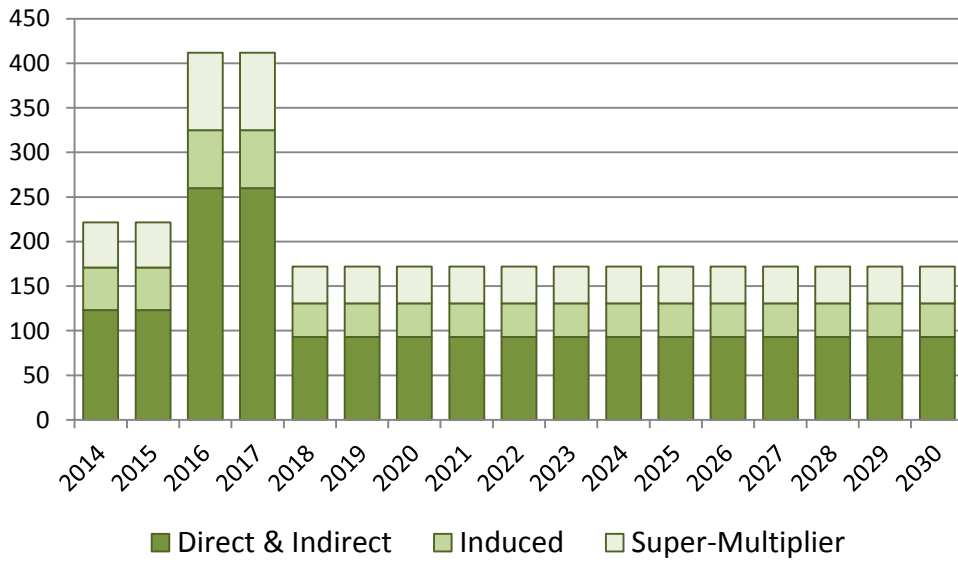
- The longer-term steady state effect of the onshore activity of the oil companies in production and exploration would support around 175 extra full-time equivalent jobs (FTEs) or around a 10% increase on current levels of employment in the Falklands⁸, although there would be an element of annual peaks and troughs around this number. These jobs sum from three sources: around 95 in O&G firms and their onshore suppliers; around 40 are as result of extra spending on local goods and services; and a further 40 are as a consequence of the increase in population and extra demand on FIG services.
- However, over the period 2014 to 2017 (and possibly slipping into 2018) onshore employment would be significantly higher as a result of the development phase of Sea Lion combined with extra exploration activity in other areas. In 2016 and 2017 the jobs resulting from direct employment and supply chain and local spend effect would peak at over 300 - to put that into context it is a 20% increase on current levels of employment. The short term impacts on public service requirements are less certain than the long term, nevertheless such an increase in employment and associated population will require extra public sector workers that could bring up total extra employment to a peak of around 400 during 2016 and 2017.
- In addition to these onshore jobs there will of course be significant numbers of offshore jobs on rigs, FPSOs and support vessels (around 190 in 2014 and 2015 rising to 420 in the main Sea Lion development phase and then falling back to 125 in the steady state of production).

7.7 However, these figures above largely exclude the effects of the infrastructure and capital investment that will be required (see Section 10). There is more uncertainty about the economic and employment impacts here as: the scale and cost of several of the investments is uncertain; the implications for construction jobs depends on the approach adopted to construction activity which is still to be determined; and the timing of many of the investments is uncertain at present and to some extent still depends on key decisions to be made (such as around the new port).

7.8 As Figure 7.4 shows the impact of infrastructure investment is to add a considerable additional need for employment located in the Falklands, given that there is currently no spare capacity in the construction sector at all. These “accelerator jobs” average around 150 over the period 2014 to 2019. In reality the pattern shown in Figure 7.4 will not materialise as shown, not least because of practical infrastructure constraints and bottlenecks, and we would expect the impact to extend further over time into the future.

⁸ Around 1,600 residents in employment (excluding contractors at MPA). This figure is quite a bit higher than the long term average of around 100 onshore jobs estimated by Plexus in their 2011 Socio-Economic Study for Rockhopper. This is because the direct O&G related jobs provided by Premier Oil are somewhat higher than the earlier Rockhopper estimates and because our estimated multiplier effects are larger than the 0.5 broad-brush assumption made by Plexus.

Figure 7.3: Scenario 1 estimates of on-shore jobs arising as a result of spend and population effects

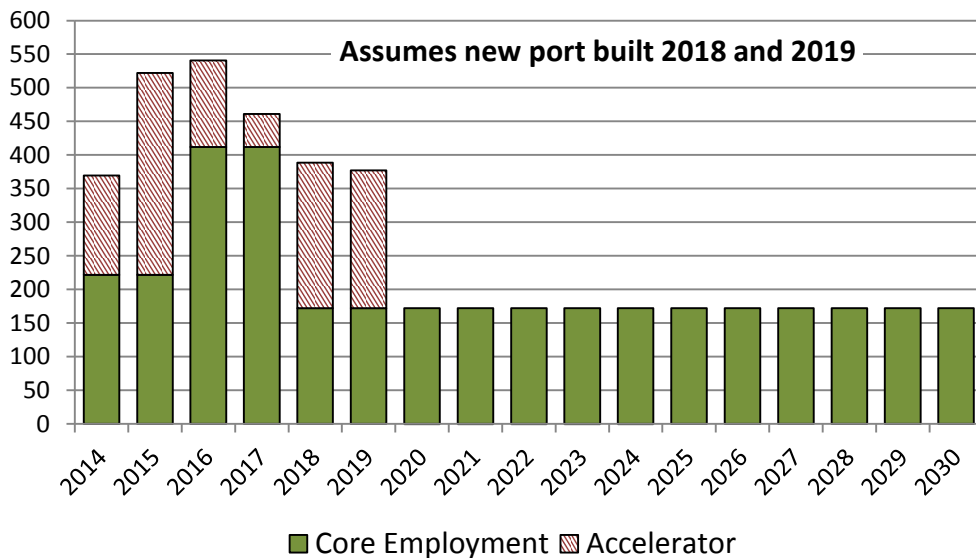


Source: Regeneris Consulting estimates

Note: includes an assumed 100 direct jobs involved in a flowlines assembly base in 2016 & 2017

7.9 Nevertheless, it is clear that this activity will lead to large numbers of extra construction workers, largely based in and around Stanley, over the next five to six years. Potentially at its peak there could be of the order of 500 extra workers in the Falklands compared to the present, an increase of around 30% on present numbers

Figure 7.4: Scenario 1 estimates of on-shore jobs arising as a result of spend and population effects and infrastructure/housing investment [new port construction starts in 2018]

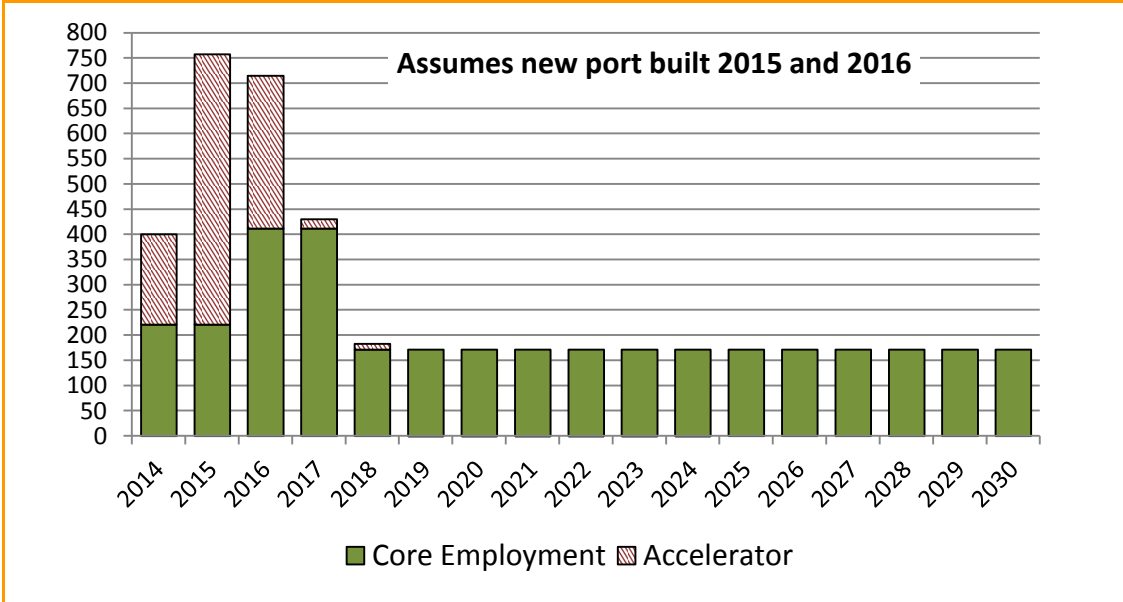


Source: Regeneris Consulting estimates

Note: accelerator jobs = temporary construction jobs related to infrastructure investment and housing investment arising as a result of oil and gas requirement and associated employment and population growth. Assumes port construction does not start in earnest until 2018 once oil revenues start arriving

7.10 The impact of the timing of major infrastructure projects can make a big difference to these peaks of employment numbers. In Figure 7.5 below, we have assumed that the construction of the new port starts in 2016 and takes two years with completion in 2017. As can be seen the effect is to dramatically increase the peak of onshore jobs in 2015 and 2016 up to the order of 700 to 750 jobs. In 2015 potentially there would be several large projects overlapping: the temporary port, the road to the new port, the start of work on the new port and work on the lay down yards. This scale of construction activity in one or two years would put extreme pressure on accommodation and other services in the Falklands.

Figure 7.5: Scenario 1 estimates of on-shore jobs arising as a result of spend and population effects and infrastructure/housing investment



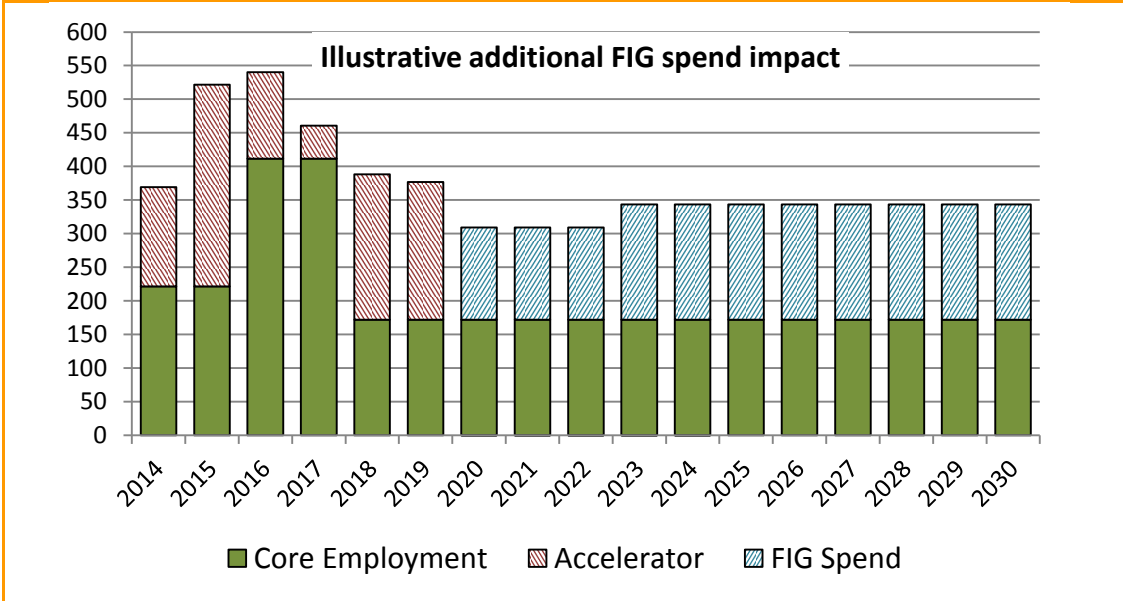
Source: Regeneris Consulting estimates
 Note: accelerator jobs = temporary construction jobs related to infrastructure investment and housing investment arising as a result of oil and gas requirement and associated employment and population growth. Assumes port construction starts in 2015 and port access road in 2014

7.11 As noted in Section 4, a potentially very significant source of economic impact is any future extra discretionary spending by FIG as result of the extra revenues from the oil and gas sector. It is beyond the scope of our study to predict how and when these revenues might be spent. This will be for the government and people of the Falklands to decide. However, it is important to gain some insight into the potential economic implications of extra FIG spend.

7.12 At present our understanding is that the priority for use of oil revenues will be financing the additional costs of the infrastructure needed (such as the new port etc.) and of course additional public services required. FIG is already exploring a Norwegian model of a Sovereign Wealth Fund into which revenues are invested to ensure a long term sustainable income for oil and gas (especially as revenues are likely to be very front-end loaded). We have exemplified the potential impact in Figure 7.6 below. The numbers assume that FIG chooses to spend an extra £10m pa from 2020 onwards over and above what is required for infrastructure needed for the oil and gas sector; this is split 75% on capital projects (such as potentially the water front or the MPA road) and 25% on extra public services; we further assume that the wider effects on population etc. do not materialise until 2024.

7.13 These figures are illustrative only and are not predictions. Nevertheless they show that increasing FIG discretionary spend by £10m pa could potentially add another 140 to 170 jobs to the economy, which is of the same order of magnitude as the total long-term impact of oil sector activity onshore.

Figure 7.6: Estimates of on-shore jobs arising as a result of additional discretionary FIG spend 2020 onwards



Source: Regeneris Consulting estimates. Note: based on £10m pa extra FIG discretionary spend from 2020 onwards. Assumes new port is constructed in 2018 and 2019 as per Figure 7.4

7.14 We have also considered the potential macro-economic impact on **inflation and costs** in the Falklands as a result of the boost in demand associated with this scenario. Goods are largely imported into the Falklands, so we see no particular reason why there should be price inflation (so long as there is effective competition in the supply of imported goods); this is also true for fuel and power. Indeed, to the extent that demand increases freight transport activity there may be some reduction in transportation costs. This could also be true for telecommunications costs as fixed overheads are spread over a larger volume of activity.

7.15 The extent to which there is price inflation associated with wage inflation depends on the speed of response of immigration. However, the contribution of local labour costs to the overall basket of goods and services consumed by Falklanders is relatively small, so the effect is unlikely to be marked.

7.16 The main area where we would expect to see inflationary pressure is in respect of housing costs, both house prices and private rental costs. Housing costs account for around 17% of the Retail Price Index for the Falklands, indicating the importance of these in overall cost of living. For those households in private rented accommodation (as opposed to FIG rented accommodation), rental costs amount to around £7,000 a year per household and for 31% of all household expenditure⁹. Households living in private rented accommodation are therefore most vulnerable to housing inflation.

⁹ Table A6, Falkland Islands Household Expenditure Survey 2010-11

Employment Effects – Other Scenarios

7.17 The scale of employment and economic impacts are far greater for the other scenarios. These are summarised in the graphs below and show the core employment effects from O&G activity as well as infrastructure spend effects. They do not include any estimates for the impact of additional FIG spend which, as we have seen, could be very significant. The key points are:

- Under Scenario 2 (Big Oil) employment could peak at around 1,400 jobs in 2019 and then fall to a steady state of 500 to 600.
- Under Scenario 3 employment would peak at roughly the same level as Scenario 2, but would remain higher for longer and then reach a steady state of 750 to 850 jobs
- Under Scenario 4 the peak would be much, much higher as a result of the very major construction activity required to construct a LNG facility onshore with all the associated infrastructure and services. Employment could peak at towards 4,000 in the mid to late 2020s. Extra steady state employment could be of the order of 1,200 jobs.
- Scenario 5 would see employment peak at around 3,500 and then return to steady state of around 750 extra jobs.
- Note: for both Scenarios 4 and 5 the onshore impact of the development of an LNG plant is very illustrative and the actual pattern of employment would show a period of ramping up to the peak and then falling away.

Figure 7.7: Estimates of on-shore jobs arising of O&G activity and infrastructure investment

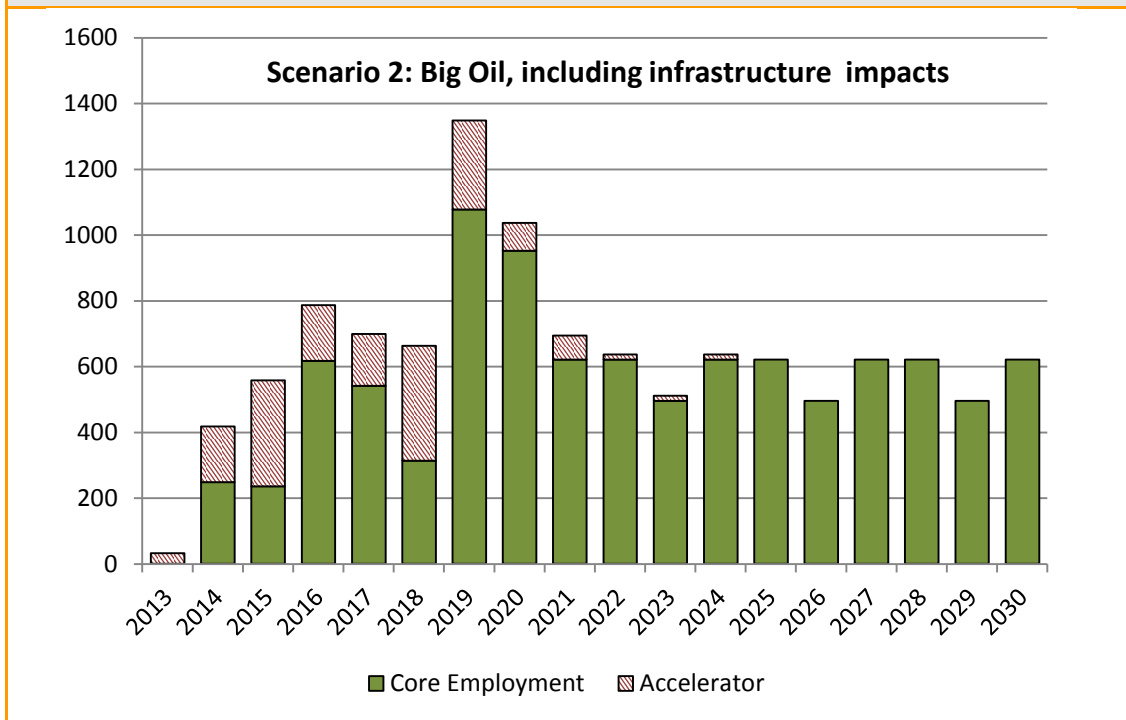


Figure 7.7: Estimates of on-shore jobs arising of O&G activity and infrastructure investment

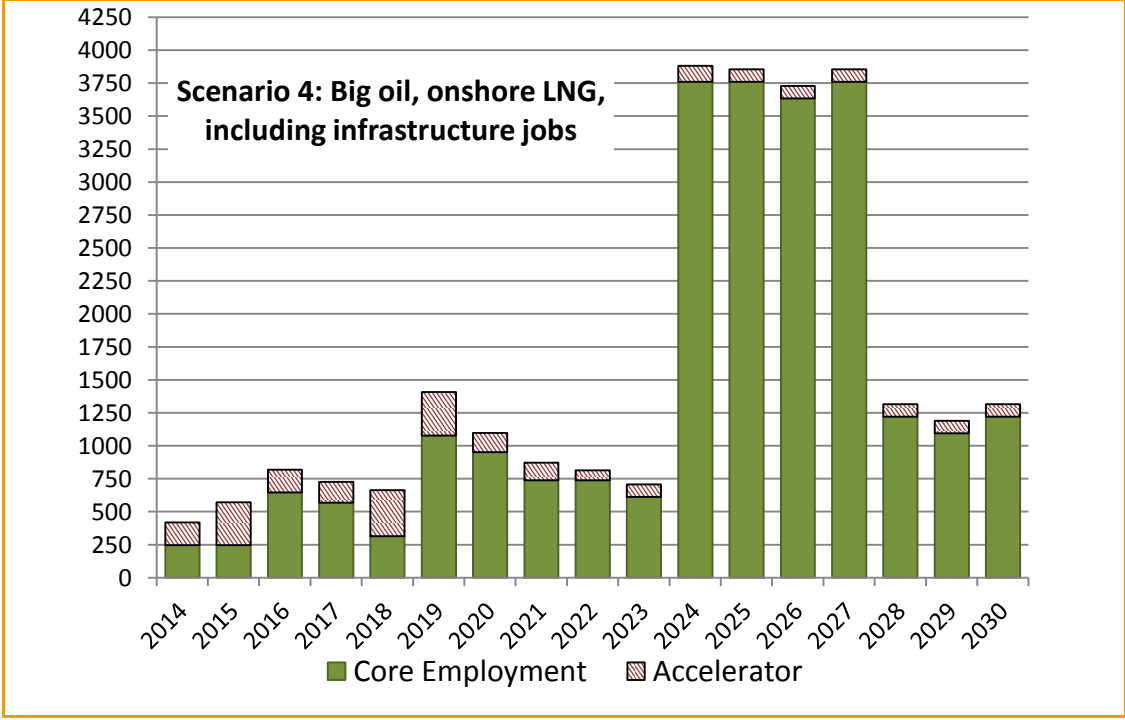
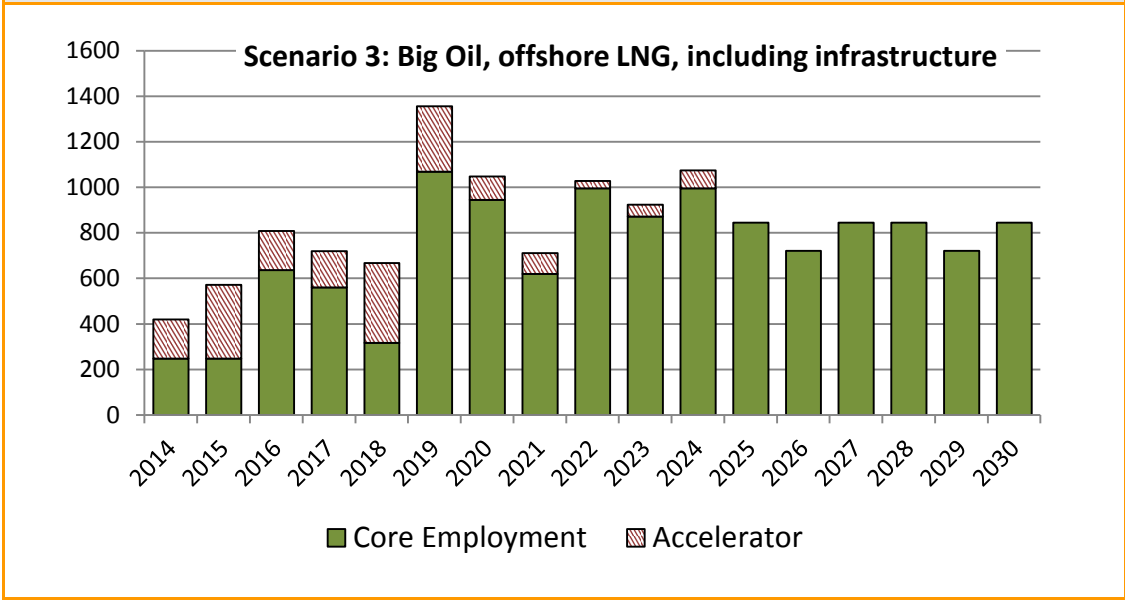
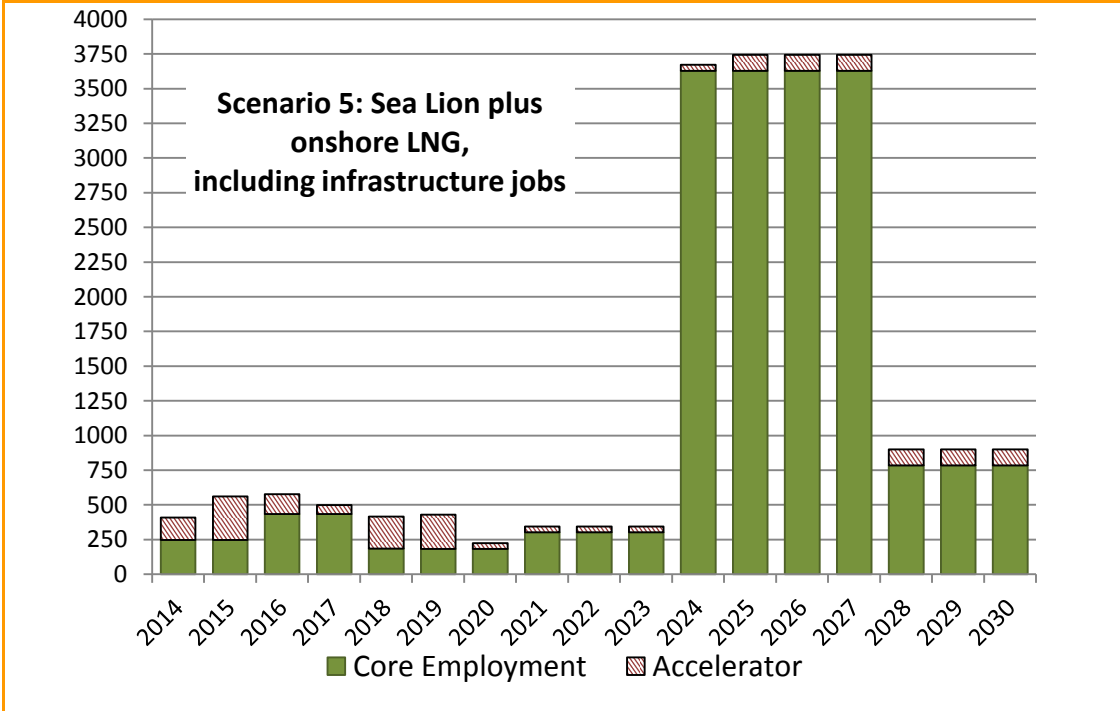


Figure 7.7: Estimates of on-shore jobs arising of O&G activity and infrastructure investment



Source: Regeneris Consulting estimates

Notes: under scenarios 4 and 5 the core employment is assumed to include a large element of infrastructure, also the actual timing of the employment impact is likely to show a build-up and then slow down period rather than four years at a constant peak level. The accelerator impacts shown from 2020 onwards are largely housing ones.

Policy Recommendations

7.18 The findings from this summary of overall effects set against the current situation in the Falklands leads to a number of clear policy conclusions and recommendations:

PR1: Under all scenarios for the future development of O&G there will be a requirement for a substantial increase in immigration into the Falklands as there is no spare capacity currently in the labour market. **Building on the current review of immigration policy and practices, FIG needs to gear up its capacity to deal with larger volumes of migration and ensure its policies and procedures are fit for purpose.**

PR2: The way in which FIG chooses to spend its future O&G revenues could have as significant an impact on the Islands' economy and labour market as the direct consequences of onshore O&G activity (especially under Scenarios 1, 2 and 3). **FIG needs to plan carefully in how and when it spends future oil revenues.** There is a case for tying this in with the predicted employment effects directly from O&G and associated infrastructure activity. So for instance FIG could ensure that there are on-going capital projects which sustain construction activity over longer term period well beyond 2020 under Scenario 1.

PR3: We recommend that FIG develops a **long term capital investment plan** for the next 10 to 15 years than can be flexed as the development of O&G progresses and includes both investment needed for the O&G sector and investment that would be desirable for the wider Falklands economy and society. This would help plan for construction needs and help private sector firms make longer term investment decisions. It could also be used to potentially iron out some of the peaks and troughs in construction activity.

PR4: The different scenarios raise different potential overall scales of impacts on the economy (and so population etc.). Although the consultation process showed that most residents were prepared for extra growth, the speed and scale of this were concerns for some. It is important that there is a **wider debate about what level and speed of future growth is desirable and how best to manage this**. FIG will be in a position to some extent to choose the speed at which it approves the development of new fields via approval of Field Development Plans and clearly onshore facilities for LNG would need widespread consultation before any approval.

PR5: At the moment FIG clearly needs to be planning on the basis of Scenario 1 – it is far more certain than the other scenarios. However, we recommend that **contingency planning is started now to deal with the potential Big Oil scenario** – where would the facilities go, what extra infrastructure and improved public services would be needed and where might the extra housing be located? It is possible that there could be quite rapid development and increased likelihood of Scenario 2 within a couple of years.

PR6: Similarly, at present the likelihood of an onshore LNG plant is a remote prospect as no commercial gas discovery has been made and there are many factors likely to slow up the process. However, we recommend that **FIG should be starting some initial thinking about onshore LNG**: (a) whether this scenario would be desirable; (b) where any LNG plant might be located and how this would link to wider aspirations for the development of Camp etc.

8. Migration and Population Change

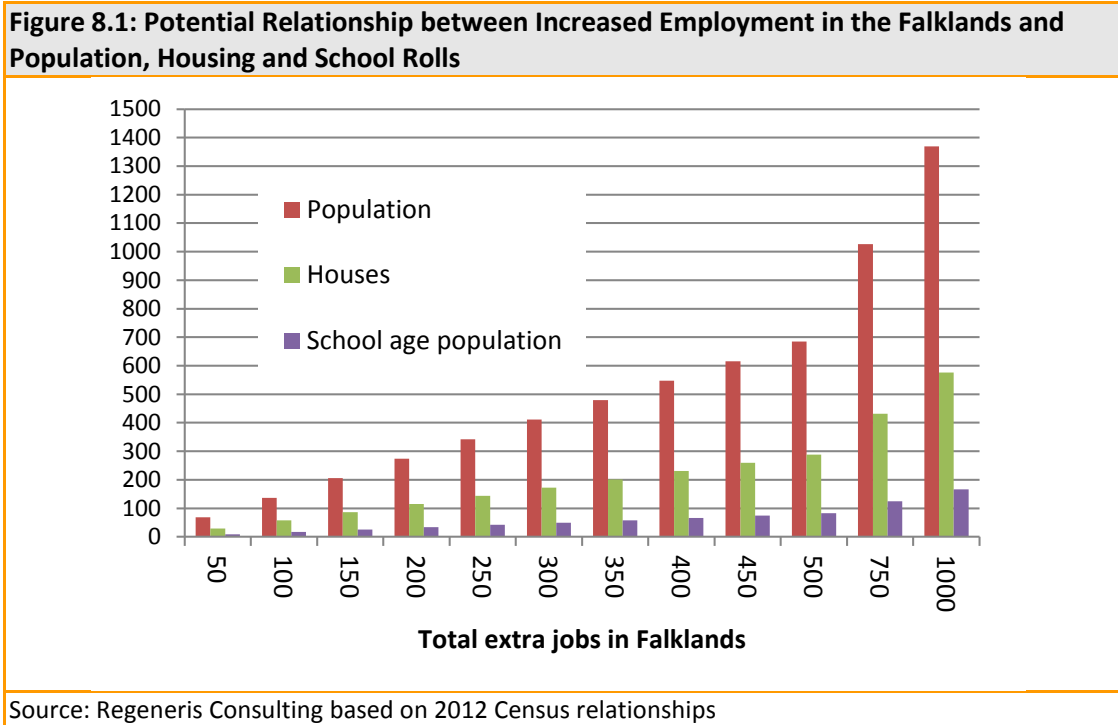
Introduction

- 8.1 As already stressed, the situation of the Falklands is quite unusual in that there is, in effect, already full employment before the impact of O&G. Indeed there are already a large number of workers that have come on work permits because of the lack of local labour supply.
- 8.2 This means for planning purposes we have assumed that every extra job created will require an extra in-migrant. Our key assumption is therefore that migration is the “balancing item”. The overall increase in the labour force required under the different scenarios is therefore assumed to be filled by additional migrant workers. However, this is not the same as saying that all O&G sector jobs are filled by temporary migrants on work permits in perpetuity, rather that the overall number of jobs that need to be filled must be balanced by extra migration.

8.3 How this increase in workforce translates into change in population (and so demand for housing and other services) clearly depends on the ratio of non-working dependents to those employed, and the number of people employed per house. A starting point for our work was to look at data from the 2012 Census. The key points findings were:

- On average there are 1.7 people employed in every household with a work permit holder and 2.4 people per such household.
- For every 100 people employed on work permits there are 137 people in total and 17 children of school age.
- Overall 25% of all households had children and the average number of children per household was 1.56.

8.4 If we apply these current ratios to potential future change in employment in the Falklands then the picture might look like as shown above in Figure 8.1. Clearly, this a considerable simplification of reality as much depends on the types of jobs created and propensity of workers to bring their families, especially children.



Future Migration and Population Change

- 8.6 The starting point for our modelling was to assume that the current ratio of population to workers on work permits remains **the same in the future**. In effect this means every three extra workers bring in one extra person (1:1.37). This ratio is lower, but only slightly lower, than the current overall ratio of all residents under 70 in employment (1,554) to all residents under 70 (2,280) of 1.47¹⁰. This analysis suggests that a ratio of 1.37 is perhaps lower than might occur in the longer run as those on work permits become more similar to those not on work permits, but that the effect is not likely to be that great (the uplift in population for every 100 jobs maybe being up to 10% higher than our main assumption). For construction workers linked to infrastructure our working assumption is that no dependents come with the workers.
- 8.7 The reason that these ratios are relatively low relates to two factors:
- First, a significant number of migrants are single or if married they do not bring their partners and families
 - Even where partners come it is common for them also to have jobs.
- 8.8 The summary population effects are shown below in Table 8.1. The key points are:
- Under the Sea Lion scenario the eventual impact on the Falklands' population is relatively modest (of the order of 240 or less than 10% on the current levels), although there is a much higher short term rise. However, were there to be additional FIG discretionary spend this would further raise population levels.
 - The other scenarios have much more significant impacts on population and migration. The long term impact on population ranges from an increase of around a third (Scenario 2) to 70% (Scenario 4)
 - The large impact on the Islands' population of an on-shore LNG plant is shown quite clearly in scenarios 4 and 5.
 - Although these are, apart from Scenario 1, large rises in proportion to the existing population they are not of the order of magnitude that might see the Islands' population double on a permanent basis.
- 8.9 However, it is important to note that the estimates are likely to be conservative for two reasons:
- First, if as is possible FIG adopts a family friendly approach to immigration that population rises will be higher than shown
 - Second, the estimates do not take account of the potential extra population associated with extra FIG spend.

¹⁰ Or 1.51 to 1 ratio of all residents not on work permits (i.e. Temporary work permit, PRP or full Status) under 70 to all such residents in work

Scenario	Average	Average	Average	Total increase by 2030	2030 % increase on 2012
	2014-18	2019-23	2024-30		
1: Sea Lion plus exploration	560	280	240	240	9%
2: Big oil, no gas	770	1,120	800	850	33%
3: Big oil, FLNG	790	1,350	1,160	1,160	45%
4: Big oil, onshore LNG	790	1,280	3,710	1,760	69%
5: Sea Lion, onshore LNG	610	430	3,400	1,190	46%

Source: Regeneris Consulting estimates
 Note: % increase based on 2012 population in Falklands excluding contractors at MPA (2,560). These exclude any impacts from extra FIG discretionary spend but do include temporary construction impacts

Policy Choices

- 8.10 We have presented the potential scale of population rises that might occur as a result of migration to fill employment growth. There are many policy choices that the Falkland Islands has in relation to migration and population change, particularly in the longer term. In commenting on these it is important to appreciate the views of existing Falklands’ residents:
- There is a strong desire to maintain a balance across different nationalities in the future with no one group dominating and to ensure the Falklands’ way of life is retained
 - There is a preference of immigrants to come for longer periods, as families if possible and to be integrated (physically and other ways) into the Falklands community – as has happened successfully to date.
- 8.11 As can be seen from the analysis of the 2012 Census, although some people on work permits do come with spouses and children, this is currently far from the norm. For the peak of activity associated with the development of Sea Lion and for larger projects we would expect migrants to come on a temporary basis and without any other family members. This period will be challenging and demanding in terms of scaling up activity and the workforce in the Falklands to cope with the temporary demands from Sea Lion. There will therefore need to be a “needs must” approach to work permits and migration. As we note below, it is essential that there is a temporary accommodation solution to cope with the peaks that will be reached fairly rapidly, associated with the development phase of Sea Lion (2015 to 2018) and linked infrastructure projects and then the development phases of other fields under the higher activity scenarios. Even looking at temporary accommodation solutions, FIG needs to be looking to the future as well.
- 8.12 Looking to the longer term, beyond 2020, there are more policy choices around migration and population change. Once the oil and gas projects move into production phases there is likely to be more continuity of staff and more opportunity to attract longer term migrants. Also as the scale of employment is likely to be longer term and more predictable there is scope for FIG to deliberately target and encourage “family friendly migration”. The effect of this would be to tend to increase population per worker and also increase demand on public services per work – especially in relation to the education system.

Policy Recommendations

8.13 Our policy recommendations in relation to migration and population growth are as follows:

PR7: The immigration system is understandably strict as FIG wants to keep a tight control on immigration. FIG has already shown that it is possible to be flexible in the way it has made a special dispensation for the O&G sector. However, given the scale of the task ahead and the speed of response that will be needed it is likely that the current system is not fit for purpose. There is a review of immigration underway, but it is clearly the case that **the system will need to be quicker, more streamlined** and better suited to the scale of demands that will be placed on it (not least that there may be a considerable churn of people needing work permits within the overall totals we have estimated).

PR8: To meet the concerns of residents, there is a need to **manage carefully the nature of immigration**, particularly any longer term immigration in terms of the countries and culture of those coming to the Falklands. This could be maintained by special arrangements with some countries or an English language requirement form immigrants.

PR9: Given the scale of future opportunities, FIG may wish to consider a **proactive recruitment policy** (for public service jobs and potentially for other jobs) in certain countries or with former Falkland Islands' residents who live elsewhere.

PR10: If the focus on more **family friendly immigration** is taken up as a policy, the various changes may be needed include:

- Making it much easier for the partners of those on work permits to access employment – perhaps having a generic work permit that puts them in the same position as the partners of PRP holders
- Making it much easier for those on work permits to buy and own property in the Falklands (to encourage a longer term view of residency)
- Further investment in the fabric and teaching staff in the primary and secondary school to really make the education system attractive to immigrants to bring their families.

PR11: Finally, FIG needs to review the process by which people can transfer from **work permits to PRP status** to facilitate the process and encourage more of those on work permits to aspire to becoming permanent residents.

9. Housing and Accommodation

9.1 The population rise necessitated by oil and gas sector development has clear implications for the need for new housing. The limited direct employment opportunities generated in Camp under different oil and gas scenarios will need to be catered for through temporary worker camps (or major new oil and gas company-led development in the case of an onshore LNG plant in Scenario 4/5). This section therefore focuses on the supply and demand of housing and temporary accommodation in Stanley.

- 9.2 There are just fewer than 1,000 homes in Stanley, with approximately three quarters being detached houses in relatively low density developments. There is a very low vacancy level in current housing stock.
- 9.3 Around 62% of homes are owner-occupied, with around 32% rented and the remaining 6% occupied rent-free. Currently, only residents with permanent resident permits or full Falkland Islands status are able to own property in the Falklands, although ExCo can grant permission if applied for by non-permanent residents.
- 9.4 Servicing of new housing sites has historically been led by FIG. The cost of providing a serviced plot in the new development at Sappers Hill is around £50,000 per plot (covering access roads ground works, supply of services etc.). Plots are made available to first time buyers at a subsidised rate of only 10% of the plot cost and to date all houses developed have been built to order.
- 9.5 The cost of building a new house ranges is around £85,000 for a 2 to 3 bedroom detached house, on top of the serviced plot cost. Data from 2010¹¹ suggests that in Stanley the average price of houses ranged from around £70,000 for a two-bed property up to £140,000 for a four-bed property, although we understand that prices have increased somewhat since 2010. Clearly, at these prices the value of a typical new house on the Sappers Hill development is likely to be less than its cost if built, given the high infrastructure costs there.
- 9.6 As a result, speculative housing development at typical lower densities on un-serviced sites would currently not be commercially viable in Stanley (as opposed to higher density development on already largely serviced plots). However, this situation may change in the future if house prices rise relative to construction costs. A further constraint on the housing market and housing development is the difficulties Islanders have in obtaining a mortgage for more than £100,000.
- 9.7 An important feature of the housing market is its overlap with immigration and work permits. Employers need to be able to provide accommodation of new staff coming on work permits; therefore many larger employers including of course FIG itself, FIC and the Malvina House Hotel all have their own accommodation that can be provided to staff.

Housing Supply

- 9.8 Over the last six years, 117 new houses have been built, equivalent to around 20 per year (comparing Census 2006 and 2012). The Sappers Hill location has the capacity for around 200 houses, and servicing of plots is currently underway. It is anticipated that the first 74 plots will be completed by August 2013, with a second phase of a further 74 plots completed by the end of 2014.
- 9.9 FIC has planning permission for a 30-unit apartment block, providing high quality self-contained accommodation. This is expected to be completed by 2014. FIC also has planning permission for around 350 plots on the Dairy Paddock site on the edge of Stanley; however private development of low density housing is not currently commercially viable.

¹¹ There is a lack of up to date information on average or “typical” house prices in Stanley

9.10 Temporary serviced accommodation is likely to prove particularly important during peak employment periods of oil and gas exploration and development phases. Stanley is currently primarily served by the Malvina House Hotel (currently 35 rooms), Shorty's Motel (6 rooms) and the Waterfront Hotel (8 rooms). The Malvina House Hotel has significant expansion plans including:

- A first phase development of an additional 38 two-bed rooms (to be completed by mid-2014), which will increase total serviced accommodation to 87 rooms across the three premises in Stanley by 2014.
- Further plans to develop a second phase of 27-30 apartment style rooms in the future.

Historic Core of Stanley



Future Housing Demand

9.11 The housing requirements that the oil and gas developments and induced activity will generate can broadly be split into three categories:

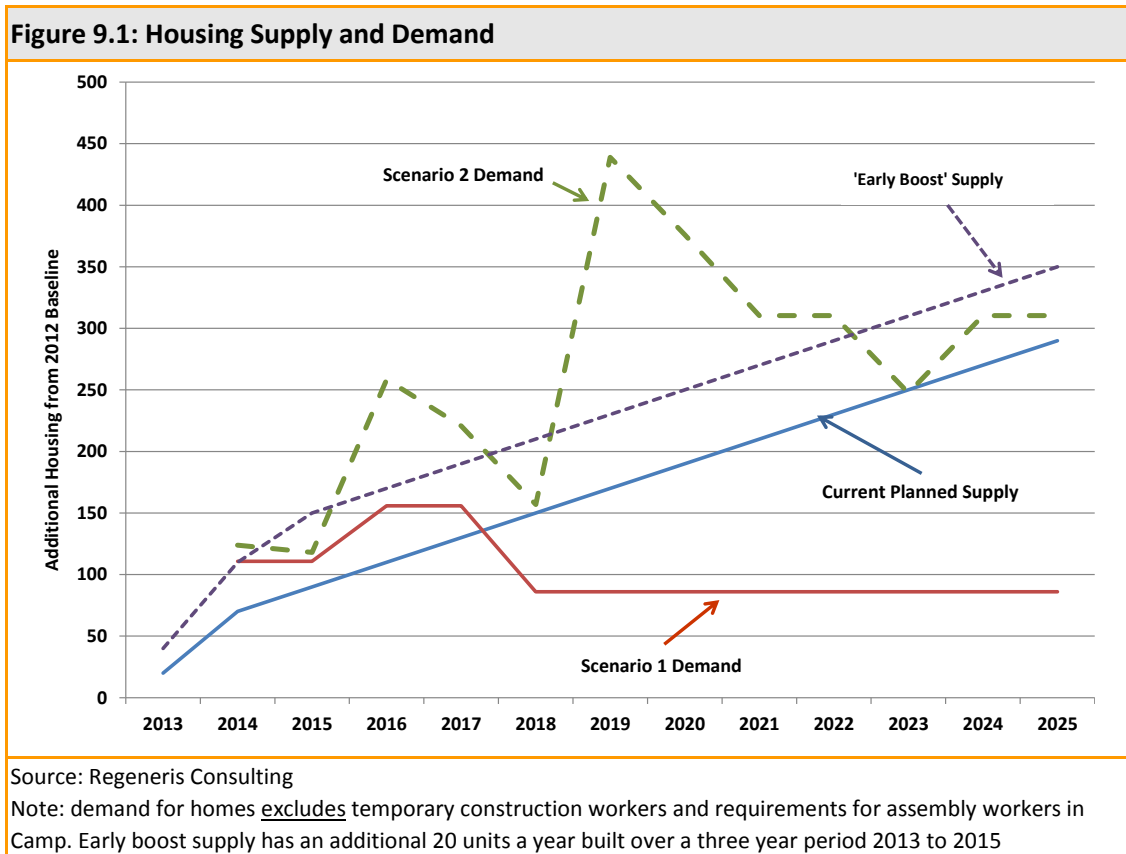
- *Permanent housing needs:* the new properties required for the permanent onshore posts created through the direct, indirect and induced activities that the oil and gas developments generate. This permanent housing is the focus for housing growth discussed below.
- *Temporary accommodation for peak employment:* the development of Sea Lion and, potentially other fields, leads to a peak on-shore labour requirement, which does not necessarily need a permanent accommodation solution. However, unlike construction workers, it would not be suitable to house temporary O&G workers in Stanley or workers involved in the supply chain or extra public service workers in temporary accommodation camps.
- *Housing for temporary construction workers:* the construction programme required over the next decade will require periods of major construction activity, with large employment peaks. The majority of this labour will be temporary workers from overseas, and will in most cases need to be housed in temporary worker accommodation camps. These will be built into plans for specific major construction projects and are not considered in the permanent housing growth discussed below (this would also apply to the 100 or so workers that might be needed to operate a flowlines assembly facility in Camp).

9.12 Given the limited numbers of vacant properties, it is assumed that all additional in-migrants will require new accommodation to be provided. The population increases that the oil and gas sector will generate will be significantly greater than any population changes on the Islands in recent times and this will create significant challenges relating to housing:

● **Socio-Economic Study of Oil and Gas Development in the Falklands** ●

- Firstly, the vast majority of in-migrants will be looking to rent properties, yet the private-sector-led build-to-let market is not currently commercially viable given current housing prices and the site servicing costs of low density developments. The first question is: who will build the houses that are required?
- Secondly, planning the most desirable scale of house building is challenging, given the peaked nature of employment during oil development phase, and given uncertainty over the scale of future oil and gas finds. The second question is: should the Falklands aim build housing to cater for the peaks, or just for the longer term steady state employment levels?
- Thirdly, the housing options currently provided in Stanley may not ideally match the type of housing preferred by in-migrants. Larger homes in low-density developments may not be the most desirable accommodation for example for single ex-pats working in the Falklands on a two-year contract. The third question is: what is the ideal mix of new accommodation?
- Fourthly, the current construction capacity in the Falklands has constrained housing development to just 20 houses per year. In the house building options set out below, there may be a need to increase this. The fourth question is: how can capacity can be increased and whether there are other constraints e.g. capacity of the quarry that need to be addressed to meet these needs?

9.13 Figure 9.1 below sets out supply and demand for housing in Scenario 1 (Sea Lion and Further Exploration) and Scenario 2 (Big Oil Scenario). Housing demand is based on an assumption of an average of one home for every two workers, reflecting current housing patterns.



- 9.14 Current planned supply is based on 20 homes built per year, in addition to the additional 30 FIC flats planned to be built in 2014. It is clear that this would not cater for the peak employment needs under Scenario 1 (Sea Lion plus Exploration). However, by doubling house building to 40 homes per year in 2013-15 ('Early Boost' Supply), this peak under Scenario 1 could be met, and would leave local housing supply better positioned in the case that there are further oil and gas finds (for example in Scenario 2).
- 9.15 Should the scale of additional finds set out in Scenario 2 come to fruition, the short term development peak in 2019 will need to be met by a greater degree of temporary accommodation, although FIG could decide to further boost delivery of permanent housing.

Policy Recommendations

- 9.16 In order to address the challenges set out above, we have the following recommendations:

PR12: FIG needs to develop a **new strategy for housing development** ensuring that in the short term the required house building takes place in the coming years to meet needs, and in the longer term enabling commercial viability of property developments.

- In the short term this could mean FIG directly delivering or contracting specific house building, then directly letting or selling on properties as buy-to-let. Alternatively it could provide subsidies or guarantees to private property developers enabling commercial viability of private-led housing developments on un-serviced land.
- In order to reduce costs, FIG might look to encourage higher density developments of houses or flats, reducing the servicing cost per plot, and enabling a better mix of property developments to meet the needs of in-migrants.
- In the longer term, it may be preferable to move to a position where the value of properties is equivalent to the real costs of development, including plot servicing. This may involve altering the support given to first-time buyers e.g. moving away from subsidising land purchase towards greater underwriting of mortgage loans.

PR13: FIG should lead or support the private sector **to increase the rate of house building over the period 2013-15 to around 40 homes per year**, which should include a mix of Sappers Hill properties, as well as other higher density house/flat developments, to cater for the differing needs of in-migrants. This would cater for the peak employment needs of the base scenario (Scenario 1) and minimise housing rental inflation. Beyond this, housing needs should be carefully planned for and managed, based on further oil and gas finds as well as other growth pressures on the Islands.

PR14: there is going to be a rapid and peaked demand for accommodation from 2014 through to 2018 resulting from the need for workers supporting development of the oil and gas sector plus a considerable amount of infrastructure investment. Unless there is certainty that there will a permanent increase in employment and population the obvious solution is the **provision of temporary workers accommodation for 200 to 300 workers** (potentially working on a range of different projects). There are various options for this, including worker camps located near the main construction projects, one or two large scale purpose made facilities or to aim to distribute the extra accommodation across Stanley.

The logistics, location and need to provide basic services needs to be planned with the appointed main contractors for the large scale developments. There is a case for accelerating the development of the infrastructure for Sappers Hill (services and levelled ground) as a solution for the location of one of these camps, with a view to replacing it with permanent housing in the longer term. However, it may be undesirable to have such a concentration of construction workers in one location.

10. Infrastructure and Construction Needs

Current Construction Sector and Capacity

- 10.1 The scale of infrastructure investment needed to support the growth of the oil and gas sector in the Falklands is very large relative to the existing capacity of the sector. At present around 140 people work in construction/utilities sector with a further 80 or so working in utilities and construction within FIG (i.e. in the Public Works Department (PWD)). FIG in the form of PWD is the largest employer of construction workers in the Falklands. The private construction sector is relatively small with two larger firms involving joint ventures with UK-based construction companies (Morrison and FIC/Trant). The PWD report that they are receiving few tenders for new FIG work and that there has been some migration of staff out of the PWD to jobs in the private sector. This is partly a response to recent requirements for investment for the O&G sector and partly a process of gearing up for future opportunities. The Falkland Islands Company (FIC) has, in particular, been expanding its construction workforce in anticipation of growth in construction activity.
- 10.2 At present, with one exception, all construction materials have to be imported and the long lead-in times add to the challenges of delivering to demanding timescales. The exception to importing is quarry product; currently this is produced at the main quarry by FIG's PWD. There are significant capacity constraints on the speed with which quarry product can be mined and crushed. The experience of the joint venture Byron McKay in the construction of the lay-down areas and warehousing/plant for the previous round of exploration was that it was extremely challenging in terms of finding staff, procuring materials and managing the logistics of importing to tight deadlines. This project was a relatively modest project compared to future infrastructure investment needs.
- 10.3 The Falklands construction sector's current capacity to deliver significant infrastructure projects is very limited in terms of labour supply, overall scale of expertise and local sources of materials. Major construction projects will require a large import of labour, plant & machinery and expertise. There is also a severe potential for crowding out of existing private sector activity (for instance on house building) and of on-going PWD work as a result of future demands.

Infrastructure Constraints and Needs

- 10.4 The development of the oil and gas sector will face two sorts of infrastructure constraints: those impacting directly on the business activity; and those linked with the associated growth in population. The key constraints are summarised below:

Port facilities

10.5 This is the most significant issue by far and the single biggest pinch point for the development of Sea Lion and has been the subject of intensive debate recently. The current FIPASS facilities are not suitable for the scale and nature of activity needed during development given the volume of material that will need to be imported to a base and then shipped offshore. The development of a temporary port to meet the needs of the development phase is critical to the project timeline for Premier Oil. They issued a request for proposals in January 2013 and are seeking to have the temporary harbour facility (a jetty with a design life of around 10 years) built to the east of FIPASS by the middle of 2015. This is a very demanding timescale and would involve substantial dredging works, land based civil engineering and piling work to secure a temporary floating facility. The facility would need to be used during the development phase at least until 2018.

10.6 The development of improved port facilities has been a controversial topic and the likely solutions have changed during the course of this study. FIG's current preferred long-term solution is to develop a new port at Port William to cater for the needs of the O&G sector in the long term and to improve facilities for the fisheries fleet and the cruise ship sector (offering a deep-water berth to allow transfers onshore when weather conditions militate against the use of tenders). However, this solution will take time to develop and, importantly finance.

FIPASS



10.7 We have assumed for the purposes of our work that main construction does not start until after first oil and associated revenues arrive (i.e. after 2017). This will be a major project involving a new road, dredging, piling, and considerable amount of earthworks. FIG is currently insisting that the proposed new facility built to the east of FIPASS is a temporary facility that is not used once the new port facility is created and that all oil and gas activity will need to migrate to the new port. We have also assessed the economic implications of an earlier start on the new port (in 2015), in line with current FIG aspirations.

Other Direct Infrastructure

10.8 **Lay down and storage base.** Premier Oil are currently also seeking proposals for a 22 hectare facility comprising a lay down & storage base areas for storage and warehousing, an area for spool fabrication & storage, and areas for drilling and other supply companies. The base would be a controlled site and run to O&G health and safety standards; it would need to be close to the temporary port structure. This base could be developed in stages and spread across two sites, but existing facilities already built are not large enough.

Current Lay Down and Storage base



- 10.9 The space required would reduce after the development phase so there would be the potential for some of the facility to be re-used for other developments. We have assumed that the existing facilities near FIPASS would be sufficient to cater for the further exploration activity associated with an additional rig in the Falklands during 2014 and 2015.
- 10.10 **Bundled or reeled flowlines assembly base.** This would be a base where the flowlines which connect the FPSO to wellheads and are several kilometres long are assembled. Depending on the technology used a jetty, laydown area and some buildings for staff would be needed. The facility would need to be located somewhere in Camp as it requires a large area onshore and would be built in 2014/15. It would be a temporary facility that could be removed, although clearly it could, potentially, be re-used by future oil developments.
- 10.11 **Staff holding area.** Potentially O&G firms may seek to invest in a new facility to provide temporary accommodation for offshore O&G workers in transition to act as a back-up should transport be delayed (for instance due to the weather).

Utilities and Transport

- 10.12 **Water:** in the immediate term the supply of water is a significant pinch point and concern for the O&G sector which uses large quantities of water in the development of muds for use in drilling. More generally, water supply in Stanley has reached a critical situation at times in recent years when there have been especially dry summers. The upgrade to supply is needed irrespective of O&G and is due to be carried out in 2013/14. The location of where water is supplied to depends on where the main lay-down areas are likely to be. Additional supply is likely to be needed both to the existing port and to any new port.
- 10.13 **Electricity:** The generators in Stanley are reaching the end of their design life and there is a need to increase overall generation capacity by around 2 megawatts and provide an alternative generation facility (potentially retaining the current one as back-up). The future upgrade needed is being accelerated by the likely demands from the O&G sector.
- 10.14 **Roads:** The quality of the MPA-Stanley road is a serious concern of all O&G firms due to concerns over health and safety (it is of course a wider concern to Falkland Islands residents and businesses alike and the MoD). However, it is not a binding pinch point for the development of Sea Lion or other fields. Nevertheless the greater the volumes of traffic using it as the economy grows the greater will be the case and need for a substantial investment in its upgrade. We have assumed that an upgrade would become so pressing under Scenario 2 that it would have to happen then, but FIG could choose to invest earlier under Scenario 1 (probably once other major infrastructure activity is completed).
- 10.15 **Airport:** the facilities at Stanley Airport would need upgrading to provide additional helicopter storage and to develop it more fully as a commercial oil industry heliport¹². FIG is considering taking over the running of the MPA passenger terminal (and associated services) and upgrading the arrivals and departure facilities. Again this is not essential for the O&G sector, but would benefit the economy. In the longer term under the higher growth scenarios as traffic levels rise the case for investing in MPA passenger facilities increases.

¹² Assuming that the helicopter base remains located at Stanley Airport

- 10.16 **Waste:** waste facilities are fairly basic in the Falklands with no recycling facilities. The O&G sector does produce high volumes of waste that need treatment and disposal. As the sector grows the business case for a dedicated waste recovery facility would grow as well and FIG might need to consider this.
- 10.17 **Telecommunications:** there are significant limitations on telecommunications services in the Falklands due to its location and reliance on satellite links. The growth in economy and population arising from oil and gas would not require significant capital investment but would help spread users across a fixed capital investment helping reduce user charges – something that would be very welcome by residents and businesses alike.

Public Services and Facilities

- 10.18 The growth in the population and the economy will lead to extra demands on existing FIG facilities and the need for future investment.
- 10.19 **Education:** the current primary school is very close to capacity and was built to deal with much smaller class sizes (around 20) than it has at present. Increasing physical classroom capacity at the primary school would involve developing a new (shared) learning support centre and ICT centre at the secondary school site. This would release space for a new classroom on the junior school site, which could cater for an extra 10-15 pupils. In the medium term, if pupil numbers rise further there is likely to be the need for development of primary school classrooms next to the secondary school to cater for up to 100 extra pupils (this might involve the relocation of the existing primary school). In the long term an entirely new school might need to be built in Stanley.
- 10.20 **Health:** the current hospital is large enough to cope with most foreseeable population growth so long as FIG is able to move the current residential care facility which occupies 10 rooms at the hospital to another site. A new 25 bed care facility (to cater for future demand as well as current need) would enable this re-use of the current hospital. Premier Oil will require some enhanced medical facilities, but this is essentially to ensure there are suitable evacuation facilities for medical emergencies, we understand that it would not require any capital investment in new facilities.
- 10.21 **Other facilities:** office accommodation for FIG departments is already quite squeezed and many of the buildings were not designed with modern office use in mind. As the requirements for police, immigration, oil regulation and other public services rise there will be a need to invest in new office accommodation for FIG employees.

Private Sector Facilities

- 10.22 The extra demands for accommodation and hotels/restaurant are likely to encourage investment by the private sector. Some investment is already planned. Malvina House Hotel is planning a significant expansion to the rear of the existing hotel to provide an extra 40 bedrooms. FIC has now received planning permission for a 30 unit 2,526 sqm residential development aimed at providing self-contained, self-catering accommodation in two bed apartments (largely for O&G workers). Beyond this we envisage the need for a further new hotel (40-60 bed) and new restaurant facilities in Stanley as population and business expands. There will also be the need for additional office accommodation for new and expanded private sector service firms supplying the O&G sector.

Summary of Future Investment Needed

- 10.23 Table 10.1 below summarises the additional infrastructure investment needed under the different scenarios and the potential timing covering all the matters above. These investments are ones that are definitely needed or for which a strong case could be made as a result of additional population and economic activity associated with O&G. These investments do not include ones which FIG might choose to make as a result of the extra oil revenues received (for instance better leisure and cultural services in Stanley such as a new cinema or leisure centre, or even investing in upgrading the waterfront).
- 10.24 It is important to stress that the exact timings for many of the investments are subject both to margins of error and of course choices for both the private sector and FIG.

Table 10.1: Future Infrastructure Provision in the Falklands (excluding housing)			
Element	Assumed Future Provision Needs		
	Scenario 1 – Sea Lion plus exploration	Scenario 2 – Big Oil	Scenario 3 -- Big Oil and FLNG)
O&G Sector			
<i>Port lay-down areas</i>	Extra 22 ha of yard area and 15,000 sqm of warehousing ready by 2016 (c. £15m)	Potentially an additional Base doubling what is under Scenario 1 (c. £14m)	As Scenario 2 (as later timing means facilities can be re-used)
<i>Pipeline Bundling or Reeling assembly</i>	Temporary facility built in Camp during 2014 & 2015 (c. £5m)	Facility could be re-used	As Scenario 2
<i>Turn-around/ staff holding area facility</i>	2,000 sqm budget hotel type accommodation to provide up to 100 beds	Nothing in addition to Scenario 1 (assumes O&G companies coordinate staff changeovers to avoid overlap)	As Scenario 2
Utilities			
<i>Power</i>	New electricity station by 2015 (c. £7m)	No additional investment	No additional investment
<i>Water</i>	New water supply by 2014 (c. £1.5m)	No additional investment	No additional investment
<i>Waste collection and treatment</i>	No investment	New waste disposal, sorting and recycling facility (cost c. £2.5m)	No further investment
<i>Tele-communications</i>	Limited investment	Limited investment	Limited investment
Transport			
<i>Port</i>	Temporary jetty facility near FIPASS is built 2014 & 2015 (c. £50m to £60m); new port developed at Port William (c. £100m)	May require additional investment in facilities at the new Port (berthing areas)	As Scenario 2
<i>Roads</i>	New access road to new port (c. £15m) 2017 onwards	Assume re-surfacing of MPA road at £26m to £34m	As Scenario 2

Table 10.1: Future Infrastructure Provision in the Falklands (excluding housing)			
Element	Assumed Future Provision Needs		
	Scenario 1 – Sea Lion plus exploration	Scenario 2 – Big Oil	Scenario 3 -- Big Oil and FLNG)
<i>Airport</i>	Upgrade to MPA facilities by 2018 (c. £2m) Investment in improved facilities for helicopter base at Stanley Airport	No further investment	As Scenario 2
Facilities			
<i>Education</i>	No additional investment	Expanded education provision at FICS site (cost c. £12.5m)	Potential need for entirely new school on another site in Stanley
<i>Health</i>	No additional investment	New nursing home built and refurbishment of current care home facilities at hospital (cost c. £5m)	As Scenario 2
Private sector			
<i>Private offices</i>	Assumed catered for in port development	Extra 2,000 sqm of offices costing around £3m	Extra 1,000 sqm of offices costing around £1.5m
<i>Hotels etc.</i>	Expanded Malvina House Hotel. New accommodation block by FIC	New 40 bed hotel	As Scenario 2

Source: Regeneris Consulting based on various sources

10.25 We have not included an assessment of the infrastructure needs for an **onshore LNG plant** above as there is a large degree of uncertainty here. One approach might be a very largely self-contained facility with its own water supply, power supply, port, worker (and family) accommodation, services for employees etc. In this case the infrastructure requirements on FIG and the rest of the Falklands might be very small. An alternative approach might involve much closer links to the facilities at Stanley with some accommodation and services being provided from there. There is likely to be the need to ensure a high quality link from Stanley to any facility, although this might be a new or improved road or, potentially, a dedicated air service. The choice would depend very much on the location of any LNG facility.

Policy Recommendations

10.26 There are number of important recommendations for FIG as it considers future infrastructure needs:

General Recommendations

PR15: **Infrastructure planning and delivery.** There is a major job involved in planning the procurement, phasing and funding of the large number of interconnected capital investments. The scale of activity represents a serious step change in activity for FIG. At present, FIG simply does not have the in-house capacity to prepare for and then deliver this activity. Work has started on an overall infrastructure plan, but this will need to be turned into a practical working document. **FIG needs to ensure it has the dedicated capacity** (either in-house or on contract) to plan procure and manage several large scale infrastructure projects as well as co-ordinate and oversee the private sector in its deliver of projects for the O&G sector. One option would be to procure external project management, planning and procurement support.

PR16: As well as the long term capital investment plan referred to above (PR3), there is a **need for a clear 5 year investment and land strategy by FIG** covering:

- Public services
- Site preparation and servicing (linked to need for extra housing and temporary worker housing for the construction sector)
- Release of land for O&G development near FIPASS
- Utilities upgrade
- Road maintenance and investment
- Work on the new port, including access
- Other works.

PR17: certainly for the 5-6 years under Scenario 1, but likely in the longer term there will be a need for an increase in the construction workforce in the Falklands, proving opportunities but also creating strong pressure of the existing supply. There is a **case for FIG/PWD and the private sector to work more closely together in measures to increase local labour supply** (apprenticeships and specific skills training) to collectively address the opportunities and challenges.

Specific Recommendations

PR18: There needs to be **very careful planning linked to the proposed new port.** The development of a new port raises a wide range of issues that may not have been fully thought through. A key issue is the relationship between the facilities already developed near FIPASS and the new lay-down storage base that is required over the next few years. What does FIG see happening to these facilities? In practical terms they could not be relocated to a new port but would have to be rebuilt. How much of the existing industrial activity around FIPASS would have to relocate? There also could be a tricky timing issue if the new exploration phase in 2014 and 2015 leads to new discoveries and Scenario 2 becomes likely. The plans for the new port would need to be scaled-up in terms of berthing facilities and land-based lay-down areas.

PR19: Early **investment in upgraded water supply and electricity generation** is needed. These are both planned, but are clearly important to ensure the 24/7 O&G operation initially close to FIPASS, but in the future at the new port can operate without interruption.

PR20: FIG will almost certainly need to **boost output from quarries** in the Falklands given the scale of construction activity that will be required (in preference to importing aggregate) and experience of the near bottlenecks caused when the previous lay-down areas were built. There is an urgent need to invest in boosting the output ready for 2015 and earlier. FIG will either need to invest in new plant and equipment or potentially outsource the activity and open up other quarries.

11. Public Sector Services

- 11.1 One of the key implications of additional employment, income and population growth is that there will be increased demands and needs for public service workers. This will require, largely, extra recruitment from overseas, but also present opportunities for investment in the training and development of Falklands' residents. We have based our analysis drawing on conversations with key stakeholders in FIG responsible for service delivery. Concerns about the implications for pressure on school and on the health service as a result of population change were raised consistently in our consultations in the Falklands.
- 11.2 Overall around 20% of all FIG employees were work permit holders in 2012, slightly higher than the population at large. However, in some areas the proportion of work permit holders is much larger: overall around 30% of all FIG staff who are in managerial & professional occupations are work permits holder, rising to 40% working in the education and health departments. It is expensive to recruit outside the Falklands; FIG often needs to provide accommodation, pay for school fees, pay for flights home and also pay a bonus for completion of the contracts (typically 25% of salary on a three year contract which can be extended where contracts are extended up to 5 years).

Potential Future Demands on Public Services

- 11.3 **Education:** the impact on the need for extra teaching and support staff will depend on the extent to which pupils of school age increase in the future and the degree to which there are pinch points in certain age groups. This will depend on the rise in employment and the propensity of those immigrating to the Falklands to bring children of school age. There are around 70 FTE staff working in the provision of primary and secondary education (up to GCSE level, age 16) in the Falklands. We have assumed that on average education staff numbers rise in proportion to numbers on the school roll¹³ excluding children educated in Camp and their teaching staff. The greatest pinch points are in the infant and junior age bands as class sizes are more severely capped. Recruitment of teachers can be difficult especially in the secondary school, where nearly all staff are on work permits.

¹³ Currently 389 with an extra 27 being educated in Camp

11.4 We have assumed that under the different scenarios that the education system is essentially about more of the same and there is no need for as fundamental re-think. However, it is the case that as the population rises and to encourage more family orientated migration, that potentially there might be a case for reviewing the current approach to provision of 16-18 education (which is via residential 6th form education in the UK) to move to a Falklands-based model.

11.5 **Health and Social Services:** the assumptions about increased staff needed as population rises have been made on a function by function basis based on the views of the Director of Health¹⁴. At present there are around 80 FTE posts in the medical and dental departments and 10 FTE posts in social services (although several of these are unfilled). In some areas a relatively modest increase in population could lead to a tipping point and so need for extra staff, in others there is sufficient capacity to cater for significant population rises. Generally, the Falklands faces serious challenges in the provision of medical services due to its small size and the increase specialisation that is taking place in medical services. This makes it increasingly harder to recruit staff and challenging to maintain their professional expertise. It is not possible for the health service to provide the expertise and specialist staff and equipment to deal with a major emergency linked to the oil and gas sector (or any other event). In practice any such emergency would require stabilisation and then rapid evacuation of serious medical cases overseas.

11.6 **Fire, Police and Immigration:** these assumptions have been informed by the views of the Director of Emergency Services and largely represent increases in staff pro-rata to rises population. There are significant difficulties in recruiting police officers: the local population tends not to want to become a police officer in such a small community and the pay rates offered are not attractive to UK-based police officers. In the fire service there is an emerging issue in the provision of casual fire-fighters who have others jobs. As the demands from other sectors of the economy rises this could lead to it being increasingly difficult to get employers to release staff and so the possible need for a full-time professional fire service. However, we have not taken this into account in our estimates of future staff needs.

Stanley Police Station



11.7 **Utilities, maintenance and roads:** the assumptions are based on discussion with the Managing Director of Cable and Wireless and the Director of Public Works. Only modest rises are needed as population increases. However, as we have noted earlier there is a need for FIG to significantly boost its capacity to plan and manage a complex programme of infrastructure and construction activity. This will either require additional expertise in-house or the use of dedicated external project management consultants seconded to FIG.

¹⁴ We have not independently tested these assumptions and they should be seen as providing a broad indication of the need for extra staff. They assume the broad continuation of current service levels, rather than any increase in service

11.8 **Other specialist services:** there is a need for oil and gas sector specific skills that will develop within FIG (in relation to taxation expertise, health & safety, environmental monitoring etc.). FIG has already carried out an oil readiness review and is considering how it needs to gear up. The number required would depend on a number of factors other than population, linked to the volume of activity and the degree to which FIG can continue to use the services of UK-based bodies (the Health and Safety Executive, British Geological Survey and DECC). The Director of Mineral Resources suggested that the requirements of Scenario 1 might be that an extra 6 FTE posts in FIG need to be filled; with Scenario 2 and beyond this might rise to 20 extra staff (including the original 6 extra).

11.9 The combined implications of these assumptions are summarised in Table 11.1 below. There are two important points to note:

- First, the increases in staff assume the same broad service levels as at present. It may be that with its extra income in the future that FIG chooses to improve service levels (for instance pupil/teacher ratios). This has been the experience of some areas that have seen a large increase in their tax base as a result of oil and gas (e.g. in the Shetlands).
- Second, the actual response to the rise in population will need to take account of how far it is a permanent or temporary increase (associated with major construction activity).

Table 11.1: Potential rise in FTE staff providing public services linked to population growth					
All areas except education					
	Base	Rise in total Falklands population excluding MPA contractors			
		10%	20%	40%	50%
Total population (excluding MPA contractors)	2,500	250	500	1000	1250
Extra staff FTE		24.7	36.3	57.1	68.8
Staff FTE per 100 extra population		9.9	7.3	5.7	5.5
Education					
	Base	Rise in school age population			
		10%	20%	40%	50%
School roll/school age population	389	39	78	156	195
Staff FTE	71	7.1	14.2	28.4	35.5
Source: Regeneris Consulting calculations based on information supplied by FIG managers					
Note: excludes staff working specifically on O&G sector activity					

Policy Implications

11.10 There are number of policy implications that stem from the work:

PR21: there will be a need to **ramp up recruitment** across a number of professional areas to meet both the needs of managing the O&G sector, but also growing population. It is difficult to predict precisely when and how many staff will be needed. Under Scenario 1 there might eventually need to be of the order of an extra 40 staff and under Scenario 2 of the order of 100 to 120 extra staff.

PR22: the need to gear up expertise within FIG to deal with oil and gas and to expand other public services is likely to require a **review of pay and conditions** in some areas to make recruitment more attractive in the international jobs market. Related to this point, we expect that the effect of a growing oil and gas sector may lead to many FIG employees considering moving to better paid jobs in the private sector with concomitant loss of expertise in FIG. This would be another reason for looking at pay and conditions.

PR23: the historic churn of FIG staff on work permits can cause operational difficulties and also reduces the case for investing in training and skills development. In line with the policy recommendations on immigration, there is a need for FIG to look at how it recruits overseas staff, how to make bringing a family more attractive, and **how to make longer stays more attractive** (for instance: different structure of loyalty bonuses, improved housing and schooling offer, changes to the immigration system to encourage partners to come).

PR24: the increase in recruitment and need for additional staff on work permits will increase the need for FIG to be able to offer accommodation. There may be a case for considering developing a **different style of accommodation** to house younger workers that can be developed more cost effectively and does not require the large lot per unit of a development such as at Sappers Hill (more akin to the facility proposed by FIC).

12. Labour Market Effects

- 12.1 The Falklands has a workforce of just under 1,600, excluding civilian contractors at MPA. With an employment rate of 89.5%, and only 1.4% unemployed and seeking work, the labour market is effectively at full capacity. The needs of the economy are already only sustained by having a large immigrant workforce on work permits
- 12.2 There are around 420 students at the primary and secondary schools in Stanley (including children educated in Camp), equivalent to around 35 students on average per year group. For students achieving set attainment levels, the Government funds further and higher education outside of the Islands. There are currently 24 students in college and 40 students in higher education (so around 12-13 on average in each year group).
- 12.3 A FIG Training Centre has also been established in Stanley, offering apprenticeships (e.g. in construction trades and aircraft maintenance/mechanics), courses in agriculture/horticulture and key skills training.

Types of job that will be created

- 12.4 Table 12.1 below shows a breakdown of the estimated long-term steady-state jobs that would be created in each of the scenarios (excluding any impacts from additional FIG spend, but including off-shore jobs). More details of the types of job in each category are described in the subsequent sections.

Table 12.1: Types of Employment under Different Scenarios					
Types of jobs	Scenario 1: Sea Lion plus exploration	Scenario 2: Big oil, no gas	Scenario 3: Big oil, plus FLNG Gas	Scenario 4: Big oil plus land-based LNG	Scenario 5: Scenario 1 plus land- based LNG
<i>Year when steady-state employment reached</i>	2018	2021	2025	2028	2028
<i>Oil and Gas Offshore</i>	125	470	690	470	125
<i>Oil and Gas Onshore</i>	50	195	290	670	530
<i>Supply chain for Oil and Gas activities</i>	40	165	205	195	75
<i>Public services</i>	30	90	115	155	105
<i>Private sector induced activities</i>	50	180	250	205	80
TOTAL	300	1,095	1,545	1,695	910

Source: Regeneris Consulting estimates (rounded to nearest 5 FTE jobs)
 Note: excludes any effects for accelerator effect (construction) or for additional FIG discretionary spend, but includes offshore jobs

Oil and Gas Offshore Jobs

- 12.5 This category relates to jobs working on drilling rigs for exploration and development as well as FPSOs and floating LNG plant. Steady-state job numbers in this category are greatest under Scenario 3, which has the largest offshore activity, including employment on three FPSOs and one floating LNG.
- 12.6 Occupations are wide ranging from highly skilled engineering and drilling management roles to lower skilled roles including caterers, labourers etc. All roles however would require specialist training for working in an offshore environment, such as helicopter escape training, survival at sea and first aid. Subject to completing the required training and having suitable experience, these lower to medium skilled roles could be accessible to local people.

Oil and Gas Onshore Jobs

- 12.7 The onshore oil and gas jobs category covers the employees of oil and gas companies and their direct contractors dealing with management of drilling, rigs, FPSOs etc. For Scenarios 4 and 5, these employment numbers also incorporate the total staff employed in operating an onshore LNG plant.
- 12.8 In Scenarios 1 to 3 these onshore roles will primarily be highly skilled management and professional posts requiring substantial sector experience, and are unlikely to be immediately available to local people. Through careers planning in schools and colleges however, there is a significant opportunity to help today's young people of the Falklands develop the skills and experience in order to be able to access these high value roles in the future.
- 12.9 In Scenarios 4 & 5 there will be more roles at lower to medium skill levels within the LNG facilities which would be accessible to local people, including skilled trade posts, labourers, caterers, administration and security posts.

Supply Chain Jobs for Oil and Gas Activities

- 12.10 Key local supply chain jobs to support the oil and gas sector will include supply boat companies, crew logistics managers and drivers, supplies and equipment logistics (including stevedoring and wharf services), security and other business services including IT support, accountancy, environmental consultancy, training services and telecommunications.
- 12.11 It is anticipated that the majority of these services will be provided by Falkland Islands companies on their own or in joint ventures (the most common approach we found in reviewing the experience elsewhere) or under a licensing agreement.

Public Service Jobs

- 12.12 Jobs in this category include both increases in FIG regulatory capacity to manage the oil and gas sector, and increased services to match rises in population (especially in education and health). The majority of the jobs created will relate to policing, education and health services, and in large part are likely to require people with the relevant skills and experience being recruited from outside of the Falklands.

Private Sector Induced Jobs

- 12.13 This category captures uplift in jobs across all parts of the private sector as a result of increased population and spending in the Falklands. Based on current spend patterns, it is anticipated that most of the jobs supported in this category will relate to retail, hospitality and private services (such as hairdressing etc.) and property services (e.g. cleaning).

Construction Jobs

- 12.14 Construction jobs are not included in the table above as the numbers of jobs will fluctuate from year to year and indeed month to month.
- 12.15 All scenarios however point to a clear “construction boom” in the Falklands over the next 5-10 years. Depending on further oil and gas finds, and decisions by FIG regarding the way in which oil revenues are spent, it is likely that the increased local construction activity will continue on beyond this initial period. While additional construction labour will need to be brought in from overseas to meet early construction activity peaks, there are opportunities for more sustainable growth of the local construction sector.

Labour Market Challenges and Opportunities

- 12.16 In the shorter term, the increased demand for labour is likely to create significant employment opportunities for local people and lead to wage inflation. This is particularly likely in the construction sector (and related manual occupations) where there will be strong early demand for labour. It is also likely to adversely affect FIG recruitment and retention, as employees explore better paid private sector opportunities. Managing immigration in order to allow sufficient people to come and take-up all roles required will be critical to avoid wage inflation becoming a significant challenge in the medium and long term (although of course wage inflation does represent an increase in earnings for residents and so in some respects is desirable).
- 12.17 In the medium to long term, ensuring strong careers support in schools and colleges and supporting the existing workforce to be able to up-skill to secure new employment opportunities will be important in maximising local labour market benefits.

Policy Recommendations

- 12.18 In order to address the challenges and opportunities set out above, our recommendations are:

PR25: To minimise the short term labour supply and wage inflation challenge, the FIG immigration policy needs to enable a **straightforward and timely process** for in-migration of the necessary labour force (see recommendations on immigration at Section 8).

PR26: FIG should work closely with the schools, existing students in FE/HE and oil companies to ensure an **on-going programme of information and careers advice** relating to opportunities to enter the oil and gas sector.

PR27: We suggest that FIG might wish to set an **overall target for existing Falkland Islands residents to enter well paid O&G jobs** onshore or offshore by the steady state under each scenario. A realistic (but stretching) aspiration might be 10% of such jobs in the longer term – this would equate to 15 to 20 on and offshore O&G jobs under Scenario 1. Given the smaller employment base of the Falklands the percent target might be lower under the big oil scenario. We are not suggesting this is a requirement for O&G companies, rather that there is an agreed training, education, careers and development plan between FIG and O&G companies as to how such a figure might be reached.

PR28: Work **placements, apprenticeships and bursaries** (which oil and gas companies have suggested could be made available) should be agreed and plans worked up with the oil and gas companies. This could include bursaries, internships in the UK or elsewhere and industrial placement opportunities during higher education.

PR29: FIG should explore opportunities to offer a **package of local training or loans/grants** to local people wishing to travel overseas to improve skills in order to access new jobs relating to the oil and gas sector. General training for offshore work as described above could be a key area where Government support for upskilling could generate significant opportunities for local people to secure higher value roles.

PR30: FIG also needs to work with the main Falklands based construction firms and any contractors employed for major projects **to identify and fill the construction-related apprenticeships opportunities available**. FIG could potentially play a role in managing apprenticeships for school or college leavers who are able to work in different projects in different companies over time.

13. Business Sector Effects

13.1 There are around 130 active businesses in the Falklands, many of which operate across several sectors of the economy. Given the small number of businesses, the spread across different sectors is inevitably limited. Based on GDP contribution and employment, the main business sectors are fisheries, agriculture, tourism and construction.

13.2 Business formation and growth is constrained by the relatively limited pool of local entrepreneurs; as result of the size of the economy there is limited competition or monopoly in most business services (including financial services, accountancy, legal, IT etc.). Business support including advice and loans is available to Falkland Island businesses through the Falkland Island Development Corporation. There is only one bank, Standard Chartered, operating in the Falklands.

Standard Chartered Bank, Stanley



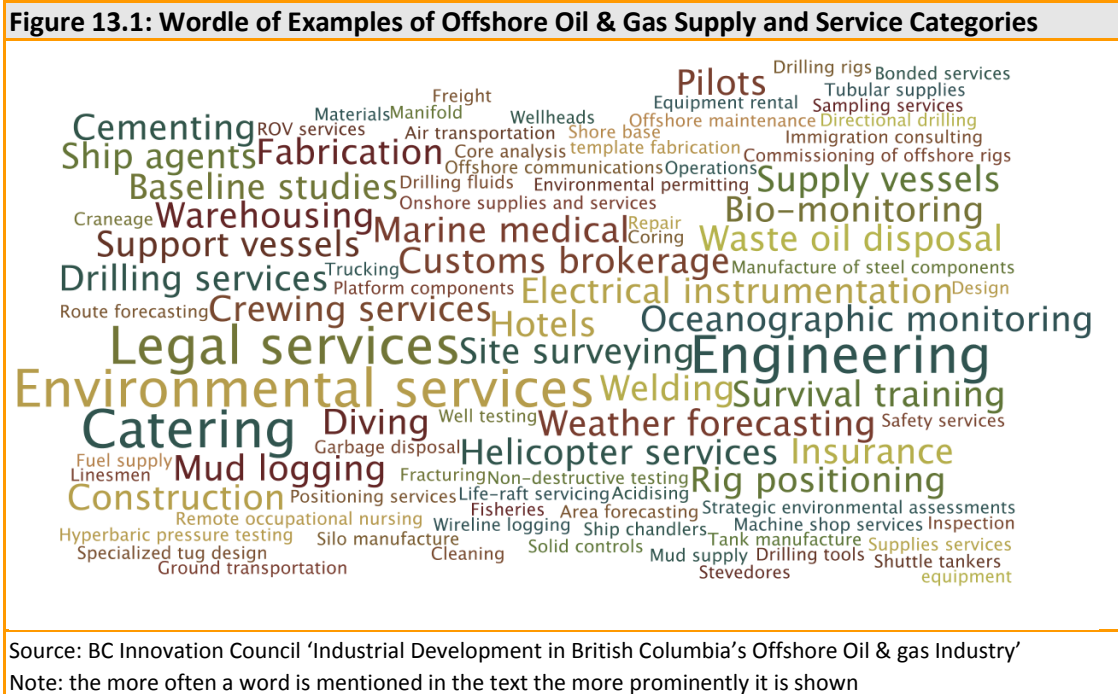
Potential Benefits to Businesses

13.3 The oil and gas developments will provide a range of potential opportunities for business in the Falklands. As noted in Section 3 there have been several business that have invested time and money and successfully exploited the opportunities from the exploration phase. Based on the experience elsewhere, in principle, these opportunities could include:

- There will be **direct contract opportunities** in the oil and gas supply chain. Examples could include: supply boats, crew logistics, supplies and equipment logistics (including stevedoring and wharf services), security services and other business services including IT support, accountancy, training services and telecommunications. In some cases, local firms are able to provide support for these services directly.
- There may be further direct contract opportunities that could be delivered locally by existing firms, through firms entering **joint ventures** with overseas companies, or through in-migrants seeking to set up new businesses in the Falklands. This could include specialised maintenance services, environmental consultancy, small onshore manufacturing and engineering services and other specialised services e.g. around safety.

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- Indirect impacts of the development of the oil and gas sector will include additional flights coming in to the Falklands offering **new visitor travel options** (including making more routes and services viable) and **new freight transport opportunities**, as well as greater demand across all **consumer facing businesses** from the increase in population.
- The local construction sector could benefit substantially from the construction boom that the oil and gas sector and population growth will generate. If carefully planned to even out construction activities where possible, there is likely to be opportunity for a **sustained increase in the local construction sector** over the next decade.



13.4 However, the ability of Falklands' companies to benefit from these opportunities is not a given. The O&G companies we spoke to have expressed a strong interest in using local suppliers wherever possible. However, firms need to be able to operate in a pressured and fast moving environment and meet very high health and safety requirements for the O&G sector (having both systems and suitably trained staff). It is also the case that large O&G firms will have specific and potentially onerous tendering requirements that Falklands-based firms may not be used to. Falklands companies will both need to ensure they have adequate H&S systems and trained staff and have the documentation to prove it. Similarly, firms may need to ensure they have suitable environmental policies to meet pre-qualification tendering requirements. This is something that has not been a feature of the Falklands historically, which lacks basic health and safety regulations and legislation.

13.5 It would be fair to say that the O&G firms already operating in the Falklands have not been inundated with requests for information on opportunities. FIG will be requiring a local content element of the Field Development Plan for Sea Lion. In our view, it would be inappropriate for this local content policy to require O&G firms to use a minimum number of local contractors or let a minimum value for contracts by value to Falklands' domiciled firms. Rather the focus should be on O&G firms being required to alert Falklands' firms of opportunities and to work with them constructively to help them get "tender ready".

Possible Negative Effects on Businesses and Sectors

- 13.6 As discussed in Section 12, the increased demand for labour generated by the direct, indirect and induced effects of oil and gas sector development will almost certainly lead to short term labour shortages and wage inflation which may disrupt existing local businesses. This is likely to particularly affect the construction sector and related manual occupations where there will be high early demand for labour. Managing immigration in order to fill new roles and back-fill roles where required will be critical to minimising disruption to businesses in the medium term.
- 13.7 Key concerns among other key local sectors include:
- Fisheries – ensuring an appropriate port solution is agreed and realised will be critical to avoid disruption to the sector.
 - Agriculture – concern that job growth in Stanley will draw workers to the town and leave labour shortages in farming, which may be difficult to replace.
 - Tourism – risk that take-up of temporary accommodation by workers involved with oil and gas activity could constrain tourism sector activity. Also some concerns that the impact of higher paid O&G jobs will reduce the likelihood of local residents to carry on with double jobbing which is so important to the sector.
- 13.8 During the course of the study a wide range of views were advanced on how far higher wages as a result of the O&G sector might reduce the wide-spread phenomenon of “double jobbing”. Many saw this as in part a lifestyle choice that was done for interest; others saw the drivers as more economic in nature. Overall, our conclusion is that double-jobbing will remain a way of life in the Falklands, but there might be some reduction at the margins as a result of more employment opportunities elsewhere. The greater the amount of migration allowed to fill jobs, the less likely would be a wholesale reduction in double-jobbing.

Policy Recommendations

- 13.9 To address the challenges and opportunities set out, the following are proposed:

To ensure negative impacts are minimised:

PR31: FIG must enable a **straightforward and timely process for in-migration** of the necessary labour force (see recommendations on immigration at Section 8)

PR32: FIG must ensure an **appropriate port solution** is agreed and realised to the satisfaction of the oil and gas, fisheries and tourism sectors.

PR33: The Tourist Board should work with FIG and local accommodation providers to ensure there is **sufficient temporary accommodation capacity** to meet the needs of oil and gas exploration and development activity, as well as tourist needs. The proposed further expansion of the Malvina House Hotel will go a long way towards meeting needs. However, it is not healthy for Stanley to have, effectively, only one hotel and identification of a suitable site/building for conversion should be a priority plus working with private investors for medium terms plans for a new hotel.

To ensure local businesses benefit from the opportunities presented by the oil and gas sector:

PR34: FIDC should continue its existing work with FIG, the Chamber of Commerce and oil and gas companies to agree a **local content policy** ensuring clear opportunities and protocols for local firms to bid for contracts in the oil and gas supply chain, and to complete the production of a directory of services offered by local businesses for the oil and gas supply chain (especially to encourage joint venturing). This should be completed by support for getting Falklands' firms "tender ready", where this is needed.

PR35: FIG should seek to maximise opportunities relating to **increased O&G flights** into the Falklands, by seeking to ensure co-ordinated information on all flights and ideally a single point of contact for passenger and freight bookings on all flights. Local travel agents and retailers should be encouraged to utilise the additional opportunities for tourism and supply of new goods that this will create.

To further enhance economic benefits, and of particular relevance in higher growth scenarios, the following should be considered:

PR36: FIG, working with FIDC, should explore a more **proactive inward investment approach**, potentially developing a closer relationship with economic / sector development bodies in Aberdeen, to draw on sector skills and expertise as well as links with Aberdeen based companies who may be interested in investing. A wider programme of support might involve: expert business support for existing Falklands businesses, networking opportunities to encourage opportunities for joint ventures with overseas oil and gas supply chain firms and revised FIG policies regarding individuals moving to the Falklands to set up oil and gas supply chain businesses.

PR37: FIG could proactively explore and exploit any opportunities presented by the increase in population to **increase competition in key services** where there is a natural monopoly or weak competition, such as financial services.

14. Spatial and Societal Effects

- 14.1 The Falklands present something of a paradox: the Islands overall have plenty of room and population density is very low; yet there are likely to be development and population pressures in one very small corner of the Falklands - in and around Stanley.
- 14.2 Our estimates of the overall economic impacts set out in Section 7 and of population growth in Section 8 did not have an explicit spatial dimension. Historically, Camp accounted for a much larger share of population and economic activity relative to Stanley than it does now. The phenomenon of rural depopulation and urbanisation over the last 20-30 years in the Falklands is no different than many other societies. There is a near universal desire amongst those we consulted to ensure that Camp retains its population and that, if at all possible, the benefits of the development of oil and gas can be spread into Camp.

- 14.3 However, except under Scenarios 4 or 5, where a major LNG plant would be built and operated somewhere outside Stanley, all other scenarios would **lead to most of the extra growth being concentrated in Stanley** (or at least “greater” Stanley including the new port area). This is because Stanley has the services and the labour supply to support growth: other locations do not. After Stanley the next most populous settlement (excluding MPA) is Goose Green with 40 residents and which is a two hour drive time from Stanley. Furthermore, the growth of Stanley and the likely increase in wage levels there will make it that much harder to recruit and retain staff in Camp. There was concern expressed in both Camp and Stanley about this effect.

Implications for Stanley

- 14.4 At present Stanley has a population of around 2,100. Our analysis has suggested that under Scenarios 1, 2 and 3 the population of the Falklands might rise by 240, 800 and 1,200 respectively. This growth would almost exclusively be in Stanley and would represent increases of around 10%, 30% or 50% respectively on the town’s existing population base. It does not include any further population growth arising from additional spend by FIG and so these are likely to be conservative figures in the longer run.
- 14.5 The changes under Scenario 1 are relatively modest and would not fundamentally change the town’s fabric or we believe the sense of community and way of life. This increase in population could for instance easily be accommodated in a mix of limited infill development and the partial build out of Sappers Hill. A more fundamental change would be the build-up of the industrial area around FIPASS during 2014-2018 and then subsequent relocation to the new port. There might be some increase in other facilities in Stanley (e.g. new restaurants and shops) but we would expect these to be limited. Under this scenario there is no immediate requirement to build new public service facilities.
- 14.6 One factor that will need to be carefully managed is temporary worker accommodation associated with major construction projects, particularly the temporary jetty and the new port. The most practical solution would be a construction workers camp in portakabins/mobile home type accommodation. This could be located at the construction sites or elsewhere in Stanley. However, an alternative approach might be to distribute any temporary accommodation around Stanley to avoid the concentration of construction workers in one location which might lead to anti-social behaviour.
- 14.7 Scenarios 2 and 3 would lead to a different order of magnitude of physical change in Stanley. There would need to be further consideration of the town plan and where future development could be accommodated. In both cases the land earmarked at Sappers Hill would not be sufficient to accommodate all the extra population growth, so new housing areas would need to be developed. Given the proposed shift of employment out towards the new port, then this would suggest the need for housing land and development to be located more in west Stanley.

- 14.8 It is debateable as to whether the size of population growth projected under Scenarios 2 or 3 would lead to any fundamental change in the way of life for Stanley’s residents; it would still remain a small settlement and there is no reason why the powerful sense of community that exists could not remain. To retain the sense of community in Stanley planning for the integration of future population growth from migrants and their families, into existing communities will be essential. The creation of locations populated solely by in-migrants (whether working directly in the oil and gas sector or not) was something that consultees were concerned about.
- 14.9 There would be a need to find sites for extra offices, at least one hotel and further restaurants. The new town plan ought to be allocating potential sites or zones for different types of development. The growth in population would also clearly add to pressure on the central area in terms of traffic and car parking and increasingly conflicts could arise with tourist activities and day to day business of the population (especially as the move to a new port would increase east to west traffic movements).
- 14.10 The case for developing extra public facilities would be enhanced by a growth in Stanley’s population such as play areas for children and possibly a new cinema (the only cinema in the Falklands is currently at MPA) and theatre and extra sporting/leisure facilities.

Implications for Camp

- 14.11 At present the resident population in Camp is around 350. The depopulation of Camp has occurred for a number of reasons: the reduced need for agricultural labour as a result of mechanisation and changed farming practices; the increased opportunities and facilities in Stanley compared to Camp; and the poor incomes that have been available from farming. More recently farming incomes have improved (due to improvements in world wool prices and the opportunities to export meat aided by the FIMCO abattoir at Sand Bay). FIG has invested in new roads across Camp increasing accessibility and FIG has supported investment in new water and electricity supply that have improved the quality of life and economics of living in Camp. The provision of the heavily subsidised FIGAS service is an important lifeline especially for settlement and farms outside East Falklands, as is the ferry and supply service between Port Howard and New Haven.
- 14.12 It was pointed out to our team during the consultation phase that most residents of Camp are there because it is a positive lifestyle choice; those that wanted to live in Stanley have already moved there. This may of course be true for adults, but there is a long term concern about what young people will do in the future. One message was clear from the consultations: there is no desire for a direct subsidy to be paid to residents of Camp to support the continuation of the Falklands way of life. However, investment to support services, infrastructure and facilities in Camp settlements was seen as much more acceptable.

Table 14.1: Implications of the Development of Oil and Gas Sector on Camp

<i>Negative Effects</i>
<ul style="list-style-type: none"> • Increased wages in Stanley make it harder to recruit workers on a permanent or temporary basis in Camp for relatively low paid jobs • Current resident families, young people and workers in Camp attracted to Stanley because of wages and business opportunities • Growth in facilities and services in Stanley increase gulf between Stanley and Camp

Table 14.1: Implications of the Development of Oil and Gas Sector on Camp

<i>Positive Effects</i>
<ul style="list-style-type: none"> • Increased population and wealth in Stanley leading to more leisure-based trips (day trips and weekends) to Camp and investment by Stanley residents in new accommodation in Camp leading to construction opportunities • Extra demand from population in Stanley and offshore rigs for fresh meat • Potential increase in population makes it economic to develop extra horticulture and new dairying facilities • Some residents of Stanley may wish to seek more peaceful lifestyle in Camp • Extra tourism trips to Falklands facilitated by better air services aid tourism facilities in Camp • Short term employment boost in bundling/reeling facility (but not providing any longer term benefit)

14.13 The implications of Scenarios 4 or 5 are clearly very different for Camp, or at least part of Camp. The location of an on-shore LNG facility would provide a long term and permanent source of employment as well as a large construction boost. It is possible that such a plant could be located in an area where there is scope to build up an existing settlement to service the LNG plant, so that all of the services are not provided on site and to house some of the LNG workers. However, such a development could only benefit part of Camp.

Policy Recommendations

14.14 There are number of policy recommendations that stem from our analysis:

PR37: there is a need for a **robust town plan** that sets out the locations for infrastructure and new housing for growth of 200, 500, 1,000 and even 2,000 in Stanley's population over the next 20 years. This is especially important to prepare for the possibility of further successful oil finds beyond Sea Lion and the pressure this could bring.

PR38: as Stanley grows it is important that its **historic centre is maintained**, especially in the historic core. FIG may need to consider new conservation and planning policies to achieve this as well as investment in the public realm and building fabric.

PR39: the growth in population in Stanley provide an opportunity to look at whether **new facilities and services can be provided for residents** and visitors alike. During the study a cinema in Stanley and enhanced sporting facilities were mentioned.

PR40: given the possibility at least that there could be a LNG plant located in Camp or much stronger pressure for second homes, FIG may want to consider whether there should be **planning policies controlling residential development** in Camp to ensure that there is conservation of the environment and scenery.

PR41: on balance the threats to Camp from oil and gas probably outweigh the opportunities. The natural pressures of the market will be for future depopulation of Camp and concentration in Stanley. Given the very strong desire to retain a viable way of life in Camp there is a need for FIG to consider **ways to counteract these pressures** including:

- Continued investment in infrastructure and services to support farms and settlements (water, power, telecommunications and education) - building on the past support from the Rural Development Strategy

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- Support for diversification and development in Camp to attract disposable income from Stanley residents, temporary oil and gas workers and leisure visitors
- Potential investment in business activities that provide food to the residents of Stanley and offshore oil workers (but probably only in the future as population and activity picks up)

PR42: there have been some discussions between MoD and FIG about the **scope to expand Fitzroy** and potentially for it to become a base for contractors working at MPA (many of whom live for long periods in the Falklands). As part of a strategy to help support Camp this seems to us to be a very sensible step that is unrelated directly to oil and gas but would help retain population in Camp and provide an alternative settlement for growth. Should the MPA road be improved it is possibly also a location for long distance commuting to Stanley.

PR43: the development of a **reeling/bundling facility** in Camp should be encouraged by FIG (subject of course to the necessary environmental safeguards). Although this is intended as a temporary facility, it might be opportune for FIG to consider whether it has the potential to be a long term fabrication centre for the O&G sector and would be a suitable location (in terms of ease of access to Stanley and deep water).

Appendix A - Consultation Undertaken

List of Consultees
Alex Olmedo, Waterfront Kitchen Café
Andrea Clausen, FITT
Andy Pollard Senior Agricultural advisor, FIG
Antony Payne, Environmental Planning Officer, FIG
Arlette Bloomfield, Falkland Islands Holidays
Barbara Keenleyside, Assistant Manager Standard Chartered Bank
Barry Marsden, Director of Emergency Services, FIG
David Jenkins, Director of Health Services, FIG
David Tongue, Head Community School and Acting Director of Education
FIFCA, Hamish Wylie and Cheryl Roberts
Jamie Fotheringham, Head of Policy, FIG
Jennie Forrest, IT&T
John Barton, Director of Natural Resources, FIG
John Fowler, Deputy Editor, Penguin News
Justin McPhee, Chief Executive Officer, Cable & Wireless
Karl Stroud, Malvina House Hotel Manager
Keith Padgett, Chief Executive, FIG
Ken Humphrey, Premier Oil
Lewis Clifton, Byron Marine/ Byron McKay
Malcolm Jamieson, Harbour Master
Manfred Keenleyside, Director of Public Works, FIG
Marc Boucher, FIDC General Manager
Mike Butler, Morrisons Construction
MLA Barry Elsby
MLA Dick Sawle
MLA Jan Cheek
Phyl Rendell, former Director of Mineral Resources, FIG
Pippa Christie, Pale Maiden Consulting
Ric Nye, Acting Governor
Richard Short, Shortys Construction and Diner
Robert Rowlands, Stanley Services
Roddy Cordeiro, Senior Projects Officer, Department of Mineral Resources, FIG
Roger Spink, Paul Lewis, Graham McManus & James Marsh, FIC
Simon Fletcher, Director of Central Services, FIG
Stephen Luxton, Director, Department of Mineral Resources, FIG
Stuart Heron & Gareth Westlake, MoD/MPC
Tim Miller, Stanley Growers
Tony Mason, Tourist Board

Consultation Events

- Chamber of Commerce meetings: 29th November 2012; 25th January and 31st January 2013
- Meeting with MLAs: 29th January 2013
- Stanley Public Consultation Event: Narrows Bar, 26th January 2013
- Fox Bay Public Consultation Event: 28th January 2013
- Goose Green Public Consultation Event: 30th January 2013
- Hope Cottage Public Consultation Event: 30th January 2013
- Young Persons Focus Group: Narrows Bar, 29th January 2013
- Other Focus Group: Narrows Bar, 31st January 2013

Presentations of Draft Findings

- FIG Corporate Management Team, 23rd April 2013
- Members of Legislative Assembly, 24th April 2013
- Public Meeting, Falkland Islands Community School, 25th April 2013
- Chamber of Commerce, 25th April 2013

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