



# Port of Falmouth and Penryn River

Economic Analysis,  
Supply Chain and  
Demand Assessment

August 2015

Prepared for:  
Cornwall Development  
Company

FINAL REPORT

UNITED  
KINGDOM AND  
IRELAND



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## REVISION SCHEDULE

REVISION SCHEDULE					
1	April 2014	Draft Final Report	██████████ Project Manager ██████████ ██████████ Consultant	██████████ ██████████ Project Director	██████████ Head of Economics and Development
2	September 2014	Revised Draft Final Report	██████████ Project Manager ██████████ ██████████ Consultant	██████████ ██████████ Project Director	██████████ Head of Economics and Development
3	March 2015	Revised Draft Final Report	██████████ Project Manager	██████████ ██████████ Project Director	██████████ Head of Economics and Development
4	August 2015	Final Report	██████████ Project Manager	██████████ ██████████ Project Director	██████████ Head of Economics and Development

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**GLOSSARY**

<b>ACRONYM</b>	<b>FULL</b>
BCR	Benefits Cost Ratio
CDC	Cornwall Development Company
DCLG	Department for Communities and Local Government
GVA	Gross Value Added
HCA	Homes and Communities Agency
LPA	Local Planning Authority
NPPF	National Planning Policy Framework
NPV	Net Present Value
POF	Port of Falmouth
POFDI	Port of Falmouth Development Initiative
SWRDA	South West Regional Development Agency
S106	Section 106 of the Town and Country Planning Act 1990

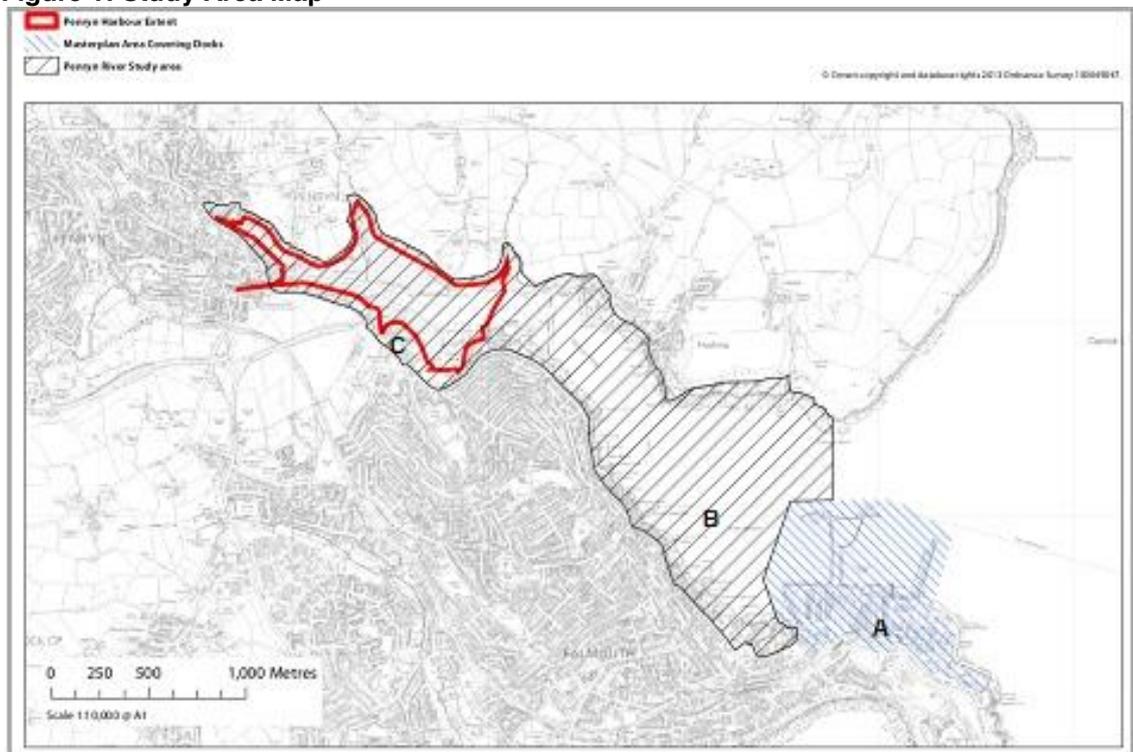
## EXECUTIVE SUMMARY

### 1. Introduction

URS were commissioned by Cornwall Development Company (CDC), acting on behalf of the Port of Falmouth Development Initiative (POFDI), in April 2013 to review and update the Economic Impact Assessment in the 2011 Port of Falmouth (POF) Masterplan (hereafter described as the '2011 Masterplan'). The study extends the 2011 Masterplan area to investigate the maritime supply chain in the wider Penryn River area. Figure 1 below shows the extent of the study area that has been defined by CDC for the purpose of this assessment. The study area encompasses:

- A. The Port of Falmouth Masterplan Study Area
- B. The Penryn River Study Area
- C. Penryn Harbour

**Figure 1: Study Area Map**



Source: CDC

### 2. Study Approach

The overall approach to this study has been based on the following three key tasks:

- **Task 1: Review and Data Collection;** including a review of the original Port of Falmouth EIA and other baseline work already undertaken (i.e. Stage 1 of CDC's Penryn River Study), a re-survey of the companies originally surveyed as part of the Port of Falmouth Masterplan 2011 and a new survey of the wider local marine economy supply chain.
- **Task 2: Demand Assessment Work;** including re-assessment of the demand assumptions made in the 2011 Port of Falmouth Masterplan EIA, assessment of new

survey data, a review of development opportunities, identification of future trends and the potential for new start-up businesses.

- **Task 3: Economic Assessment Update;** including re-evaluation of the existing EIA in the 2011 Masterplan and the development of an economic assessment model, capable of being reviewed and updated on an on-going basis.

### 3. Consultation Exercise

CDC identified 81 businesses to take part in the consultation exercise. These companies were identified as part of the Penryn River Study Stage 1. These businesses were shortlisted following a comprehensive process of data collection and consultation undertaken by CDC. This process included analysing the financial records of the main POF businesses such as A&P, Pendennis Shipyard and Falmouth Petroleum to assess which companies formed the POF supply chain. The list included businesses representing approximately 80% of the value of supply chain orders in the POF. An extensive consultation exercise was then undertaken involving sending a questionnaire to all consultees and following up with numerous rounds of correspondence via telephone, via email and letter until it was clear that all consultees that were prepared to cooperate had responded. The target consultation response threshold prior to starting the study was 50%. It was considered that around 50% would represent a reasonable sample given the expected difficulties achieving feedback from companies that had previously been contacted several times and thus were likely to be suffering 'consultation fatigue' and the fact that the summer months are the busiest time of the year for most marine companies.

Although circumstances made it difficult to achieve a very high proportion of consultation responses the consultation exercise was ultimately successful in achieving an appropriate response rate. The detailed information provided allows robust conclusions to be made. The majority of companies contacted responded to the questionnaire. 78% of the companies contacted in the 2011 Masterplan that are still trading responded. Overall a 54% response rate was achieved for the wider supply chain.

### 4. Baseline and Context

Since the 2011 Masterplan was produced there have been significant changes to the national and local planning framework and the socio-economic context. The Coalition Government has enacted a range of new planning policy measures. These include; rationalising planning policy statements into a single National Planning Policy Framework (NPPF); abolition of regional planning, and development of the marine planning framework.

In the local context Cornwall Council has produced new policy, including; the Cornwall Local Plan; Cornwall Maritime Strategy and Cornwall Economic Growth Strategy. These aim to boost local employment opportunities, encourage greater sustainability and in particular to build on and enhance the local maritime economy as a means of boosting the wider Cornwall local economy. Also Cornwall will have access to a new round of European structural and investment funding (2014 – 2020 Programme) and around £50million through the Local Growth Fund. In conclusion it is apparent that both national and local planning policy increasingly emphasise the importance of pursuing interventions, planning decisions and policies that will lead to sustainable economic growth.

The other key change since the 2011 Masterplan is the length and depth of the national and global economic downturn. Although at the time of writing the economy appears to be showing signs of recovery the assessment of Falmouth and Penryn's socio-economic structure shows that the local economy and employment contracted significantly since the 2011 Masterplan. The contextual evidence arguably demonstrates an increased need for the additional employment and expansion of the local maritime economy identified in the 2011 Masterplan.

### 5. Falmouth and Penryn River Demand Assessment

The demand assessment includes an updated baseline and revised demand assessments for each maritime sector. It also analyses the 2011 Masterplan projects, whether they have

started and which projects are still proposed to proceed. The demand assessment is based on desk based research, professional judgment and the results of the consultation exercise. The revised demand assessment and understanding of the current and future status of Masterplan projects feeds into the updated Economic Impact Assessment.

There are some linkages between the two areas but broadly the Port retains its role as an industrial port and the Penryn River area is predominantly focused on the marina and leisure market. The main linkages between the two areas are in the marine support services, leisure and supply chain companies.

Most maritime sectors have weathered the recession and are now expected to grow in line with the demand forecasts of the 2011 Masterplan, assuming the Masterplan projects are implemented. The Marina project has been discontinued and commercial development at the port is highly unlikely to come forward at least in the short to medium term. According to the consultation responses of key port companies, this is partly linked to uncertainty over delivery of the Masterplan in terms of the length of time that has passed between the first iteration of the Masterplan in 2009 and the present.

Certain sectors are growing above the trend outlined in the 2011 Masterplan. Demand in the Superyachts sector continues to grow and the marine renewable sector is an expanding sector. See Table 1 below for a summary of demand outlook in the short term and medium/long term for the key Port and Penryn River maritime sectors.

**Table 1: Summary outlook for Port of Falmouth and Penryn River Maritime-Related Economic Activities**

Sector	Area	Short-Term Outlook (to end 2015)	Medium/Long-Term Outlook (2016 onwards)
Ship Repair and Marine Engineering	Port	Declining activity levels Q4 2013 / 2014 Recovery in 2015	<u>With investment</u> Stable growth <u>Without investment</u> Stable <sup>1</sup> / some decline
	Penryn River	Stable	<u>With investment</u> Growth <u>Without investment</u> Stable
Bunkering	Port	Recovery in 2015	<u>With investment</u> Stronger growth <u>Without investment</u> Stable / low growth
Superyacht building and refit	Port	Sustained growth	<u>With no further capital</u> Sustained growth until current facility reaches <u>With further capital</u>

<sup>1</sup> A&P business likely to remain stable without the channel dredge

Sector	Area	Short-Term Outlook (to end 2015)	Medium/Long-Term Outlook (2016 onwards)
Port Cargo Operations	Port	2013 – decline in volumes  2014/15 – stable at 2013 levels	Stable  Growth possible with dredging and/or new wharfs
Cruise	Port	Decline in vessels requiring tenders and alongside	Decline - as average competitive position
Marina and Leisure Boating	Port & Penryn River	Sustained growth	Sustained growth
Fishing	Port & Penryn River	Stable	degradation and land  Growth possible with new facilities wharf space for fish landings including  Growth possible with Land space for fish processing
Marine Renewables	Port	Small-scale projects	Increasing activity levels from a low base.  Dredging of benefit in medium-long term.
Marine Support Services	Port & Penryn River	Dependent on performance of the primary economic activities within the port.	Dependent on performance of the primary  Decline due to projected decline of primary the port

## 6. Supply Chain Assessment

The findings of the supply chain assessment are based on the responses of supply chain consultees with data from the Penryn River Stage 1 and professional judgment referenced where appropriate. The research has demonstrated that the maritime sector in Falmouth is both diverse and viable with future growth opportunities but also that it faces key challenges

and vulnerabilities. Given the relatively small size of the sector in the national context but significant importance to the local economy the careful management of these issues is important to ensure the maximisation of benefits to the local area.

The main maritime economy sectors include three established sectors; industrial, leisure and fishing. The fourth is the Renewable Energy sector which is small but has significant potential for growth and start-up companies. The other area with potential for start-ups is for small and medium sized firms linked to the marine leisure sector especially those linked to catering and tourism. Of the three established sectors, industrial, which includes ship repair, cargo and bunkering, is the most vulnerable. The industrial firm A&P are by far the most significant company in the Port of Falmouth supply chain. 86% of supply chain consultees stated that they trade with A&P, and 64% of respondents saw the dredging of the channel as the main opportunity to expand the maritime economy in Falmouth. The cruise sector is also vulnerable if the dredging is not carried out because the often large size of cruise vessels means that a deep channel is required.

Cargo into the Port of Falmouth is an important element of the local maritime supply chain. Much of the rural economy relies on the supply of waterborne cargo through the Port of Falmouth to keep costs low. There is potential for greater benefits to the local rural economy if short sea shipping increases in importance.

The leisure sector is a strong and stable sector due to the strength of the leisure boating business and tourism draw of the area. The Penryn River area provides some supply chain linkages to the main Port for the leisure sector and the marine support services. The Penryn River area is relatively self-sufficient with numerous small companies mainly providing services to private yacht owners. Despite this there is a fundamentally a symbiotic relationship between the Port and the leisure sector base on Penryn River and without each other the maritime sector in and around Falmouth would likely be unviable.

The key future requirements identified by consultees include the need to protect shore side / waterside land and access in Penryn River area. There is considerable pressure from higher value uses such as residential uses but the marine sector requires clear access to the shore side and water and to the road network for their supplies. For example, Falmouth Wharf, being the only deep water berth outside the Port is critical for the retention and expansion of the burgeoning renewable energy sector as it can be used to launch vessels and renewable energy equipment. Local skills and training capacity is generally seen as acceptable with the exception of training for the renewable energy sector where training provision capacity locally could be expanded. In general it was felt that the priority should be to concentrate on the existing planned POFDI Masterplan projects. Providing confidence and commitment that the existing projects will go ahead, especially the dredging, is the key to sustaining the maritime sector in Falmouth.

## **7. Economic Impact Assessment (EIA) Update**

The EIA sets out a reappraisal of the estimated additional employment and Gross Value Added (GVA) impacts associated with the Port of Falmouth Masterplan 2011 for the period 2013 to 2030. The EIA updates the 2011 Masterplan by taking account of projects that have either discontinued or completed and factoring in the demand assessment as described above. It also establishes a new baseline. The information is based on the responses of supply chain firms consulted combined with the demand assessment element. The methodology is consistent with the HM Treasury Greenbook and HCA Additionality guidance. The overarching method is to quantify the impacts of the 'intervention case' or updated Masterplan and then take away the impacts that would have happened anyway (the reference case). This is shown in Figure 2 below:

**Figure 2: EIA Additionality Process**



Source: HCA 2014<sup>2</sup>

Following the above process the net additional impacts of the updated EIA are as follows:

**Table 2: Net Additional Impacts of Port of Falmouth Masterplan**

	2013		2015		2020		2025		2030	
	Jobs (£m)	GVA	Jobs (£m)	GVA	Jobs (£m)	GVA	Jobs (£m)	GVA	Jobs (£m)	GVA
A) Masterplan Total Net Additional Local Impacts	1,827	108.5	1,944	115.6	2,356	140.1		150.9		160.8
B) Reference Case Total Net Additional Local Impacts	1,827	108.5	1,875	106.0	1,427	91.4	1,219	71.6	1,204	71.3
<b>Additionality (A – B)</b>	<b>-</b>	<b>0.0</b>	<b>69</b>	<b>9.6</b>	<b>929</b>	<b>48.7</b>	<b>1,319</b>	<b>79.3</b>	<b>1,508</b>	<b>89.5</b>

Predicting future events in detail, such as jobs within specific sectors is prone to error as unpredicted events can occur. However, there is a high degree of confidence in the total aggregated jobs figure shown in Table 2 above. Although it is not possible to assess the margin of potential error a basic sensitivity test can be performed by applying + or – 20%. This creates a range of potential net additional benefits from 1,206 to 1,809 jobs and £71.6m to £107.4m GVA.

Indicators that demonstrate value for money include Net Present Value (NPV), Benefits Cost Ratio (BCR) and Cost per job were calculated. For further information on the process followed see section 6 below. These are shown in Table 3 below:

**Table 3: Value for Money Indicators of Masterplan**

	Masterplan Indicator
Net Present Value (NPV) of additional Gross Value Added (GVA)	£370,186,442
Benefits Cost Ratio (BCR) – based on NPV	3.7
BCR – based on additional GVA in 2030	0.6

<sup>2</sup> HCA, 2014, Additionally Guide (4th Ed), page 3

	Masterplan Indicator
Cost per £1 GVA	£0.04
Cost per 1 net additional FTE job	£65,870

The risk assessment is shown in Table 4 below. The process followed was the same as that used in the 2011 Masterplan. Each risk was scored between 1 and 5 in terms of the likelihood (probability) of the risk occurring and the impact on the delivery of the Masterplan and its key objectives. The 'X' is used to denote the type of risk i.e. whether the risk is related to time, cost or environmental factors. Updated risk scores from the 2011 Masterplan are highlighted in bold:

**Table 4: Project Risk Assessment**

Risk Effect:	Likelihood	Impact	Risk Rating	Time	Cost	Environmental
Failing to continue successful PoFDI partnership cooperation	1	5	5	x	x	
Failing to establish a delivery task force	2	4	8	X	X	X
Securing landowners co-operation and commitment	3	5	15			
Failing to reach projected turnover after implementation						
Shiprepair	<b>2</b>	<b>3</b>	<b>6</b>	X	X	
Cruise sector	3	5	15	X		
Cargo	2	2	4	X		
Superyachts sector	2	5	10	X	X	
Other supporting businesses; marine engineering	1	4	4	X	X	
Marine renewables: wave energy	3	4	12	X	X	X
Leisure boating	1	3	3	X	X	
Marine related events	2	3	6	X	X	
Commercial property lettings/sales	<b>4</b>	<b>4</b>	<b>16</b>	X	X	
Residential property lettings /sales	-	-				
Damage to the environment	3	4	12	X	X	X
Pollution incident	2	4	8	X	X	X
Planning risk	2	5	10	X	X	
Delayed approval of landside environmental consents / licences	2	3	6	X	X	X
Delayed approval of dredging & disposal licences	5	4	20	X	X	X
Availability of private funding for new business spaces	<b>3</b>	<b>4</b>	<b>12</b>	X	X	
Availability of private funding for new port infrastructure	4	5	20	X	X	
Availability of private funding for dredging	<b>5</b>	<b>5</b>	<b>25</b>	X	X	

Risk Effect:	Likelihood	Impact	Risk Rating	Time	Cost	Environmental
Availability of public funding for new business spaces	5	4	20	X	X	
Availability of public funding for new port infrastructure	4	5	20	X	X	
Availability of public funding for dredging	4	5	20	X	X	
<b>TOTAL</b>			<b>277</b>	<b>22</b>	<b>20</b>	<b>6</b>

The updated EIA has shown that the Masterplan should produce significant benefits to Falmouth and Cornwall. In terms of jobs it suggests that by 2030 there will be approximately 1,900 additional jobs in a variety of professions over and above what would have occurred anyway. In terms of GVA the Masterplan would generate £113million in Cornwall by 2030. The Net Present Value is also positive at around £600m and the cost per additional job at around £50,000 is in line with average project costs as per Government guidance.

## 8. Conclusion

Although not much time has passed since the 2011 Masterplan study and many of the conclusions and recommendations of that study remain consistent, this study has uncovered some new findings. The key specific recommendations of the study are that where possible support should be provided for the growing renewable energy sector. This is in terms of training programmes and protection of sites such as Falmouth Wharf that have potential to be used by the sector. If possible, access to Falmouth Wharf should be improved although it is recognised that there are limited opportunities due to the surrounding residential uses and the fact it is not in public ownership. For this reason it is likely that Falmouth Wharf would be used by smaller scale operations such as launching of smaller equipment that has been delivered to the site on non-HGV vehicles. The key future requirements identified by consultees include the need to protect shore side / waterside land and access in Penryn River area. There is considerable pressure from higher value uses such as residential uses but the marine sector requires clear access to the shore side and water and to the road network for their supplies.

Most felt that the main priority of PODFI should be to prioritise the existing initiatives, especially the dredging of the main channel (63% respondents felt dredging was the key opportunity to boost economic growth and jobs). This would help to provide confidence to the business community that ‘something will be done’ and that POFDI is going ahead.

The study has re-emphasised the importance of the Masterplan to the Falmouth and Cornish economy. In the three years since the original 2011 Masterplan was produced the local economy has suffered due to the global economic downturn. This perhaps makes the Masterplan more important than ever, even though the estimate of net additional jobs is lower than that estimated in 2011. 2,700 gross and 1,500 net additional jobs and £160m gross and £90m net GVA will generate a significant effect on the local economy. Due to the interconnectedness of the Falmouth and Penryn River maritime economy these jobs will be provided across the wider area in a variety of different companies. On the contrary the do nothing option shows that without the Masterplan the maritime sector in the Port of Falmouth would yield only 1,200 jobs and £70m GVA. This study therefore provides strong evidence for the Masterplan to proceed as soon as possible so that the future of Falmouth and its maritime economy can be secured.

# 1 INTRODUCTION

## 1.1 Introduction

URS were commissioned by Cornwall Development Company (CDC), acting on behalf of the Port of Falmouth Development Initiative (POFDI) in April 2013 to review and update the Economic Impact Assessment in the 2011 Port of Falmouth Masterplan (hereafter described as the '2011 Masterplan'). The study also extends the 2011 Masterplan area to investigate the maritime supply chain in the wider Penryn River area. This report includes the research, analysis and recommendations connected to this brief.

### 1.1.1 Context for study

The 2011 Masterplan was commissioned by the Port of Falmouth Development Initiative (PoFDI) in 2009. The overarching aim of POFDI was to help guide development of the Port and to coordinate the different interests to create a shared vision for the future of the Port. The strategic objectives of the 2011 Masterplan are still relevant to this study and include:

- To retain Falmouth's strategic significance as a deepwater port at the western approach to the English Channel;
- To support the wider economy and community;
- Introduce and support appropriate new functions and businesses;
- To support sustainable development and sustainable transport;
- To support the development and use of renewable resources and associated technology;
- To ensure that development contributes to Falmouth's distinctiveness and sense of place and respects its environmental and heritage assets; and
- To ensure that the vision is deliverable;
- To maintain and develop existing port operations and related businesses;
- To ensure that growth is sustainable, with sea, land and infrastructure resources being capable of adaption to meet changing demands; and
- To maintain and create high quality jobs through the strong links with the education sector.

The 2011 Masterplan was adopted by Cornwall Council as a material consideration for planning purposes in June 2011. However, since 2009 to 2011 when the evidence was gathered, the international, national and local socio-economic circumstances have changed. The changes have affected the deliverability of the 2011 Masterplan proposals. Concerns were also raised during the public consultation stage regarding the scope of the original study. It was considered to be focused on the Docks, rather than the Docks and the wider marine related functions across the Port and Penryn River as a whole.

In response to these concerns Cornwall Development Company (CDC) embarked on a study of Falmouth and Penryn’s maritime supply chain network. This study is referred to as the Penryn River Study and includes two stages<sup>3</sup>. Further information with regard to the Penryn River Study is set out later in this report. The Penryn River Study Stage 1 was completed internally by CDC. Penryn River Study Stage 2 objectives are covered in this study.

### 1.1.2 Purpose of Study

A key aim of this update is to re-fresh the Economic Impact Assessment (EIA) contained in the 2011 Masterplan; to ensure that proposals for the Port remain appropriate when considered against the issues faced by Falmouth’s maritime economy and its supply chain; and to ensure that the long term viability and success of the Port and the Penryn River is safeguarded.

Expansion of the study area will present the opportunity to identify wider economic opportunities that were not previously considered as part of the 2011 Masterplan but that could make a significant contribution to the Port’s long term economic viability. The overarching aim of the study is summarised below:

To re fresh the Economic Assessment contained in the Port of Falmouth Masterplan 2011, to ensure that proposals for the Port remain appropriate when considered against the issues faced by Falmouth’s maritime economy and its supply chain in order to ensure that the long term viability and success of the Port and the Penryn River is safeguarded.

### 1.1.3 Key Study Objectives

There are a number of key objectives that this update is specifically required to achieve. These are as follows:

1. Update the economic and demand assessment derived from the 2011 Masterplan.
2. Combine the Port and Penryn River Study to produce an overall picture of demand and opportunities.
3. Identify the relationship between the marine and shore side activities and how these could benefit the area.
4. Identify the supply chain networks within the area.
5. Identify new business opportunities for both the port and Penryn River.
6. Engage with local stakeholders to incorporate their views.
7. Identify how the marine environment can support the wider economy and community.
8. Produce a flexible document allowing for updates at any stage.

<sup>3</sup> The Penryn Study was never concluded as a report. It included a series of pieces of research, analysis and mapping.

## 1.2 Study Area

**Figure 1.1** below shows the extent of the study area that has been defined by CDC for the purpose of this assessment. The study area encompasses:

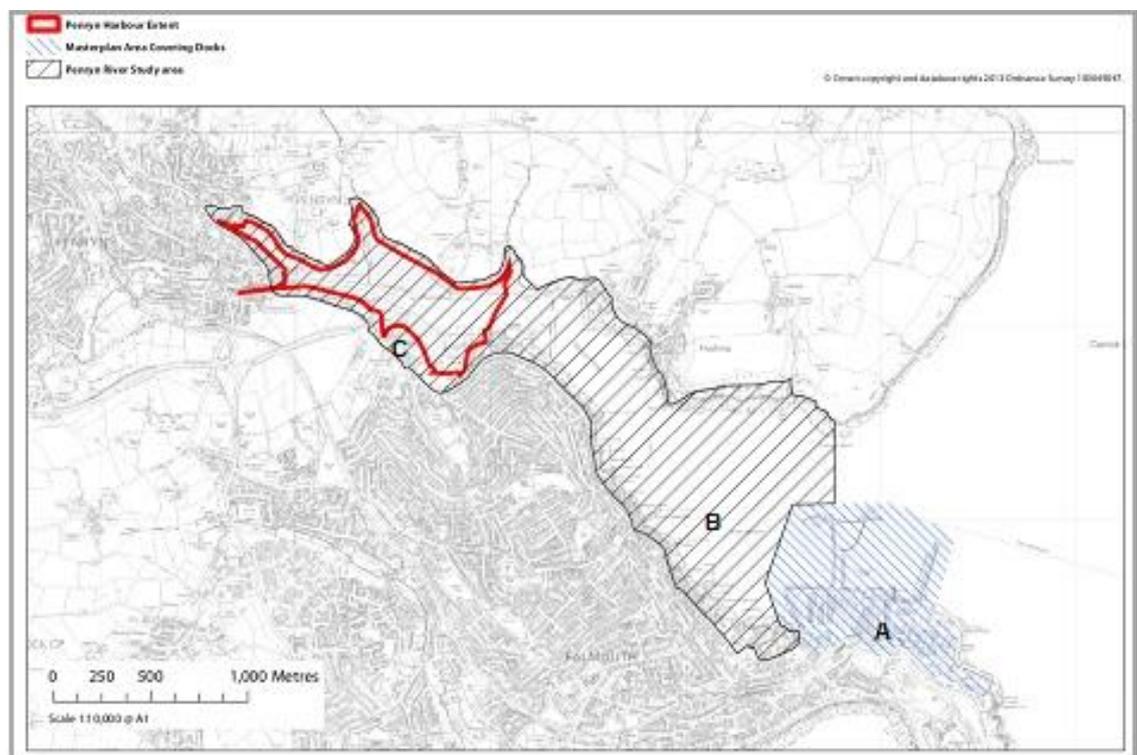
- A. The Port of Falmouth Masterplan Study Area
- B. The Penryn River Study Area
- C. Penryn Harbour

The full extent of the Port of Falmouth is shown on **Appendix 1**.

It is apparent from the information collated by CDC as part of Stage 1 of the Penryn River Study that a number of companies who make up the supply chain network do not reside within the study area. Approximately 41 are inside the study area and 40 outside. For the purpose of this assessment therefore, (in addition to their location in either A, B or C, as shown above) supply chain companies have been categorised and analysed as follows:

- 1. The Study Area: (see above)
- 2. Within Cornwall.
- 3. Outside Cornwall

**Figure 1.1: Study Area Map**



Source: CDC

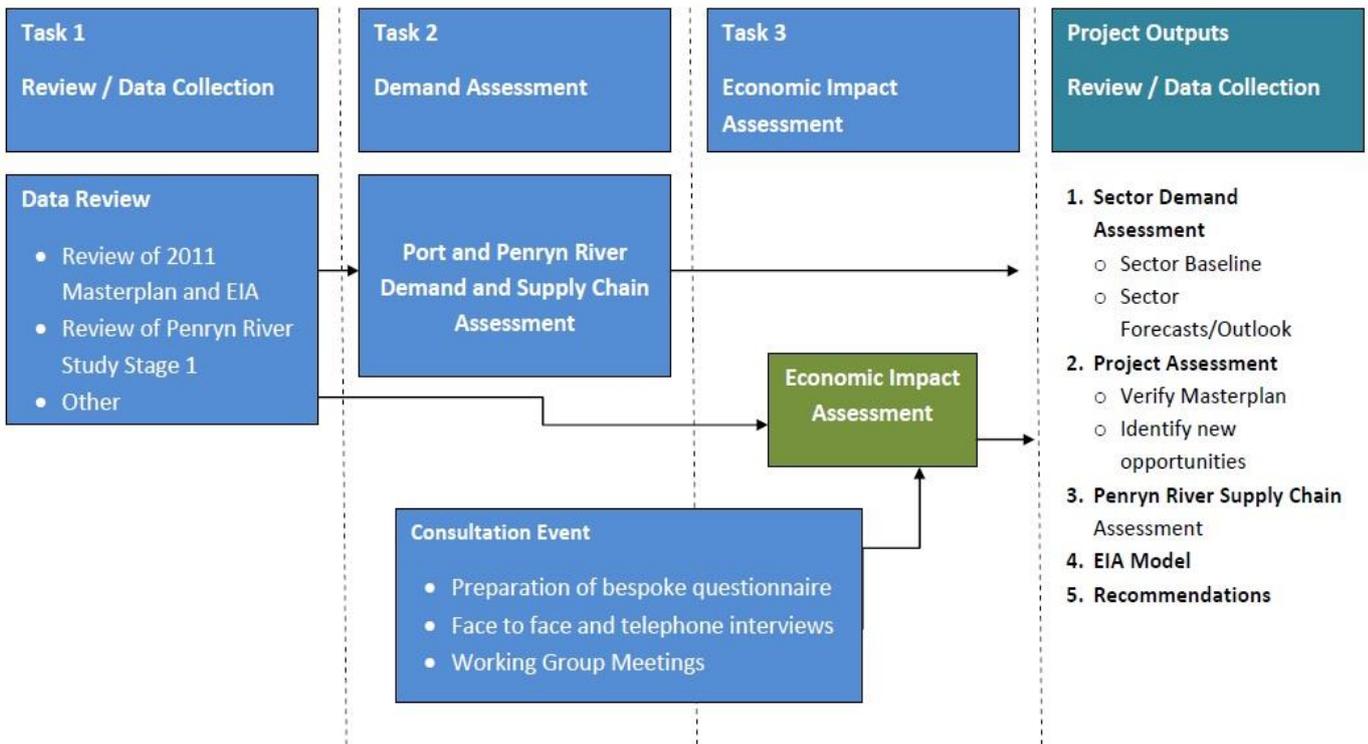
## 1.3 Overall Approach

The overall approach to this study has been based upon three key tasks identified by CDC which include:

- **Task 1: Review and Data Collection;** including a review of the original Port of Falmouth EIA and other baseline work already undertaken (i.e. Stage 1 of CDC’s Penryn River Study), a re-survey of the companies originally surveyed as part of the Port of Falmouth Masterplan 2011 and a new survey of the wider local marine economy supply chain.
- **Task 2: Demand Assessment Work;** including re-assessment of the demand assumptions made in the 2011 Port of Falmouth Masterplan EIA, assessment of new survey data, a review of development opportunities, identification of future trends and the potential for new start-up businesses.
- **Task 3: Economic Assessment Update;** including re-evaluation of the existing EIA and the development of an economic assessment model, capable of being reviewed and updated on an on-going basis.

Figure 1.2 below sets out a summary of URS’ approach and identifies the key intended study outputs.

Figure 1.2: Summary of Approach



The key elements of the study are described in more detail:

### 1.3.1 Stakeholder Engagement

CDC identified 81 businesses to take part in the consultation exercise. These businesses were shortlisted following a comprehensive process of data collection and consultation undertaken by CDC as part of Stage 1 work in connection with the Penryn River Study. This work established a clear picture of the Falmouth/Penryn supply chain that URS have built upon through detailed surveys: the results of which have informed the demand and opportunities assessment contained in this update.

### 1.3.2 Demand Assessment

The demand side assessment has utilised a combination of “top down” and “bottom up” research. The “Top Down” research involved a review of a variety of data sources to enable the macro-economic and sector context of the Port / Penryn River uses to be understood. The “Bottom Up” research included stakeholder engagement, and this has been approached as follows

- Firstly via a widely distributed questionnaire survey - see **Appendix 2**; and
- Secondly via direct consultation with major port users.

Due to the variety of economic users within the Port and Penryn River it has been necessary to develop the demand assessment on a sector-by-sector basis. This reflects the differing drivers of demand for each sector and the differing competitive position of the Port / Penryn River businesses within the relevant markets.

The scale and nature of the maritime economy activities in some instances makes forecasting difficult. Therefore the initial stage has been to establish an overall view on the future direction of development of each sector (i.e. growth, stability, decline). Then a more detailed activity outlook was developed using a relevant measure (e.g. vessel calls, traffic volumes, turnover, etc).

In summary the demand assessment has comprised of the following tasks:

- Verify if uses identified in the Masterplan are still valid in the context of this study (and if not establish why not) and identify the additional uses identified in the Penryn River Study;
- Identify the methodology used to project sector outlook in Masterplan;
- Validate or refine the methodology;
- Update the baseline data, where necessary undertaking further research;
- Develop updated demand outlook by sector for Port / Penryn River

Once completed the demand assessment for the Port and Penryn River forms the baseline for the economic assessment and assessment of needs for the Penryn Estuary.

### 1.3.3 Economic Impact Assessment of POF Masterplan

This section provides a new economic assessment of the POF Docks element of the 2011 Masterplan. It is based on evidence gathered through the stakeholder engagement exercise. The assessment gathers information on relevant factors such as:

- Employment;
- Gross Value Added (GVA);
- Business turnover;
- Relevant business sectors;
- Residence of workers;
- Average salaries.

This information will be used to establish a baseline of direct employment and GVA in the POF Masterplan area (i.e. the POF Docks). The information will also be used to establish locally

relevant assumptions on additionality (e.g. leakage, displacement, substitution, multiplier effects and deadweight). These will feed into the overall economic assessment.

A model will be prepared to assess the economic impact of the 'do nothing' and 'Masterplan options'. The model will assess:

- Employment;
- GVA;
- Net Present Value (NPV);
- Benefits to Cost Ratio (BCR) and cost per unit.

It will present the gross and net additional effects of both the direct and indirect impacts and estimate change over a given time frame based on knowledge of projects coming forward and also anticipated trends in existing and potential sectors.

The economic assessment will include an analysis of potential market failures and therefore a public intervention rationale and risks. The overall conclusions will allow informed decisions to be made on the best option to pursue and will provide justification for public intervention if required.

#### 1.4 Report Structure

The remaining sections of the report are structured as follows:

- **Chapter 2** sets the context and describes the local economy baseline
- **Chapter 3** describes the stakeholder consultation exercise
- **Chapter 4** is a maritime sector demand assessment
- **Chapter 5** provides an assessment of maritime supply chain
- **Chapter 6** is an economic impact assessment of the Port of Falmouth Masterplan
- **Chapter 7** is the conclusion and recommendations section

## 2 CONTEXT AND BASELINE

### 2.1 Introduction

This section provides a brief overview of the study area, the current socio-economic baseline of the study area and Cornwall, the previously prepared Port of Falmouth Masterplan 2011, the Penryn River Study and the relevant planning policy context as follows:

#### 2.1.1 Context of Port of Falmouth and its Strategic Role

The 2011 Masterplan described in detail the context of the Port of Falmouth in regional, national and international maritime terms. It also provided a summary of the Port operations and key spatial issues. See Chapter 2 of the 2011 Masterplan for further information on these elements. Chapter 5: 'Supply Chain Assessment' of this report provides further up to date information on the key Port of Falmouth and Penryn River maritime uses, sector linkages and strengths, weaknesses, opportunities and threats (SWOT) analysis.

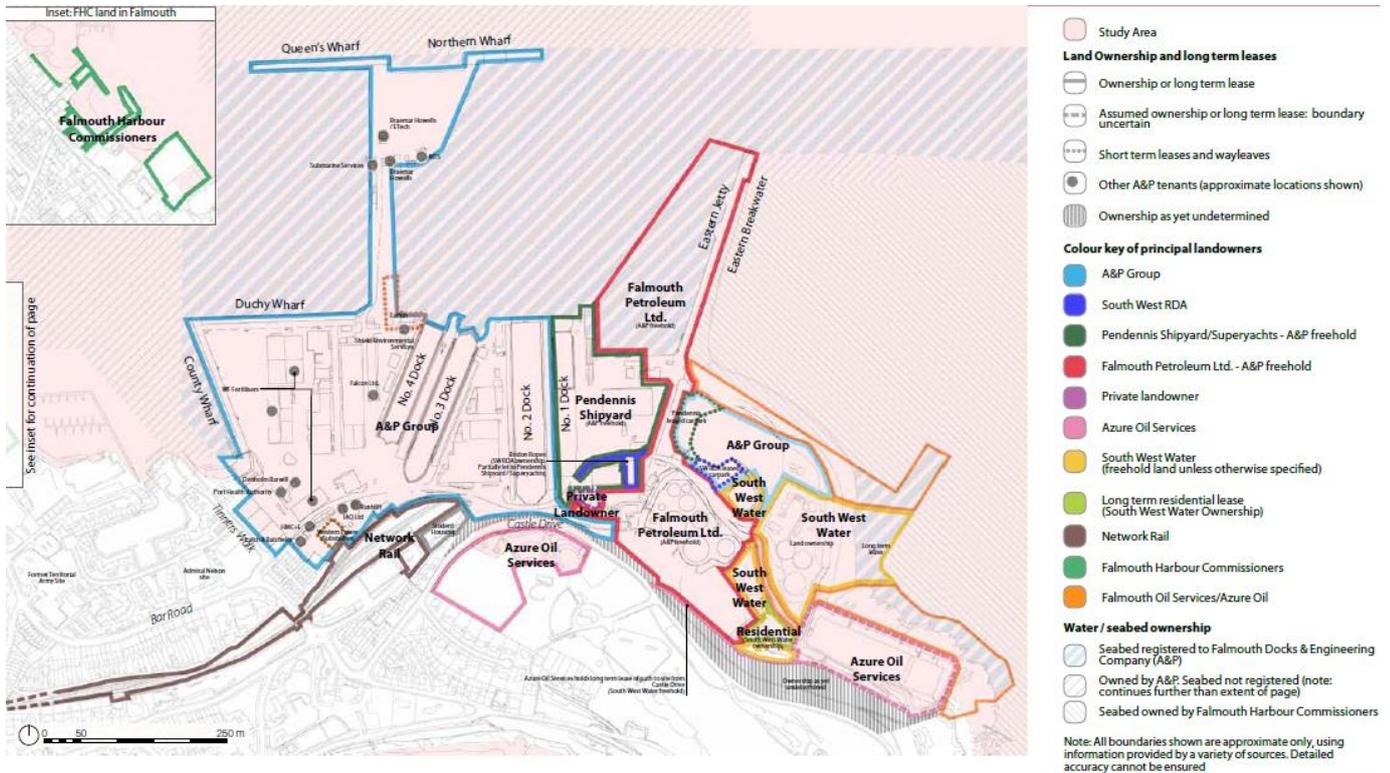
#### 2.1.2 Land Ownership

The study area falls within a number of key ownerships including the Falmouth Harbour Commissioners, A&P and Cornwall Council. Cornwall Council also lease to 'others' including:

- Penryn Riverside Users Association
- Challenger Marine
- Falmouth Yacht Brokers
- A&P Falmouth (Renewables) at Ponsharden
- Ponsharden Boat Owners Association
- Association for the Preservation of Local Waters
- Premier Marine
- Trevisson Marine
- Discovery Quay Enterprises

**Figure 2.1** shows the extent of these ownerships and leaseholds as of March 2011. A full scale version of this map is reproduced at **Appendix 1**.

Figure 2.1 Key Ownerships\*



Note: \* Land Ownership and Leaseholds may have changed since publication of the CC 2011 Masterplan  
 Source: Cornwall Council 2011 Masterplan

## 2.2 Socio-Economic Baseline

This section summarises the key socio-economic baseline, giving a context to the Port of Falmouth. It covers population, economy, VAT registrations and business size, Travel-to-work flows and unemployment. It is based on the headings outlined in the 2011 Masterplan.

### 2.2.1 Population

According to the Census 2011 the population of Falmouth was 21,797 whilst the population of Penryn was 7,093. According to Cornwall Councils analysis of the 2011 Census Falmouth is the third largest urban area in Cornwall<sup>4</sup> after Camborne/Pool/Redruth and St. Austell. Both Falmouth and Penryn have a positive demographic profile with above average numbers of young people (aged 25 and under) with 35% and 34% of the population respectively, compared to the average for Cornwall of 28%. Consequently both Falmouth and Penryn have above average numbers of working age population, with 69% of the population of working age (16-65) compared to 64% in Cornwall as a whole.

### 2.2.2 Economy

The Falmouth and Penryn Strategic Investment Framework (2010) describes the Falmouth and Penryn area as ‘a service centre for the local area’ which together with Truro, Camborne and Pool Redruth forms Cornwall’s ‘strategic centre of gravity’ providing the vast majority of jobs within local authority area.

The Business Register and Employment Survey (BRES) shows that the number of jobs within Falmouth and Penryn fell from 13,281 in 2009 to 12,821 in 2012, a decrease of 3.5%. Table

<sup>4</sup> <http://www.cornwall.gov.uk/council-and-democracy/data-and-research/data-by-topic/population/town-populations/>

2.1 below sets out the employment structure for Falmouth and Penryn<sup>5</sup>. The BRES data as shown in Table 2.1 includes marine jobs but does not identify them as a separate employment category. Hence, this table should only be used as a general guide to types of employment.

**Table 2.1 Industrial Breakdown by Sector for Falmouth and Penryn**

Industrial Sector	2009	% of total	2012	% of total	Change (Actual)	Change (%)
Agriculture Forestry and Fishing	22	0.2	58	0.5	36	164
Mining and Quarrying	32	0.2	25	0.2	-7	-21.9
Manufacturing	2,212	16.7	1,985	15.5	-227	-10.3
Water Supply, Sewerage, Waste	38	0.3	24	0.2	-14	-36.8
Construction	469	3.5	494	3.9	25	5.3
Wholesale, Retail Trade, Motor Vehicle Repair	2,475	18.6	2,557	19.9	82	3.3
Transportation and Storage	342	2.6	233	1.8	-109	-31.9
Accommodation and Food Service	2,021	15.2	1,940	15.1	-81	-4.0
Information and Communication	144	1.1	139	1.1	-5	-3.5
Financial and Insurance	169	1.3	168	1.3	-1	-0.6
Real Estate	137	1.0	223	1.7	86	62.8
Professional, Scientific and Technical	848	6.4	878	6.8	30	3.5
Administrative and Support	431	3.2	293	2.3	-138	-32.0
Public Administration and Defence	253	1.9	222	1.7	-31	-12.3
Education	1,677	12.6	1,778	13.9	101	6.0
Human Health	1,471	11.1	1,273	9.9	-198	-13.5
Arts, Entertainment and Recreation	375	2.8	357	2.8	-18	-4.8
Other Services	165	1.2	174	1.4	9	5.5
<b>Total</b>	<b>13,281</b>	<b>-</b>	<b>12,821</b>	<b>-</b>	<b>-460</b>	<b>-3.5</b>

Source: BRES 2013

Since 2009 both the education and wholesale, retail trade and repair of motor vehicles and motorcycles sectors have seen slight increases in the number of jobs of 6% and 3.3% respectively. In contrast the manufacturing and accommodation and food services sectors have seen a fall in the number of jobs of 10.3% and 4%. Sectors such as the agriculture, forestry and fishing, real estate, construction and professional, scientific and technical sectors have also seen collective job growth over the same period.

Overall the employment has dropped by 3.5% between 2009 and 2012 which is likely to be a result of the recession.

<sup>5</sup> Note the BRES data excludes the self-employed.

### 2.2.3 VAT Registrations

In 2011 there were 19,800 active enterprises within Cornwall, a drop of 2.2% compared to the number of active businesses in 2009 (20,240). There were 1,705 VAT registrations in Cornwall in 2011 and 1,825 de-registrations resulting in a net loss in Cornwall's stock of 120 businesses. Comparatively there were 1,655 VAT registrations and 2,175 de-registrations in 2009 resulting in a net loss of 520 businesses.

Based on the most recent data available (2009) for the Falmouth and Penryn area has a smaller proportion of micro enterprises (67.5%) than the average for Cornwall (68.1%) and the South West region as a whole (70.1%). In comparison however, there are a somewhat greater number of businesses employing 50 employees or more in Falmouth and Penryn (3.2%) than within Cornwall (2.6%) and slightly more than within the South West as a whole (3.1%).

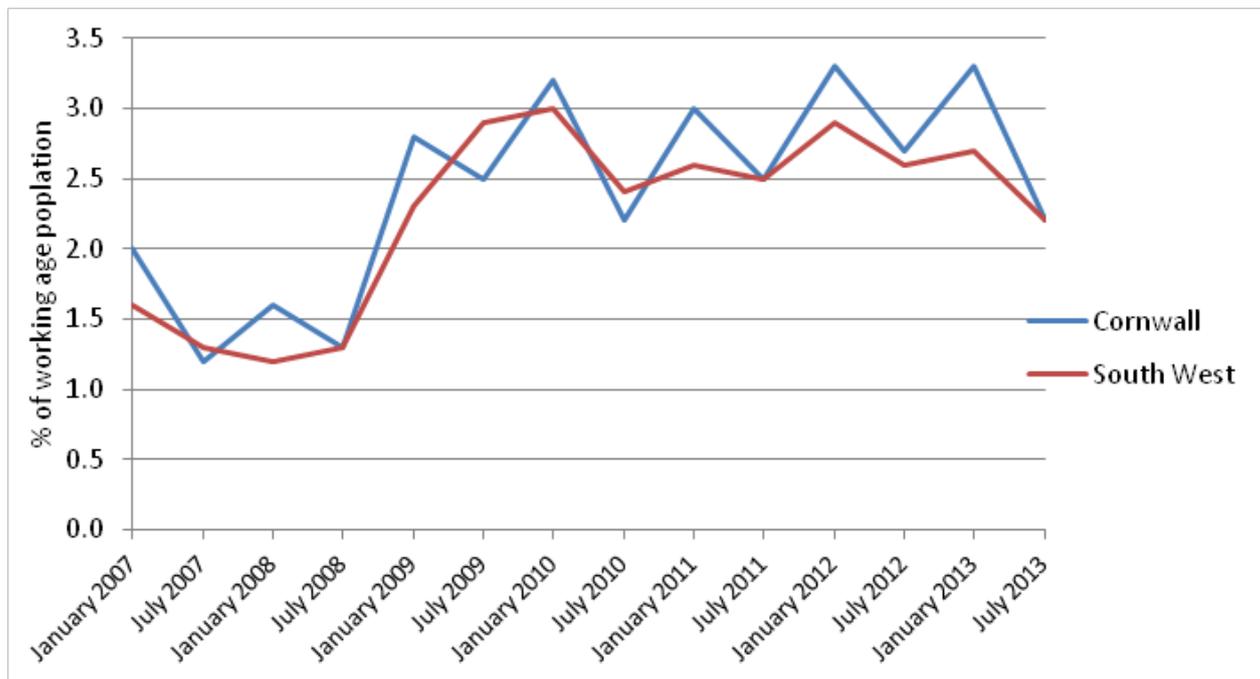
### 2.2.4 Travel-to-Work Flows

Travel to work area data is currently only available for 2001 (Census 2001) but is due to be updated based on Census 2011 data in 2015. In Falmouth and Penryn approximately 68% of jobs were taken by residents. Census 2001 data indicates that approximately 4,000 commuted into the Falmouth and Penryn area for work whilst 3,800 residents worked elsewhere in Cornwall, the South West and UK.

### 2.2.5 Unemployment

The number of claimants within the Falmouth and Penryn area has been steadily increasing since 2007 and in November 2013 the number of claimants stood at 534, which is 43% higher than in November 2007. This increase is lower however than that for both Cornwall (58%) and the South West (75%) over the same period. **Figure 2.2** below shows the rate of claimants as a proportion of the total working population (aged 16-65) for 2007 to 2013.

**Figure 2.2 Job Seekers Allowance Claimants**



Source: ONS, 2013; Claimant Count. n.b. rates unavailable at level lower than local authority.

## 2.2.6 Summary of Socio-economic Baseline

Overall employment has fallen by 3.5% between 2009 and 2012. This is likely to be due to the UK and global economic downturn. The key employment growth sectors are education and wholesale, retail trade and repair of motor vehicles and motorcycles sectors which have seen slight increases in the number of jobs of 6% and 3.3% respectively. The biggest declining sectors are manufacturing and accommodation and food services sectors which have seen a fall in the number of jobs of 10.3% and 4%. There has been a drop of 2.2% between 2009 and 2011 of active enterprises within Cornwall (19,800 and 20,240 respectively). Unemployment has also increased and was 43% higher in November 2013 than in November 2007. Overall the local economy of Falmouth and Penryn have suffered relatively significantly because of the effects of the economic downturn.

## 2.3 Port of Falmouth Masterplan (2011)

### 2.3.1 Introduction

In December 2009 a team of consultants were appointed by the Port of Falmouth Development Initiative (PoFDI) to prepare a Masterplan for the Port of Falmouth. The overarching aim of this work was to develop a preferred options Masterplan that would maintain and develop Falmouth as a successful and viable operational Port of regional strategic significance and one that makes a major continuing contribution to the Cornish economy and the wellbeing of communities.

The overall purpose of the Masterplan was to help guide development of the Port and to coordinate the different interests into a shared vision to work towards. The Masterplan detailed a series of proposals and projects for the short term (i.e. the next 5 years) as well as projects for the longer term, up to 2026.

### 2.3.2 Preferred Option 2011 Masterplan

The Preferred Option Masterplan was presented as two groups of projects:

- Phase 1 Projects; which set out those projects intended at the time to be completed by 2015, and;
- 'Potential Future Projects'; which set out a range of possibilities for the future following the implementation of Phase 1.

Phase 1 Projects, intended to be completed by 2015 are shown in **Table 2.2**:

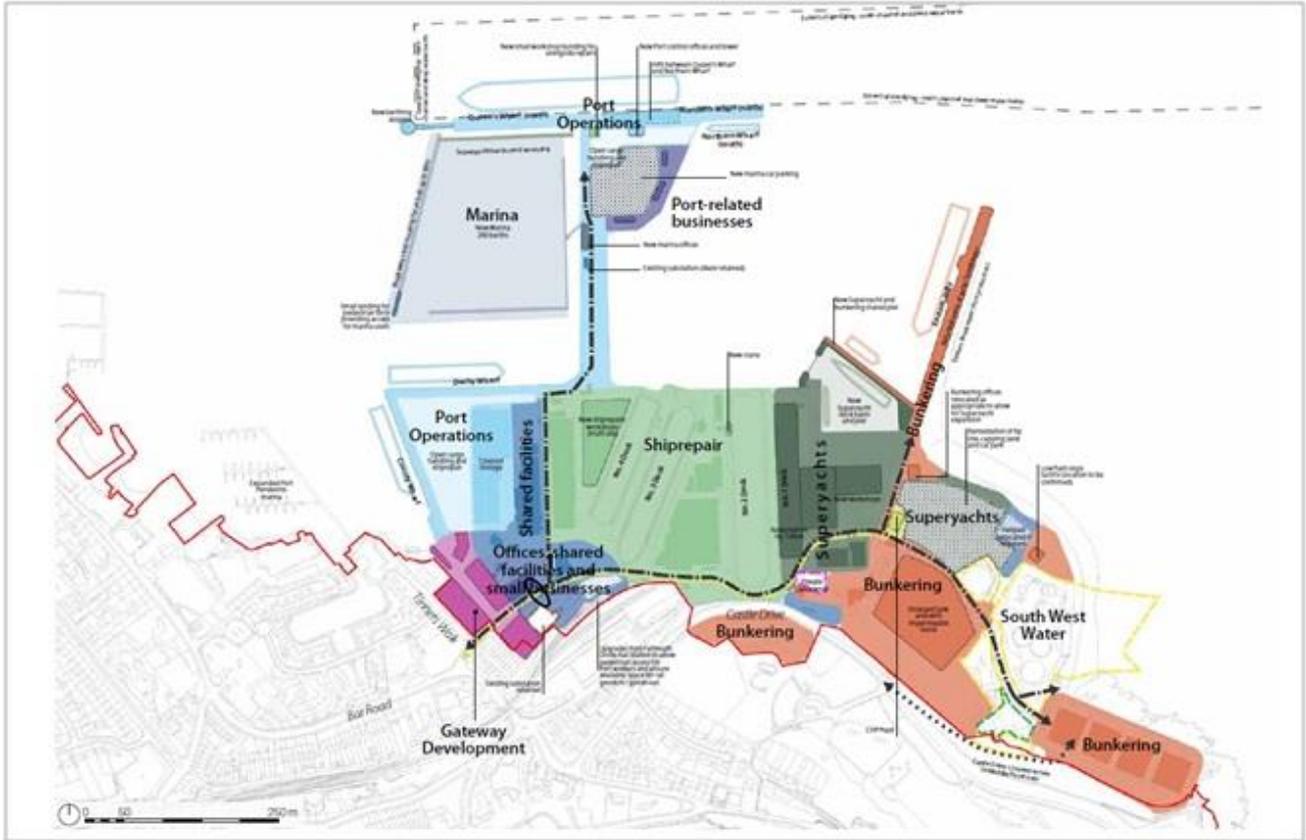
**Table 2.2 Phase 1 Projects – Preferred 2011 Masterplan**

Phase 1 Projects	Preferred 2011 Masterplan
1.	A new crane adjacent to No. 2 Dock
2.	290 Berth Marina, including car park
3.	Dredging of the main channel and deep water berth
4.	Remediation, capping and car park over former landfill site
5.	Superyacht workshops and bunkering offices
6.	Superyacht dock basin and new pier
7.	Combined Heat and Power (CHP) plant and docks heat main
8.	Queen's / Northern Wharf infill / extension

Phase 1 Projects Preferred 2011 Masterplan	
9.	Port control offices
10.	Small workshop on Queen's Wharf
11.	Enlarged workshop facilities at No. 1 Dock
12.	Upgrade of fuel tanks
13.	New low flash slops facility (including relocation of helipad if required)
14.	Gateway Development (Stage 1) including relocation of Port weighbridge and Port
15.	health building / facility
16.	New shiprepair workshops (Stage 1)
17.	Refurbish Eastern Jetty and Breakwater
18.	Sustainable transport package, rail and road upgrades - including pedestrian access from
19.	Installation of berthing dolphin - Queen's Wharf

The configuration of Phase 1 projects and resultant proposed Port operations in the preferred option are shown at **Figure 2.3** below:

**Figure 2.3: Preferred Option - Phase 1 Projects**



Source: The Port of Falmouth Masterplan 2011

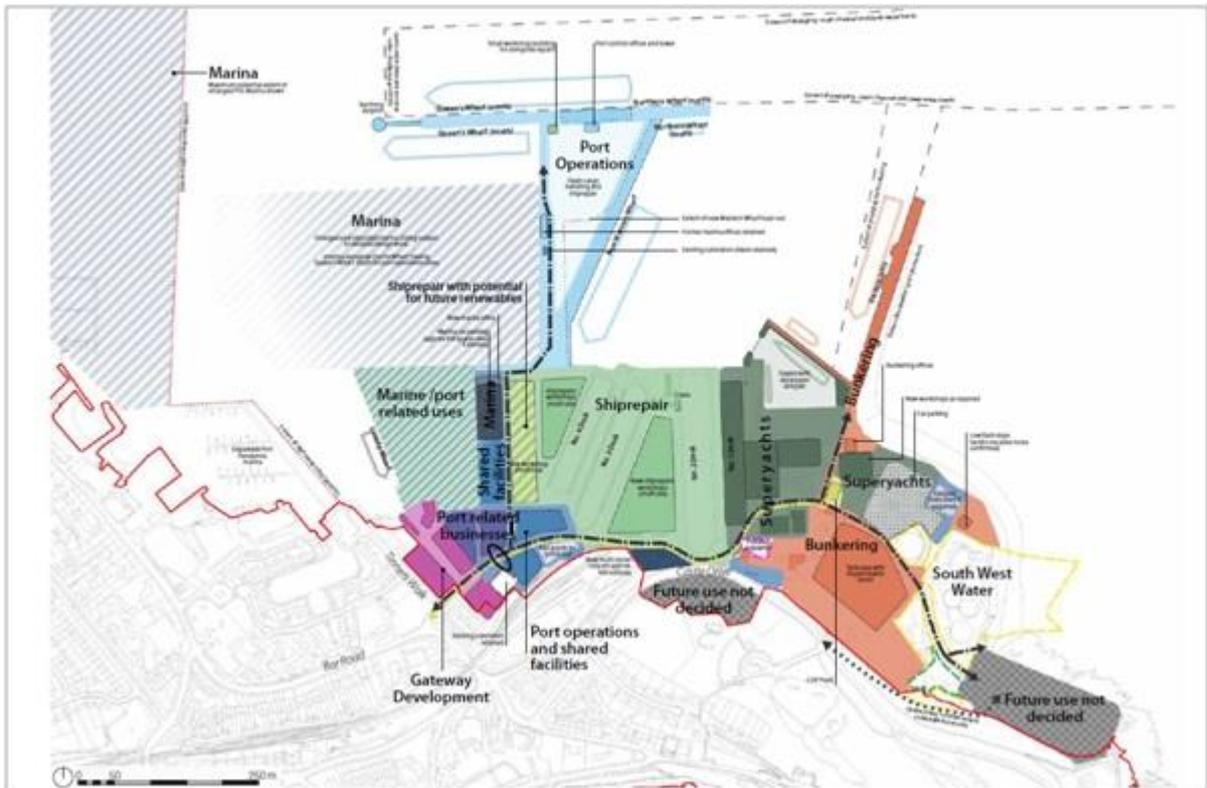
'Potential Future Projects' are shown in **Table 2.3:**

**Table 2.3 Potential Future Projects’ – Preferred 2011 Masterplan**

Potential Future Projects’ Preferred 2011 Masterplan
A. New ship repair workshops (Stage 2)
B. Port related business and operations units
C. Cliff-face multi-storey car park
D. Multi-use shiprepair and renewables workshops
E. New superyacht workshops
F. Western Wharf load-out (potentially phased)
G. Enlarged and relocated marina (sizing subject to detailed design work) and consolidated marina car parking
H. County / Duchy wharf area. Future Port use undecided. Access will be affected by any enlargements to the marina
I. Potential expansion of Falmouth Harbour Commissioners Marina
J. Dredging of Eastern Jetty pocket for bunkering

The configuration of potential future projects and resultant proposed Port operations in the preferred option are shown at **Figure 2.4** below:

**Figure 2.4: Preferred Option - Potential Future Projects**



Source: The Port of Falmouth Masterplan 2011

### **2.3.3 Economic Impact Assessment of 2011 Masterplan**

A survey of the Falmouth Dock businesses was undertaken in order to identify precise and tailored direct impacts in terms of jobs, turnover, and GVA, based on specific leakage, displacement and deadweight estimates, and specific indirect and induced multipliers.

The report presented the EIA of the Falmouth Docks businesses baseline position in 2009. The total net number of FTE jobs (gross direct FTE jobs minus leakage and displacement plus multiplier effects) supported by the Falmouth Docks was estimated at 1,689 in 2009. The net additional number of FTE jobs (total net FTE jobs minus deadweight, or the number of jobs that would not have been created in the economy without the Port of Falmouth) within Cornwall was 895. Based on the GVA per job at the Docks the net total GVA was £82 million in 2009 (i.e. including supplier linkages and induced effects) – almost as much as the total Docks' turnover, and net additional GVA was £39 million.

Under the preferred option the net additional jobs were 3,273 and GVA £156.7m. These are the headline figures of the 2011 Masterplan. It is these figures that will be compared to the findings of this study. There is potential given the changing baseline that takes account of Masterplan projects that have been completed and the worsening economic climate since the 2011 Masterplan that the headline figures may be lower.

## **2.4 Penryn River Baseline**

CDC commissioned the Penryn River Study following consultation feedback that the 2011 Masterplan was too focused on the Docks. It was agreed that the wider marine related functions across the Port and Penryn River, as a whole should be considered as part of the POFDI.

### **2.4.1 Penryn River Study Objectives & Approach**

The Penryn River Study aims to:

- Support the 'activities' of the PoFDI by assessing the current level of marine and supply chain activity and the potential for economic growth of both this current supply chain and the wider marine related businesses and waterside activities;
- Establish the importance of maintaining a working Port in terms of the role it plays in supporting the local economy; and
- Support and link to the work of the Employment, Skills and Training Group and the Town Framework Plan work.

### **2.4.2 Penryn River Working Group**

As per Objective 1 in Figure 2.5 above a Working Group has been set up and includes representatives from a number of key organisations such as:

- Cornwall Council
- Cornwall Development Company
- A&P
- Falmouth Harbour Commissioners
- Pendennis Shipyard
- Falmouth Town Forum
- Cornwall Marine Network

### 2.4.3 Penryn River Baseline Information

A key outcome of the work undertaken by CDC is the series of maps that have been produced to present the outcomes of the data collection stage (as per Objective 5). These maps are reproduced at **Appendix 3** and include:

- Map 1: Location Map
- Map 2: Companies to be surveyed (Map 2a and 2b)
- Map 3: Marine Activities
- Map 4: Key Ownerships
- Map 5 : Environmental and Conservation Designations
- Map 6: Designation and Zoning Visualisation
- Map 7: Maritime Activity Zones Visualisation

URS address relevant elements of the Stage 2 objectives throughout this report. Much of this work is based on and informed by the Stage 1 baseline information presented on the above maps.

### 2.5 Planning Policy Context

This section presents the key changes to relevant planning policy and strategy that have occurred since the completion of The Port of Falmouth Masterplan 2011 and covers the wider planning and economic policy issues for the Port of Falmouth and Penryn River.

Key changes to the relevant planning policy framework since the 2011 Masterplan include the following:

#### ***National***

- Amendments made to Permitted Development Rights
- Amendments made to the Environmental Impact Assessment Regulations
- Adoption of the National Planning Policy Framework in March 2012
- Adoption of the National Policy Statement for Ports in January 2012
- Adoption of the Marine Policy Statement in 2011

#### ***Regional***

- Revocation of Regional Planning Guidance for the South West (RPG10) and the Cornwall Structure Plan in May 2013
- Economic Growth Strategy for Cornwall and Isles of Scilly 2012-2020

#### ***Local***

- Advancement of the Cornwall Local Development Framework
- Adoption of the Cornwall Maritime Strategy

These key changes are discussed below:

### 2.5.1 Environmental Impacts Assessment Regulations 2011

New regulations regarding Environmental Impact Assessment were published in 2011. These regulations sought to consolidate previously amended Regulations. This consolidation was in part brought about by two court cases where changes were necessary to correctly transpose the EIA Directive into UK legislation.

### 2.5.2 The National Planning Policy Framework, March 2012

Effective as of March 2012 the National Planning Policy Framework (NPPF) condenses planning policy statements (PPSs) into a single planning framework with the intention of making the planning system less complex and more accessible.

The NPPF describes the Government's vision for building a strong, competitive economy. A competitive economy requires a planning system which operates to encourage (and not impede) sustainable growth, and the NPPF places weight on the need to support economic growth through the planning system. As such planning policies should recognise and seek to address potential barriers to investment.

The NPPF provides guidance for local planning authorities, when drawing up Local Plans, who should:

- Set out a clear economic vision and strategy for their area which positively and proactively encourages sustainable economic growth;
- Set criteria, or identify strategic sites, for local and inward investment to match the strategy and to meet anticipated needs over the plan period;
- Support existing business sectors, taking account of whether they are expanding or contracting and, where possible, identify and plan for new or emerging sectors likely to locate in their area. Policies should be flexible enough to accommodate needs not anticipated in the plan and to allow a rapid response to changes in economic circumstances;
- Plan positively for the location, promotion and expansion of clusters or networks of knowledge driven, creative or high technology industries; Identify priority areas for economic regeneration, infrastructure provision and environmental enhancement; and facilitate flexible working practices such as the integration of residential and commercial uses within the same unit.

### 2.5.3 National Policy Statement for Ports, January 2012

The National Policy Statement for Ports published by the Department of Transport in January 2012. The policy statement is part of the planning system established under the 2008 Act to deal with nationally significant infrastructure proposals.

This statement is part of the planning system established under the Planning Act 2008 to deal with nationally significant infrastructure proposals. It is a National Policy Statement (NPS) and provides the framework for decisions on proposals for new port development. It is also a relevant consideration for the Marine Management Organisation, established in the Marine and Coastal Access Act 2009, which decides other port development proposals, and for local planning authorities where they have a role to play in decision making.

Within this NPS the Government sets out a number of policies for the development of ports. In summary, the Government seeks to:

- encourage sustainable port development to cater for long-term forecast growth in volumes of imports and exports by sea with a competitive and efficient port industry capable of meeting the needs of importers and exporters cost effectively and in a timely manner, thus contributing to long-term economic growth and prosperity;

- allow judgments about when and where new developments might be proposed to be made on the basis of commercial factors by the port industry or port developers operating within a free market environment; and
- ensure all proposed developments satisfy the relevant legal, environmental and social constraints and objectives, including those in the relevant European Directives and corresponding national regulations.

The Government also confirms that wherever possible it wishes to see port development as an engine for economic growth, supporting sustainable transport and supporting sustainable development through the provision of additional capacity for the development of renewable energy.

#### 2.5.4 **Marine Policy Statement, 2011**

The Marine Management Organisation (MMO) Marine Policy Statement (MPS) is the framework for preparing Marine Plans and taking decisions affecting the marine environment. It will contribute to the achievement of sustainable development in the United Kingdom marine area. It has been prepared and adopted for the purposes of Section 44 of the Marine and Coastal Access Act 2009.

The MPS will facilitate and support the formulation of Marine Plans. Cornwall sits within the South West England inshore plan area which is in turn enveloped by the South West offshore plan area. The MPS' aims are to ensure that marine resources are used in a sustainable way in line with the high level marine objectives that seek to:

- *“Promote sustainable economic development;*
- *Enable the UK's move towards a low-carbon economy, in order to mitigate the causes of climate change and ocean acidification and adapt to their effects;*
- *Ensure a sustainable marine environment which promotes healthy, functioning marine ecosystems and protects marine habitats, species and our heritage assets; and*
- *Contribute to the societal benefits of the marine area, including the sustainable use of marine resources to address local social and economic issues”.*

Paragraphs 2.5.2 to 2.5.5 of the MPS are relevant for economic and social considerations.

#### 2.5.5 **Revocation of the Regional Strategy for the South West (RPG10) and the Cornwall Structure Plan (CSP)**

RPG10 and the CSP were revoked on the 20<sup>th</sup> May 2013 through enactment of the ‘*Regional Strategy for the South West Revocation Order 2013*’ (referred to herein as the Revocation Order 2013). This means that there is no longer a statutory regional or county planning policy tier in Cornwall.

#### 2.5.6 **Economic Growth Strategy for Cornwall and Isles of Scilly 2012-2020**

The Cornwall and Isles of Scilly Local Enterprise Partnership (LEP) released an Economic Growth Strategy in June 2012 which covers the period up to 2020. Sustainable development lies at the heart of this strategy, as well as ensuring that Cornwall's bedrock industries, such as food, farming and tourism, remain leading industries in the 21st Century, whilst taking advantage of new technologies and new market opportunities.

The strategy outlines the following overall targets:

- *‘By 2020, Cornwall and the Isles of Scilly's GDP per head will be above the 75% average for the European Union;*
- *By 2020 Cornwall and the Isles of Scilly will have exceeded the expected growth, in terms of GVA of the overall Cornwall and Isles of Scilly economy by an additional £338 million; per person employed this will be an additional £1,450 per annum’.*

### 2.5.7 Funding Opportunities

Cornwall will have access to a new round of European structural and investment funding (2014 – 2020 Convergence Programme). They have also recently received around £50million through the Local Growth Fund.

### 2.5.8 Cornwall Local Plan: Strategic Policies

The Cornwall Local Plan: Strategic Policies Submission Version was published in early 2013 by Cornwall Council for a final round of consultation before submission to the Secretary of State and examination in public.

Policy 2 –‘Key Targets and Spatial Strategy’ sets the following aims:

- *‘Improve conditions for business and investment providing for an overall increase of jobs supporting the provision of better paid full time employment opportunities to drive an increase in the Gross Domestic Product to rise above 75% of the EUs average..*
- *Deliver renewable and low carbon energies, increase energy efficiency and minimise resource consumption through a range of onshore renewable/low carbon technologies.*
- *Positively manage new development in Cornwall through:*
  - a. High quality design demonstrating a cultural, physical and aesthetic understanding of its location;
  - b. The protection and enhancement of environmental assets, including mitigation of unavoidable adverse effects, appropriate and proportional to their value; and
  - c. Wherever possible, adaptation of the development and environmental assets to climate change.
- *Maintain the special character of Cornwall, recognising all landscapes are important, in order to;*
  - a. Promote and enhance the special qualities that make up the diverse and locally distinctive landscapes of Cornwall;
  - b. Identify the value and sensitivity off all landscapes, understanding what is important to the character to allow them to be protected, enhanced and conserved;
  - c. Create resilient landscapes and sensitively accommodate investment and growth within Cornwall’s unique landscape qualities, ensuring people continue to be drawn to Cornwall to visit and for a thriving healthy population to live and work;
  - d. Protect the natural beauty of the AONB and undeveloped coast.
- *Re-enforce the spatial strategy of a continued dispersed development pattern providing homes and jobs, in a proportional manner*
- *Providing for marine businesses and maximise the economic growth in Falmouth’.*

Policy 3 ‘Roles and Functions of places’ identifies Falmouth with Penryn as one of the places where *‘larger scale community, cultural, leisure, retail, utility, employment and residential development will be accommodated’.*

The plan seeks to provide a positive policy framework, which supports jobs, business and investment with a focus on sustaining a range of local businesses. Proposals should support and protect the sustainability and expansion of existing businesses and the growth of new sectors to strengthen the economy particularly where this provides full time jobs and, wherever possible, leads to a rise in the average wage in Cornwall. The plan provides policies to support the Cornwall and Isles of Scilly Local Enterprise Partnership. Tourism is recognised as *‘a major element of the economic, social and environmental well-being of Cornwall’*, generating significant revenues, provides thousands of jobs and supports communities.

The plan also outlines that *‘realising the development potential of Cornwall’s maritime sector will be critical to the region’s future and long term prosperity’.* Cornwall’s marine sector

accounts for almost one in seven of the UK's marine jobs and 8% of the UK's marine industry turnover. Overall it is estimated that Cornwall's marine industry sector contributes more than £130M to the gross domestic product of Cornwall, supporting 14,000 jobs.

Policy 5 'Jobs and Skills' outlines that to stimulate new jobs and economic growth development proposals will be supported where they contribute to any of the following:

- *'The enhancement of the quality and range of tourism facilities through the provision of high quality sustainable tourism facilities, attractions, accommodation and the upgrading of existing facilities in sustainable locations.'*
- *'Support growth in the marine sector in ports and harbours ensuring marine related employment, leisure and community sites are protected from alternative uses that do not require water side locations.'*

Existing and potential strategic employment land and buildings along with sites considered locally important will be safeguarded. In all other cases existing employment land and buildings will be safeguarded where they are viable. Such land and buildings will only be considered for alternative uses where this does not result in the loss of economic performance i.e. through the redevelopment for a mix of uses.

Policy 15 'Renewable and Low Carbon Strategy' aims to increase use and production of renewable and low carbon energy generation. In addition, the LDF includes spatial policies for each of the 17 community network areas composing Cornwall Council. Relevant specific objectives to be addressed in planning for the Falmouth and Penryn Community Network Area (Policy PP5) include:

- Objective 2 – 'Employment': Encourage employment opportunities, particularly in relation to the universities, Falmouth Docks / Port of Falmouth, maritime assets, infrastructure, leisure and tourism.
- Objective 7 – 'Economic Development, Environment and Coast': Provide a strategic framework to balance economic development, maritime industries, access to the coast and protection of the environment, including respecting the natural environment within the towns and the rest of the community network area. Address the relationship between Falmouth and Penryn, and around the villages within the community network area, to preserve their separate identities.

Strategic growth opportunities revolve primarily around Falmouth, the wider port and the docks, which are anticipated to deliver significant employment growth surrounding employment and industry within the marine environment. This strategic growth would be supported by other employment opportunities around the urban extensions, including regeneration and expansion of existing employment areas. Economic ambitions for Falmouth and Cornwall as a whole relate to the universities at Tremough and Falmouth, as key economic drivers.

### 2.5.9 Cornwall Maritime Strategy, May 2012

Cornwall Council has adopted this Maritime Strategy to guide the development of policy and programmes across its operations and in its work with other organisations, stakeholders and the community. It covers the period 2012-2030 and was adopted by Cornwall Council on 9 May 2012. As an adopted strategy it is a material consideration for planning matters.

The strategy's vision include for Cornwall's economy to be *'supported by a diverse range of opportunities for ports, marine-related industries, transport and businesses including environmental technologies'*.

The strategy includes a number of objectives including 'To recognise, protect and further develop the 'working harbour' role of Cornwall's estuaries, ports and harbours'. This includes:

- *'Consider the strengths, issues and opportunities in relation to Cornwall's ports and harbours to gain a better understanding of their roles.'*

- *Future-proof maritime areas for maritime related business and community uses through protecting waterfront land in urban environments and ensuring that port infrastructure and waterfront locations are at the heart of regeneration schemes.*
- *Protect and develop port infrastructure where it is sustainable and economically viable to do so, so that they continue to be an important part of modern and future maritime Cornwall.*
- *Work towards more coordinated management of and advocacy for ports and harbours, to encourage further economic development whilst balancing the operational, leisure and environmental uses. Where appropriate, promote port development that facilitates the expansion of other economic activities, including renewable energy, leisure, fishing, freight handling, ship repair, yacht and boat construction.*
- *Ensure that ports and the coast accommodate the promotion of leisure/ recreational activities and coastal access without adverse effects on economic activity and environmental quality. Maximise the opportunities for supporting and promoting sustainable local fisheries and aquaculture; including the provision of shore side facilities for handling and processing landings.*
- *Promote the role of Cornwall's large and small ports and harbours in creating job and business opportunities for the development of the marine energy industry, its supply chain, technology development, manufacture and maintenance'.*

#### 2.5.10 Summary of Context

Since the 2011 Masterplan was produced there have been significant changes to the national and local planning framework and the socio-economic context. The Coalition Government has enacted a range of new planning policy measures. These include; rationalising planning policy statements into a single NPPF; abolition of regional planning, and development of the marine planning framework.

In the local context Cornwall Council has produced new policy, including; the Cornwall Local Plan; Cornwall Maritime Strategy and Cornwall Economic Growth Strategy. These aim to boost local employment opportunities, encourage greater sustainability and in particular to build on and enhance the local maritime economy as a means of boosting the wider Cornwall local economy. In conclusion it is apparent that both national and local planning policy increasingly emphasise the importance of pursuing interventions, planning decisions and policies that will lead to sustainable economic growth.

The other key change since the 2011 Masterplan is the length and depth of the national and global economic downturn. Although at the time of writing the economy appears to be showing signs of recovery the assessment of Falmouth and Penryn's socio-economic structure shows that the local economy and employment contracted significantly since the 2011 Masterplan. All of this contextual evidence arguably demonstrates an increased need for the additional employment and expansion of the local maritime economy identified in the 2011 Masterplan. The remainder of the study will assess in more detail what has changed in terms of demand for particular maritime sectors, which Masterplan projects are still relevant and whether new opportunities have arisen. It will then quantify the likely economic impacts of the 2011 Masterplan within this new context.

## **3 CONSULTATION EXERCISE**

### **3.1 Introduction**

This section describes the consultation process that was undertaken as part of the evidence gathering process for the study. This includes the following main elements:

- Supply chain companies consultation
- Port of Falmouth main occupiers consultation
- Marine and leisure companies consultation

### **3.2 Port of Falmouth and Penryn River Supply Chain companies consulted**

CDC identified 81 businesses to take part in the consultation exercise. These companies were identified as part of the Penryn River Study Stage 1. These businesses were shortlisted following a comprehensive process of data collection and consultation undertaken by CDC. This process included analysing the financial records of the main POF businesses such as A&P, Pendennis Shipyard and Falmouth Petroleum to assess which companies formed the POF supply chain. The list includes businesses representing approximately 80% of the value of supply chain orders in the POF. The work established a picture of the Falmouth/Penryn supply chain that URS have been able to build upon in this study.

### **3.3 Supply Chain Survey**

#### **3.3.1 Consultation Methodology**

The objective of the consultation exercise was to gather primary evidence on current and expected maritime business activity in POF and Penryn River. Gaining primary evidence from businesses involved in the local maritime sector allows robust and locally tailored conclusions to be drawn on potential future demand and economic impacts of the POF Masterplan. See Appendix 2 for the questionnaires sent to consultees. At CDC request, questionnaires were based on the 2011 Masterplan questionnaire to provide some consistency between the studies.

Initial contact with the 81 businesses was made between July 2013 and September 2013. Regard was had to business operational hours, where relevant. The initial contact made in July 2013 was by telephone to obtain email addresses to send the survey questionnaire to and to present the aims of the study to businesses. For those businesses that couldn't be reached the questionnaire was sent by post.

Following the sending of the questionnaire in late July 2013, follow-up calls were made in early August 2013. Messages were left where consultees were unavailable (where possible) and further calls following this were made as necessary.

A reminder email was subsequently sent to businesses who had not participated in late August 2013 along with another round of follow up calls and emails in September 2013 and December 2013 respectively.

A "final push" to ensure the highest possible response was undertaken in January 2014, consisting of a further email and follow up telephone calls as necessary. Every business that had not yet responded was invited to arrange a time to complete the questionnaire over the phone with a representative from URS at a time convenient for them.

A log was kept of all correspondence which was updated after each call or email was sent. Respondents were assured that all information received was treated in the strictest confidence and is untraceable to consultees. Due to the commercially sensitive nature of the information provided and assurances made to all participants, the consultation log is confidential.

### 3.3.2 Initial Consultation Outcomes

It was necessary during the consultation to amend the consultee list provided by CDC because some of the businesses appeared to have ceased trading or were no longer considered to be part of the supply chain. For example, they had not traded with companies in the Port since the initial financial data was gathered as part of the Penryn River Study Stage 1. Of the businesses that contacted the following were excluded:

- 7 appeared to have ceased trading completely
- 12 were no longer considered to be part of the local maritime sector<sup>6</sup>

A total of 3 additional companies were identified as being part of the local marine industry supply chain. These companies were added to the list.

For the purpose of this EIA the 19 companies that were no longer deemed relevant (i.e. had ceased trading or were no longer considered to be part of the supply chain) were discounted from the consultee list. Taking into account the 3 additional businesses to be added, this reduced the overall sample size to a total of 65 businesses which is the most up-to-date picture of the POF and Penryn River area maritime supply chain network.

#### Consultation Response

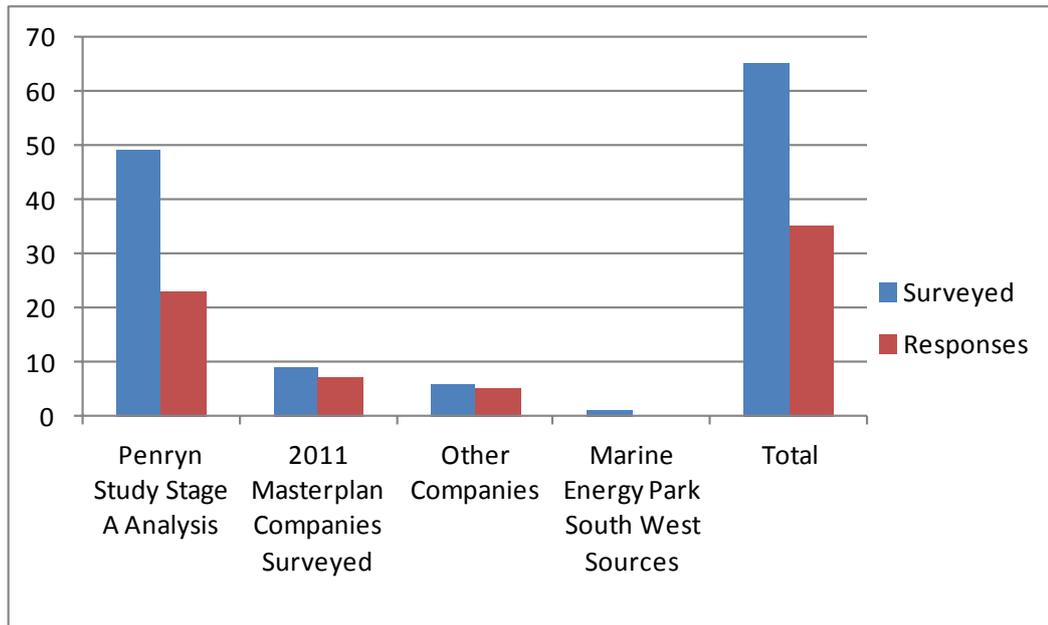
The results of the survey show that of the 65 businesses surveyed a total of 54 % (35 businesses) responded. The target consultation response threshold prior to starting the study was 50%. It was considered that around 50% would represent a reasonable sample given the expected difficulties achieving feedback from companies that had previously been contacted several times and thus were likely to be suffering 'consultation fatigue' and the fact that the summer months are the busiest time of the year for most marine companies.

Tasking account of companies that have ceased trading (7) approximately 78% of the businesses that were originally surveyed as part of the 2011 Masterplan Study and remain part of the supply chain responded. Both figures are above the percentage response of 50% that was agreed with CDC to be a robust response rate.

Further information is provided in **Figure 3.1**. This includes the source of the companies surveyed.

<sup>6</sup> Some businesses identified themselves as not having recently traded with any maritime company within the study area and accordingly discounted themselves from the need to be included in the survey. Certain companies were also discounted by the Penryn River Working Group based on their up-to-date understanding of the maritime supply chain.

**Figure 3.1: Supply Chain Companies Surveyed and Responses by Source**



### 3.4 Port of Falmouth Consultation

URS organised face-to-face meetings in September 2013 with the key stakeholders in the Port of Falmouth to discuss the market developments / business outlook since the Masterplan was completed, and the on-going relevance of the Masterplan to achieving the growth objectives of major businesses within the port.

The companies consulted include:

- A&P
- Pendennis
- Falmouth Petroleum Ltd
- Falmouth Harbour Commissioners
- KML ( Falmouth Wharf occupier)

The questions asked include the following (also see Appendix 2 for full questionnaire):

- Background / structure of the current CDC Study on Falmouth / Penryn River
- Performance of Falmouth Port since Masterplan was completed - any data you can provide in relation to:- (a) number of vessel calls by sector; (b) turnover (by sector); (c) marina use / occupancy / waiting lists
- Key developments undertaken since Masterplan was completed - major capital expenditures, new activities in harbour area etc
- Views on future growth opportunities / details of confirmed investment plans to support these opportunities
- Discussion regarding the on-going need for the projects outlined in the Masterplan

- Linkages with Penryn river area - including (a) competition between port and other wharves / marinas in the study area; (b) importance of supply chain in Penryn River area in supporting port businesses

### **3.5 Marine Leisure Survey**

#### **Consultation Methodology**

The Penryn River Working Group identified 9 businesses within the supply chain that specifically operated within the marine leisure sector. Accordingly, URS were requested to ask these businesses a number of additional leisure based questions that focused on estimated growth, opportunities and constraints.

URS asked these questions in the form of a separate questionnaire that was emailed to the 9 businesses on the 30<sup>th</sup> October 2013. Follow up emails and calls were sent/made between September 2013 and January 2014. Despite significant efforts to encourage the consultees to respond only two businesses responded to this questionnaire.

### **3.6 Limitation of Surveys**

Significant effort was put into engaging supply chain companies and encouraging them to take part in the study. Every consultee was contacted at least three times via telephone and/or email. Some companies were sent letters by post if there was no response by either email or phone. Internet research was performed to find company contact details if they appeared to be different to those provided by CDC.

Part of the reason it was difficult to get immediate responses was that there was an element of 'consultation fatigue' from many consultees who took part in the previous study and were unsure whether progress was being made. Emphasis was made on how consultees input was important to help develop a robust evidence base to establish a baseline and to test the potential economic impacts of the proposed Masterplan projects.

The nature of the maritime firms involved meant that there are seasonal pressures making it harder to respond at certain times. The consultation exercise was started in the summer which was firm's busiest season. The follow up was around Christmas when most firms stopped working. Then in January and February 2014 the extreme weather events affected many companies.

### **3.7 Summary of Consultation**

Although circumstances made it difficult to achieve a very high proportion of consultation responses the consultation exercise was ultimately successful in achieving an adequate response rate. The detailed information provided allows robust conclusions to be made. The majority of companies contacted responded to the questionnaire. 78% of the companies contacted in the 2011 Masterplan that are still trading responding. Overall a 54% response rate was achieved for the wider supply chain.

## 4 FALMOUTH AND PENRYN RIVER DEMAND ASSESSMENT

### 4.1 Introduction

This section of the report provides an updated baseline and revised demand assessments for each maritime sector. It also analyses the 2011 Masterplan projects, whether they have started and which projects are still proposed to proceed. The demand assessment is based on desk based research, professional judgment and the results of the consultation exercise as explained in the previous section. The revised demand assessment and understanding of the current and future status of Masterplan projects feeds into the updated Economic Impact Assessment.

The baseline demand assessment within the 2011 Masterplan is primarily based upon 2008/09 data, the updated baseline will be based as far as possible on 2012 performance, with YTD 2013 data presented where available.

### 4.2 Overview of Previous Studies

#### Masterplan

The 2011 Masterplan identified the following current / potential port activities:-

- Shiprepair
- Bunkering
- Super yacht building and refit
- Coastal shipment and transshipment
- Marine renewable energy
- Cruise sector
- Fishing
- Marina and leisure boating
- Commercial development
- R&D and business incubation for marine and renewable energy sectors
- Port related events

The Masterplan provided a primarily qualitative assessment of the future development of demand for each of the identified sectors, as summarised in **Table 4.1** below.

To allow a comparison between this updated EIA and the 2011 Masterplan EIA the above sectors are condensed into the same seven sectors used in the 2011 Masterplan. Where necessary the additional sectors are combined into the other docks businesses sector. The sectors used in the updated EIA (chapter 6) are as follows:

- Ship Repairs
- Super yachts
- Bunkering
- Cargo
- Other docks businesses

- Cruise
- Marina
- Additional employment space
- Construction

**Table 4.1 Summary of 2011 Masterplan Demand Outlook by Sector**

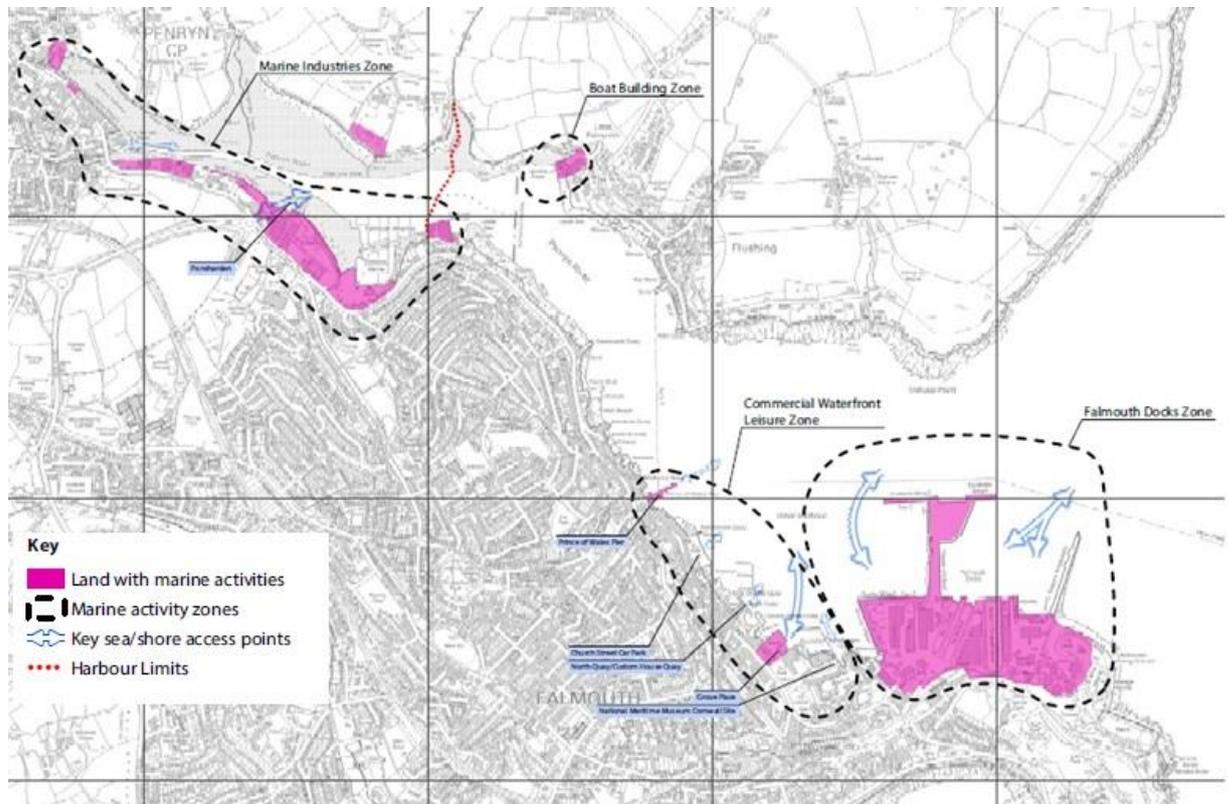
Sector	Outlook
Shiprepair	Maintenance of current business, and any future growth, reliant on dredging and repairs / refurbishment of current infrastructure
Bunkering	Growth opportunities identified as follows:- <ul style="list-style-type: none"> <li>▪ Opportunities relating to ECA regulation which is increasing European demand for low-sulphur fuel</li> <li>▪ Increase in cruise vessel calls</li> <li>▪ Provision of additional value-added services</li> </ul>
Super yacht building and refit	Growth opportunities identified as follows:- <ul style="list-style-type: none"> <li>▪ Yachts &gt;70m – including annual maintenance and refit</li> <li>▪ Increased capacity at Pendennis enabling more business to be accepted</li> </ul> Short-term growth at Falmouth to exceed national average Medium/long-term growth in line with UK sector – forecast to be 10% pa
Coastal shipment and transshipment	No substantial growth in cargo volumes Limited scope to attract new cargo flows No scope in container transshipment Potential for increased activity in respect of animal feed transshipment – but seen to be a challenge due to competitive nature of ports market
Marine renewable energy	Best opportunities relate to wave and tidal energy projects Demand to support testing and development to 2020 Future demand may grow strongly if commercial deployment of technology from 2020 onwards occurs
Cruise sector	Forecasting difficult due to Falmouth’s current low level of activity <ul style="list-style-type: none"> <li>▪ “Do Nothing” scenario forecasts total annual cruise calls 54 / total annual passenger numbers 67,000 by 2030</li> <li>▪ “Investment” scenario forecasts total annual cruise calls 96 / total annual passenger numbers 193,000 by 2030, i.e. dredging enables larger average vessel size at the port</li> </ul>
Fishing	Further growth expected, supported by re-development of Western Wharf
Marina and leisure boating	Continued growth in demand over short-term (next 5-years) expected,

Sector	Outlook
Commercial development	<ul style="list-style-type: none"> <li>▪ Employment space sector: demand for “high-tech” and smaller units, demand linked to development of new marina</li> <li>▪ Residential sector: demand for student accommodation to meet demand from expanding CUC campus at Tremouth</li> <li>▪ Hotel sector: demand for corporate and tour coach / travel markets</li> </ul> <p>Commercial development needs could be met on sites outside of port estate.</p>
R&D and business incubation for marine and renewable energy sectors	Current facilities at docks sufficient to meet requirements until 2020
Port related events	Annual events support tourism businesses within the town

### Penryn River Assessment

Data provided to URS identified current marine activities undertaken within the Penryn River study area. This work formed part of the Penryn River Study Stage A as described at section 3 above. Further analysis of the economic activity by CDC has also provided an initial appraisal of the activity types within the area, which demonstrates some clustering of similar activities in and around specific locations – see Figure 4.1 and Map A2 in Appendix 1.

**Figure 4.1 Visualisation Map of Marine Activity Zones (potential opportunities)**



Source: CDC

The zones of opportunity identified in the Penryn River Study Stage One and shown in Figure 4.1 above are discussed in more detail at section 5.3 below. The growth potential of the key maritime sector opportunities relate to the findings of the demand assessment in this chapter and the findings of the supply chain consultation exercise.

### 4.3 Combined Port and Penryn River Maritime Economic Activities

The initial appraisal of the existing studies, together with the stakeholder engagement, resulted in the identification of current / future economic activities to be considered within the combined Port and Penryn River demand assessment. These are summarised below in **Table 4.2**.

**Table 4.2 Port and related economic activities identified within the study area**

Sector	Area
Ship Repair and Marine Engineering	Port & Penryn River
Bunkering	Port
Superyacht building and refit	Port
Port Cargo Operations	Port
Cruise	Port
Marina and Leisure Boating	Penryn River
Fishing	Port & Penryn River
Marine Renewables	Port & Penryn River
Marine Support Services	Port & Penryn River
Other Uses	Port & Penryn River

The following sections provide an assessment of the recent performance and demand outlook for each of the port related economic activities. The output of the demand assessment will feed into the economic impact assessment model.

### 4.4 Shiprepair and Marine Engineering

The primary business active in this sector is A&P, located within the Falmouth Docks, but it is noted that there are a number of smaller marine engineering businesses located within the wider study area providing a range of repair services for smaller vessels and other related marine engineering services. A&P's ship repair business is at the largest employer within the commercial docks at Falmouth. The company undertakes a mix of naval ("grey") and commercial ship repairs.

#### Recent Performance

A&P Group was acquired in March 2011 with shareholders including Peel Ports Ltd, and Management Executive Director. Operations at Falmouth have continued uninterrupted under the new ownership.

Since the Masterplan was issued activity levels peaked in 2010, and then have declined slowly until Q3-2013, when a gap in contracted work for the [redacted] combined with a downturn in commercial contracts, has resulted in the company announcing 78 redundancies.

[redacted]

[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Overall the retention of a [redacted] contract [redacted] [redacted] has provided a more stable baseline workload for the yard, [redacted] [redacted] The naval sector offers further opportunities but A&P faces competition from the Royal Dockyards, as well as other commercial yards, for this work.

Within the commercial sector, the amount of work derived from ferry customers has declined significantly. A&P is disadvantaged by its location, as it is a relatively high deviation from the major short-sea routes in the eastern Channel and North Sea. The yard however continues to maintain strong relationships and obtains repeat business from a number of commercial customers including: [redacted] The trend towards larger vessels in all trades continues to be a concern, as the size of the market potentially available to the A&P Falmouth facility is declining as a result.



## Outlook

It is acknowledged in the 2011 Masterplan that forecasting ship repair activity at a single facility is difficult, due to the typically short-term nature of the business (i.e. majority of work is one-off contract award), and as such no definitive forecast is presented in either the Stage A or Masterplan report.

URS has taken the same approach, with its assessment of the future outlook for the sector based on a qualitative assessment, derived from combination of desk-based research and interviews with A&P.

The drivers of demand for ship repair vary according to the type of vessel under repair. A brief summary of demand drivers is provided below:

- **Naval vessels** - the overall naval repair market is seen to be influenced by the Government's defence strategy and spending plans, which determine the size and capability of the UK fleet. All vessels must undergo regular maintenance, with periodic refit / upgrade work undertaken to meet current requirements. A&P Falmouth can currently compete for only a small segment of the UK naval fleet due to the port's vessel size restrictions. It is also facing strong competition from the Royal Dockyards to undertake this type of work.
- **Commercial vessels** – all commercial vessels must undergo regular maintenance, with periodic refit / upgrade work undertaken to respond to market needs. The global market for ship repair is therefore linked strongly to the development and deployment of the global ship fleet, which in turn is linked to the global economy. The commercial repair market is highly competitive, with vessel owners having a multitude of choices. Due to its location and facilities A&P's Falmouth facility is able to market its services to a relatively small proportion of the global ship fleet – primarily smaller vessels that are trading in Europe.

**Table 4.4** provides a summary of the overall outlook for the shiprepair sector within the Port of Falmouth. This information feeds the EIA in chapter 6.

**Table 4.4 Summary Outlook for Ship Repair Activity in Port of Falmouth**

	Downside	Upside	Outlook
<b>Short Term</b> (to 2015)	<ul style="list-style-type: none"> <li>Gap in [redacted] contract resulting in redundancies in late 2013.</li> </ul>	<ul style="list-style-type: none"> <li>[redacted]</li> <li>Opportunity to bid for further naval work, but limited to smaller vessels.</li> </ul>	<ul style="list-style-type: none"> <li>2013/2014: decline in activity levels</li> <li>2015: recovery in activity levels [redacted]</li> </ul>
<b>Medium / Long Term</b> (2016->)	<u>Without Investment</u>  Stable	<u>With Investment</u>  Growth	<u>Without Investment:</u> <ul style="list-style-type: none"> <li>Stable/some decline<sup>7</sup></li> </ul> <u>With Investment</u> <ul style="list-style-type: none"> <li>Growth</li> </ul>

<sup>7</sup> A&P business likely to remain stable without channel dredging.

Table 4.5 provides an overview of the projects identified in the Masterplan as relevant to the ship repair sector, together with an assessment of the on-going requirement for the projects in the context of the recent performance of the sector and the updated demand outlook.

**Table 4.5 Assessment of On-going Requirement for Ship Repair Projects Identified in the Masterplan**

Masterplan Project	Progress	On-going Requirement	Business Impact
<u>Phase 1 Projects</u>			
1 - New crane adjacent to No. 2 Dock	Completed in 2011	n/a	Sustain existing operations / enhanced capability
3 – Dredging	Trial dredge undertaken in 2012/2013	Yes – to sustain existing business / facilitate growth in business	Increased market opportunities in commercial and naval sectors
9b – Workshop on Queens Wharf	Contingent upon Queens Wharf / Northern Wharf improvements	Yes – to facilitate growth in business	Enhanced capability
14 – New ship repair workshops	Contingent upon investment in dredging and other related MP projects	in the ship repair facilities is however only likely to be undertaken when the long-term future of the port is made more secure by completion of the proposed dredging	Increased capacity / enhanced capability
<u>Potential Future Projects</u>			
A – New ship repair workshops (Stage 2)	Contingent upon workshop upgrades undertaken during Phase 1	To be determined at a later stage	Increased capacity / enhanced capability

In summary the outlook for the ship repair sector in Falmouth is highly dependent on whether the investment programme and projects identified in the 2011 Master Plan are progressed.

#### 4.5 Bunkering

Bunkering activity remains a key activity in Falmouth. Fuel is imported from Amsterdam / Rotterdam / Antwerp and other Western European ports and supplied to vessels either at berth or at anchor in Falmouth Bay.

Falmouth is an attractive location for bunkering activity, offering a minimal deviation from the major shipping routes in the English Channel. Additionally its location at the western boundary of the English Channel / North Sea Emissions Control Area (ECA) requires vessel operators to switch to low sulphur fuel, and thus creates additional demand for bunkers.

##### Recent Performance

Bunkering activity within the port area is undertaken by Falmouth Petroleum Limited (FPL), owned by World Fuel Services, which acquired Falmouth Oil Services Limited in January 2010.

FPL’s turnover has shown strong increases in recent years, but this is largely a function of oil price, rather than a true indicator of activity. However, as detailed in Table 4.6 the gross profit and operating profit have declined as a result of:

- i. Increased competition within Falmouth – the entry of new operator Aegean into the market has impacted of FPL’s activities;
- ii. Reduced demand due to the introduction of the North American ECA and wider availability of low sulphur fuels, which has eroded Falmouth’s locational advantage

Turnover derived from landside activity, which is focused on agricultural and heating oil supplies to West Cornwall, has also declined.

**Table 4.6 Financial Performance of Falmouth Petroleum Limited**

Period	10 September 2009	1 January 2011	1 January 2012
	31 December 2010	31 December 2011	31 December 2012
Turnover	US\$ 203.73	US\$ 258.24	US\$ 298.07
<i>Turnover: Marine</i>	<i>US\$ 200.45</i>	<i>US\$ 257.82</i>	<i>US\$ 297.61</i>
<i>Turnover: Land</i>	<i>US\$ 3.28</i>	<i>US\$ 0.42</i>	<i>US\$ 0.46</i>
Operating Profit	US\$ 3.57	US\$ 1.40	(US\$ 1.67)
<i>Operating Profit Margin</i>	<i>1.8%</i>	<i>0.5%</i>	<i>(0.6%)</i>
Wages & Salaries <sup>1</sup>	US\$ 0.57	US\$ 0.61	US\$ 0.63
No. of employees	30	30	30

Notes: (1) excludes social security / pension costs

Source: FPL Company Accounts (2013)

Despite the weakening financial performance of the FPL business, there has been significant capital investments made in the facility under its new ownership, with a capital investment programme in the region of ██████████ in progress in the period 2012-15.

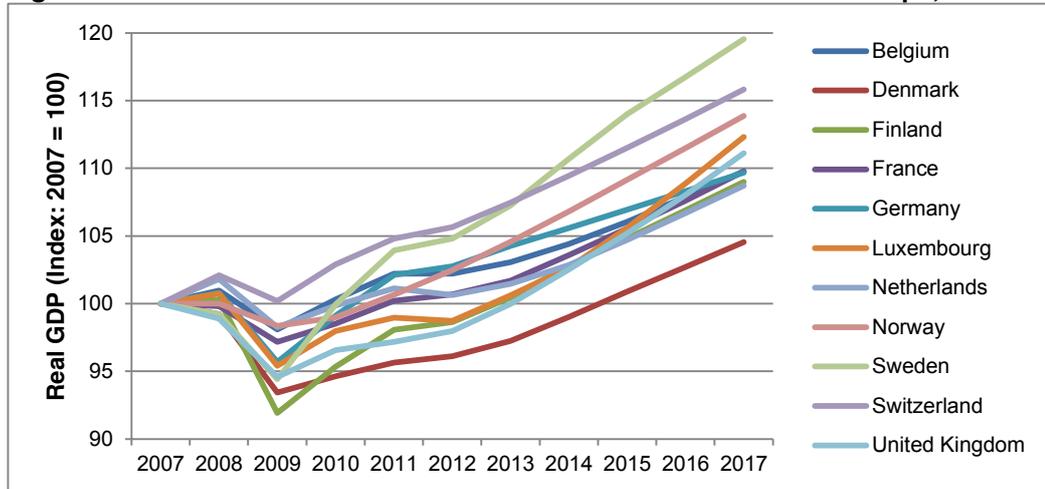
### Outlook

The bunkering market in Falmouth is highly competitive, with the port facing competition from overseas ports, and the landside operator facing competition from a new entrant undertaking ship-to-ship transfer within the Falmouth harbor area.

However Falmouth is identified as being strategically located in the Western Channel, and the port is therefore well positioned to attract “passing trade” – that is vessels with an origin / destination in North West Europe. The size of the potential market available to the port is therefore linked into the trading performance of the major North Western European economies, which having been impacted by the global recession are shortly expected to return

to sustained economic growth, albeit this is likely to be at lower levels than experienced in the early 2000s.

**Figure 4.3 Historic and Forecast Economic Growth in North West Europe, 2007-2017(f)**

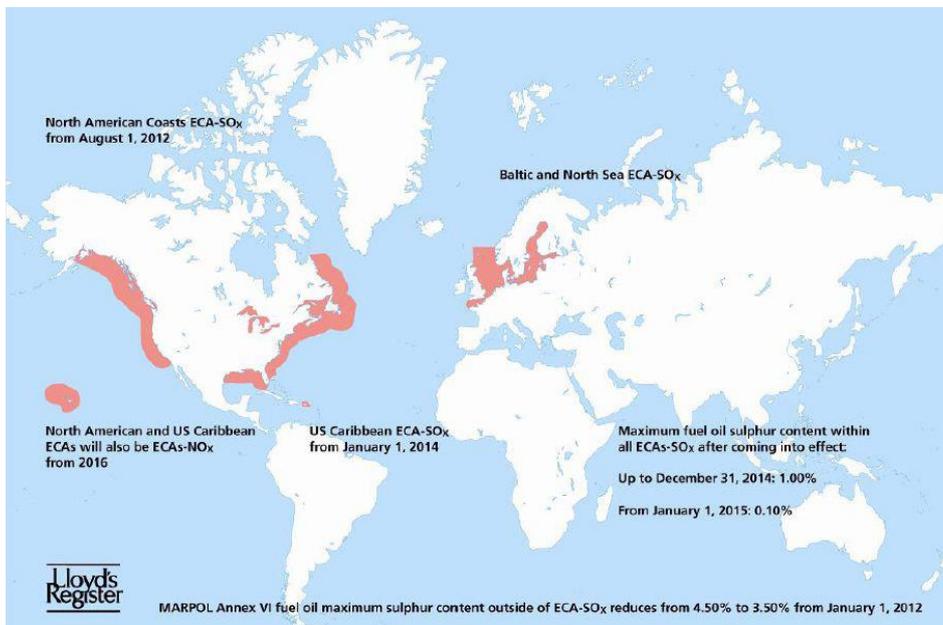


Source: IMF

Whilst the underlying driver for the Falmouth bunker market is linked to the strength of the European shipping market, which in turn tracks back to the state of the European economy, there are a number of other factors that more directly impact Falmouth’s competitive position for bunker activity:

- Location:** Falmouth is ideally located as a bunker port, offering minimal deviation from the main European shipping lane. Additionally its location at the western boundary of the English Channel Emission Control Area (ECA) provides the port with an additional advantage as vessels entering the zone are required to utilise lower sulphur fuels. However it has been noted that the introduction of the North American ECA (August 2012) has seen the Falmouth market decline as the availability of lower sulphur fuel and the likelihood of vessels having low sulphur bunkers have both increased. It is however identified that there is likely to be some further uplift in 2015 as further reduction in the sulphur content in ship fuel within ECAs are introduced. ECAs are shown in Figure 4.6 below. Tables 4.7 and 4.8 show dates of ECA implementation.

**Figure 4.4 Location of Emissions Control Areas**



Source: Lloyds Register

**Table 4.7 Emission Control Area as defined by MARPOL Annex VI: Prevention of air pollution by ships (Emission Control Areas)**

Area	Emissions under Control	In Effect From
Baltic Sea	SOx	19 <sup>th</sup> May 2006
North Sea	SOx	22 November 2007
North American	SOx, NOx, PM	1 <sup>st</sup> August 2012
United States Caribbean Sea	SOx, NOx, PM	1 <sup>st</sup> January 2014

Source: IMO

**Table 4.8 Timetable for Reduction in the Sulphur Content of Marine Fuels in Emissions Control Area**

	Inside SECA	Outside SECA
1 <sup>st</sup> July 2010	1.0%	
18 <sup>th</sup> June 2014		3.5%
1 <sup>st</sup> January 2015	0.1%	
1 <sup>st</sup> January 2020 or 1 <sup>st</sup> January 2025 (subject to review of fuel availability)		0.5%

Source: IMO

- Price competitiveness:** Falmouth’s competitive position is impacted by its price competitiveness – a function of bunker prices in the Antwerp-Rotterdam-Amsterdam from where both Falmouth operators source oil, and supply chain costs to transport oil to Falmouth and deliver to customers. Whilst the majority of costs are beyond the immediate control of the port and the bunker companies operating within it, it will continue to be important to maintain port dues for vessels calling for bunkers at a commercially attractive level.
- Added-value services:** in addition to bunker provision, complementary services such as supply of fresh water and waste reception can enhance the attractiveness of a bunker port. The proposed expansion of services at FPL to include a low flash slops reception facility would enhance the attractiveness of the port to potential users. Target customers would include vessels utilizing the neighbouring A&P ship repair sector.

**Table 4.9 Qualitative Assessment of Outlook for Shore-Based Bunkering Activity in Port of Falmouth**

	Downside	Upside
<b>Short Term</b>	<ul style="list-style-type: none"> <li>• Competition from Aegean providing ship-to-ship transfers (i.e. generating lower economic benefits for Falmouth / West Cornwall economy)</li> </ul>	<p><u>No Further Investment Required</u></p> <ul style="list-style-type: none"> <li>• Completion of current capex projects – improved / deeper water berthing facilities at Eastern Jetty</li> <li>• Further reduction in sulphur content of bunker fuels for vessels operating within EU ECAs</li> <li>• Recovery in European economy supporting recovery in European trade volumes / European shipping market</li> </ul>
<b>Medium / Long Term</b>	<ul style="list-style-type: none"> <li>• Continued growth in vessel size will see Petroleum reduced if dredging not</li> </ul>	<p><u>Further Investment Required</u></p> <ul style="list-style-type: none"> <li>• Dredging – the completion of the port dredging programme will enable larger / deeper drafted vessels to access Falmouth Petroleum’s jetty facility at all states of the tide</li> <li>• Low Flash Slops facility – the provision of a low flash slops reception facility would provide an additional service line and thus enhance Falmouth’s competitive position</li> </ul>

The provision of facilities to handle low flash slops, as identified in the Masterplan, remains a priority opportunity for FPL, however identifying a suitable location for the facility remains an obstacle – with the site identified in the Masterplan requiring decontamination. The estimated investment cost of £2.2m does not include the cost of site remediation, and there is no agreement as to the funding of this site remediation. There is also a cost of approximately £2.5m for a bespoke vessel to handle the material. The timing for this proposed project therefore remains uncertain.

**Table 4.10 Assessment of On-going Requirement for Projects Identified in the Masterplan**

Masterplan Project	Progress	On-going Requirement	Business Impact
<u>Phase 1 Projects</u>			
3. Dredging	Trial dredge undertaken 2012/2013	Yes - to facilitate growth in business	Enhanced capability
5. Relocated offices	Completed	-	Improved port layout / functionality
11. Upgrade of fuel tanks	Underway, due for completion April 2015	-	Sustain existing operations
15. Refurbish Eastern Jetty and Breakwater	Underway, due for completion Mid 2016	-	Sustain existing operations
12. New low flash slops facility	Planning application submitted Dec 2014	Low flash slops identified as a market segment offering good growth potential	Growth in business
<u>Potential Future Projects</u>			
J. Dredging of Eastern Jetty berth	Completed August 2014.	-	Enhanced capability

#### 4.6 Superyacht Building and Refit

The global superyacht market was impacted by the global recession, shifting from a sellers to a buyers' market. Whilst demand has held relatively firm at the upper-end of the market (70m+), there is excess supply in the small-medium size yacht segments.

Within the UK the value of the industry was reported to have fallen by 2% in 2011/12, which is interpreted as a delayed impact of the global economic crisis as order activity in previous years has weakened. Growth over the period 2007/08 to 2011/12 has however averaged 5.5% pa.

**Table 4.11 Value of UK Superyacht industry, 2007/08 – 2011/12**

	2007/08	2008/09	2009/10	2010/11	2011/12	CAGR
Value ( £m)	£357.60	£412.23	£424.55	£452.57	£442.58	5.5%
<i>Annual growth</i> %		15%	3%	7%	-2%	

Source: Superyacht UK 2012 Survey Results

In Falmouth Pendennis is making significant investment in its operations, and is planning to increase staff numbers in the short-term.

#### Recent Performance

Activity levels at Pendennis have increased steadily since the publication of the Masterplan, with the business reporting significant increases in turnover, despite significant challenges

caused by the global economic downturn. The strong order book secured before the global crisis enabled the company to continue to increase turnover and profit.

**Table 4.12 Financial Performance of Pendennis Shipyard Ltd (£m)**

	2008	2009	2010	2011	2012
Turnover	£ 23.47	£ 25.39	£ 26.16	£ 30.65	£ 31.83
<i>annual % increase</i>		8.2%	3.1%	17.2%	3.8%
Operating Profit	£ 0.34	£ 0.83	£ 1.21	£ 2.43	£ 2.37
Operating Profit Margin	1.5%	3.3%	4.6%	7.9%	7.4%
Wages & Salaries	£ 6.65	£ 7.06	£ 8.70	£ 9.21	£ 8.82
<i>annual % increase</i>		6.0%	23.3%	5.8%	-4.3%

Source: Pendennis Company Accounts

Pendennis is currently implementing a [redacted] investment programme to upgrade / expand its facilities and as a result expects to increase employment levels at the site.

**Outlook**

The UK super yachts market is seen to be recovering, but is not yet seen to be as buoyant as pre-crash levels. The UK market currently has excess capacity, making both new build and refit markets highly competitive, with resultant pressures on margins.

Pendennis continues to focus on building a strong brand with a focus on high quality craftsmanship. To support this the company plans to invest heavily in people and training, as well as in top-class facilities. Pendennis identifies the lack of availability of land for further expansion as a major constraint to further development of its business within Falmouth.

**Table 4.13 Qualitative Assessment of Superyacht Building & Refit Outlook**

	Downside	Upside
<b>Short Term</b>	<ul style="list-style-type: none"> <li>Disruption to yard activity during upgrade programme</li> <li>Lack of space to expand limits overall growth potential of the business – short term impact will be increased outsourcing – often to international company</li> </ul>	<ul style="list-style-type: none"> <li>Completion of current capex projects</li> <li>Successful completion of current high profile refits will have positive benefit on bookings</li> <li>Apprentice scheme is ensuring a supply of skilled labour</li> </ul>
<b>Medium / Long Term</b>	<ul style="list-style-type: none"> <li>Lack of space to expand limits overall growth potential of the business [redacted]</li> </ul>	<p><u>Without capital investment</u></p> <ul style="list-style-type: none"> <li>Increased strength of Pendennis brand in the global market place supports growth in demand, but expansion limited on current site</li> </ul> <p><u>With capital Investment</u></p> <ul style="list-style-type: none"> <li>Increased amount of work to be undertaken in-house at Falmouth, e.g. joinery</li> </ul>

**Table 4.14 Assessment of On-going Requirement for Projects Identified in the Masterplan**

Masterplan Project	Progress	On-going Requirement	Business Impact
<u>Phase 1 Projects</u>			
4. Remediation, capping and car park on former landfill site	None	Yes	Constrained growth
5. Superyacht workshops and bunkering offices	Completed	-	Optimise land-use within port
6. Superyacht dock basin and new pier	Underway	-	Growth of Pendennis activity within existing markets
10. Enlarged workshop facilities at No. 1 Dock	Obtained planning permission	Yes – but longer term	Business expansion into larger yacht market
<u>Potential Future Projects</u>			
C. Cliff-face multistory car park	None	Yes – parking remains an issue within the port estate	Permits expansion of Pendennis into areas currently used for car parking
E. New superyacht workshops	None	Yes – on hold until issues regarding remediation of landfill site / availability of site are resolved	Expansion of joinery workshops, will reduce outsourcing / increase employment on site

In the short-term Pendennis expect the current investment programme to result in increased capacity, in turn leading to increased turnover and employment. Total jobs at the site are projected to rise from current levels of approximately 320 staff to 375 staff by 2015 (i.e. FTE jobs plus apprentices). In respect of the projects identified in the Masterplan a number of key projects are currently being implemented, which is enabling Pendennis to optimize its operations on its current footprint.

In the longer-term growth will be constrained unless more land can be identified within the port estate for Pendennis operations. The lack of resolution over the remediation of the former landfill site is seen as a key constraint.

Whilst Pendennis will not directly benefit from major investments in the port such as dredging, the business identifies that securing the long-term future of Falmouth as a commercial / industrial port has significant benefit for its own activities. There are synergies with the ship repair activity in terms of supporting and developing an engineering skills base within the local workforce. Additionally the ability to continue to operate a manufacturing facility within the port is seen as enhanced due to the clustering of industrial / manufacturing activities in the port estate, whereby day-to-day operations do not impact on residential / leisure land uses.

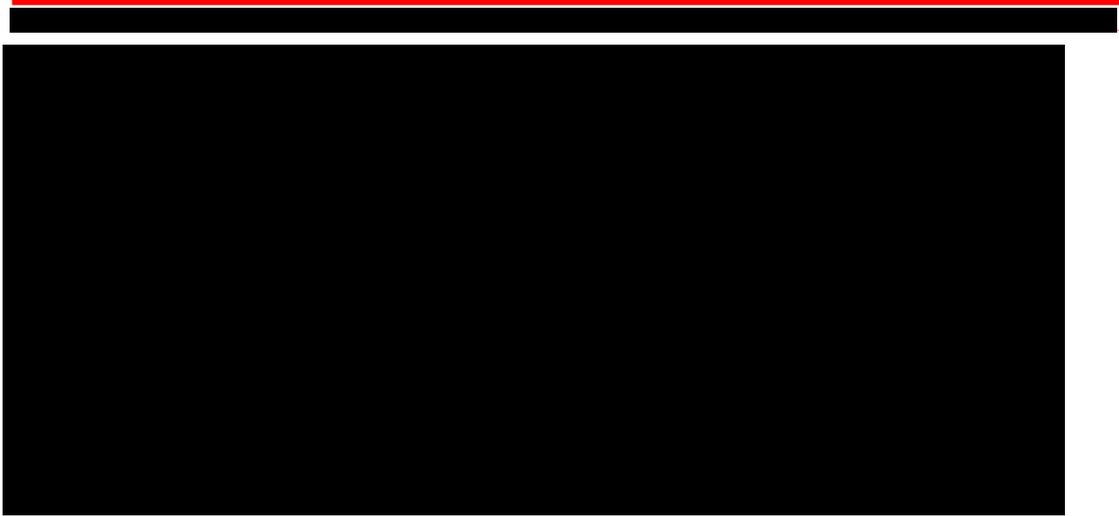
#### 4.7 Cargo Operations

Cargo operations within the port are undertaken by A&P. It was identified that Falmouth operates in a niche market, primarily serving its immediate hinterland (i.e. West Cornwall). The Masterplan identified this as a sector with only limited growth opportunities, and the

performance since 2009 has seen a shift away from agricultural commodities, with now only limited volumes of animal feed, recycled materials and biomass handled at the port.

### **Recent Performance**

Cargo volumes handled at the port have declined dramatically since 2009, with total throughput in 2012 being less than half that achieved in 2009. This is shown in Figure 4.7.



Import commodities have accounted for the majority of the decline in throughput, with large reductions in animal feed and fertilizer volumes. Falmouth has lost a number of major customers, with Cornish farmers now primarily served via the Port of Bristol for both animal feeds and fertilizers.

Within the fertilizer sector there has been on-going industry consolidation, and a rationalization of supply chains.

- Yara: Imports via Falmouth ceased in 2010. Yara operates a liquid storage and bagging facility at Avonmouth Docks in Bristol, which offers access to a larger hinterland market.
- Bunn Fertiliser Ltd: Bunn has been acquired by Koch, and operations at Falmouth have been wound-down in 2013, with the south-west market to be served via existing facilities in Avonmouth Docks.

Similarly there has been a reduction in animal feed imports, with the previous transshipment operations having ceased. Export volumes have remained more stable, with glass cullet accounting for the majority of throughput.

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

**Outlook**

Cargo volumes are seen as unlikely to increase significantly, with limited opportunities in the immediate hinterland. Table 4.15 provides a summary of the outlook for key commodities currently handled at Falmouth, together with potential new cargo flows.

Falmouth faces relatively limited competition - with Teignmouth and Plymouth best located to serve the Western Cornwall market. The port is however facing increasing competition from Bristol which can accommodate far larger vessels and therefore offer significant economies of scale to importers / exporters and offset the additional road transport costs.

Whilst geographically Falmouth is an attractive option for the West Cornwall market, especially as road links from alternative ports into the region are limited – but it is a small market which in recent years has not been sufficient to sustain direct shipments.

The majority of the projects identified in the Masterplan have limited direct benefit for the cargo operations which do not require deeper water. However it is important to consider the impact that growth in other sectors (cruise, ship repair) supported by dredging / berth upgrades will have on the cargo operations which will potentially need to be accommodated elsewhere in the port. The long-term viability of County / Duchy Wharf for port operations therefore should be considered in this context.

**Table 4.15 Qualitative assessment of outlook for cargo handling by commodity at Falmouth Docks**

Commodity	Outlook
<b><u>Current Commodities</u></b>	
Fertiliser	Cessation of business possible due to consolidation of importers in the UK market
Animal Feed	
Glass Cullet	Stable 
Coal	Stable at current low levels
Stone	Stable at current low levels
General / project cargo	Stable at current low levels
<b><u>Potential New Markets</u></b>	
Woodchips \ Biomass	Started in 2013 and volumes increasing, Export potential to European power producers
Refuse Derived Fuel (RDF)	
Grain	Some potential for exports of corn by local producers
Stone Imports	
Other	Potential future upside related to short sea shipping if Falmouth becomes a desirable port for logistics serving the local hinterland for a particular local

**Table 4.16 Assessment of On-going Requirement for Projects Identified in the Masterplan**

Masterplan Project	Progress	On-going Requirement	Business Impact
<u>Phase 1 Projects</u>			
3. Dredging	Trial dredge undertaken 2012/2013	-	Limited benefits for cargo operations
8. Queen's / Northern Wharf infill / extension	None, contingent upon dredging	-	Limited benefits for cargo operations
9a. Port Control offices	None, contingent upon dredging	-	Limited benefits for cargo operations
17. Installation of berthing dolphin	None	Not being considered while the County and Duchy Wharves remain operational.	Limited benefits for cargo operations
15. Refurbish Eastern Jetty and breakwater	Underway	Yes	Sustain existing business
<u>Potential Future Projects</u>			
H. Upgrade of County / Duchy Wharf area	none	To be determined – currently limited due to further reduction in cargo handling activity	Sustain current business

#### 4.8 Cruise Sector

The UK cruise market has overall remained buoyant despite the economic downturn, with sustained growth in passenger volumes. Falmouth has a small, but established, presence as a day-call port within the UK cruise market, but has not kept pace with the overall growth in the market in recent years.

The 2011 Masterplan identified the cruise sector as having the potential to achieve stronger growth on basis of investment in dredging, which would permit larger vessels to call at the port. The provision of a cruise terminal was not identified as a requirement as Falmouth was seen as having no potential to act as a turnaround port.

##### Recent Performance

The UK and Republic of Ireland cruise market has seen significant growth in the last few years, as shown in the table below. Whilst not experiencing the double-digit growth seen in 2006-2008, the overall UK cruise market has reported year-on-year growth despite the recession.

UK-based cruises are increasing the share of the overall UK cruise market, up from just over 30% in 2004 to almost 48% in 2012. This trend has been supported by investment in cruise facilities in many UK and Republic of Ireland ports.

The increase in cruise activity in the UK market has been reflected in an increasing number of UK ports receiving day-calls from cruise vessels. Since 2004 the number of ports handling day calls has increased from 42 to 52 ports in 2012, and passenger numbers more than doubled – up from 325,000 in 2004 to 723,000 in 2012, an average annual increase of 10.5%.

Table 4.19 details the development of cruise activity at the Port of Falmouth. Since the publication of the Masterplan in 2010 the port has seen a decline in calls and passenger numbers, in line with a decline in larger vessels calling at Falmouth due to operators actively seeking ports which do not require use of tenders for shore excursions.

It is therefore evident that Falmouth’s competitive position within the UK market has declined, with its share of the UK day-call market falling from 9% in 2005, to 3.5% in 2012. The average number of passengers per call has declined in recent years, and the maximum size of vessel handled at both the wharf and in the bay is also smaller in 2013 than in previous years – see Table 4.20.

**Table 4.17 UK and Republic of Ireland Cruise Market, thousands, 2004-2012**

Year	UK Cruise Passengers		UK Port Cruises		Fly Cruises	
	'000 pax	% growth	'000 pax	% share	'000 pax	% share
2004	1,029	6.7%	316	30.7%	713	69.3%
2005	1,071	4.1%	403	37.6%	668	62.4%
2006	1,204	12.4%	451	37.5%	753	62.5%
2007	1,335	11.3%	467	35.1%	867	64.9%
2008	1,477	10.2%	557	37.7%	920	62.3%
2009	1,533	3.8%	594	38.7%	939	61.3%
2010	1,622	5.8%	653	40.3%	969	59.7%
2011	1,700	4.8%	729	42.9%	971	57.1%
2012	1701	0.1%	807	47.6%	894	52.4%

Source: PSA Cruise Review, February 2013

**Table 4.18 UK Port of Call Cruise Market, 2004-2012**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	CAGR 2004 12
Passengers ('000)	325	322	382	365	420	448	563	651	723	10.5%
		-0.9%	18.6%	-4.5%	15.1%	6.7%	25.7%	15.6%	11.1%	
Number of Ports Receiving Day-Calls	42	44	50	46	38	43	48	50	52	2.7%
Cruise Ships	76	85	85	91	101	92	118	107	105	4.1%
Cruise Lines	42	48	50	52	53	49	53	50	47	1.4%

Source: PSA / IRN Research

**Table 4.19 Port of Falmouth - Cruise Sector Activity, 2005-2013**

	2005	2010	2011	2012	2013	2014	2015
Vessel Calls	40	32	33	34	36	23	26
Annual change %			3.1%	3.0%	5.9%	-36.1%	13.0%
Passengers	29,600	27,040	20,340	25,385	21,889	12,417	14,295*
Annual change %			-24.8%	24.8%	-13.8%	-43.3%	15.2%

Note: \* passenger number estimated based on 85% of vessel capacity

Source: Port of Falmouth Masterplan / Falmouth Harbour Commissioners / A&P

**Table 4.20 Average and Maximum Cruise Vessel Size at Falmouth, 2011-2013**

	2011	2012	2013	2014	2015e
Average passengers per call	616	747	608	540	550*
Largest vessel moored at wharf (name / passenger numbers)	Maasdam / 1,266	Marina / 1,258	Artania / 1,188	AIDACara / 1,310	Balmoral / 1,800
Largest vessel moored in Bay (name / passenger numbers)	Grand Princess / 3,114	Emerald Princess / Caribbean Princess / 3,114	Emerald Princess / 2,672	Artania / 1,050	Norwegian Star / 2,300

Note: \* passenger number estimated based on 85% of vessel capacity

Source: Falmouth Harbour Commissioners

### Outlook

Falmouth and the surrounding area offer a variety of high quality attractions for visiting cruise passengers, and faces no strong local port competition. However despite the attractions Falmouth must compete within the wider UK market to ensure it (and therefore Cornwall) is included within the relevant cruise itineraries.

Discussions with both A&P and FHC indicate that dredging remains the key obstacle to achieving further growth in the cruise sector. Cruise operators calling in the UK market are increasingly planning itineraries around ports with adequate alongside berthing, i.e. actively avoiding ports which rely on tenders to transfer passengers between ship and shore. This strategic decision places Falmouth at a competitive disadvantage. There have been several occasions in recent years where booked calls have been abandoned at short notice due to poor weather resulting in sea conditions being too rough to tender passengers in from the bay.

- There is a continued trend towards larger vessels within the cruise market – the current book is summarized in

Table 4.21, with the average vessel due for delivery between 2012 and 2016 having in excess of 2,800 berths. Falmouth is therefore predicted to remain at a competitive disadvantage due to the limitations on the size of the vessel it can handle at the alongside berths.

**Table 4.21 Cruise Order Book, 2012-16**

	No. of Vessels	Berths	Average Berths
<b>2012</b>	7	19,168	2,738
<b>2013</b>	6	14,050	2,342
<b>2014</b>	6	18,898	3,150
<b>2015</b>	4	11,959	2,990
<b>2016</b>	1	3,250	3,250

Source: European Cruise Council

Figure 4.8 provides a comparison of the recent performance of the cruise sector in terms of passenger numbers / cruise vessel calls against the projections detailed in the Masterplan. Assuming a steady growth trajectory it is evident that in terms of passenger numbers the port is significantly behind the 2015 forecast detailed in the Masterplan (i.e. 2014 passenger numbers reported at 12,417 vs. range 35-45,000 passengers forecast in 2015), and in respect of vessel calls (i.e. 2014 calls reported at 23, 2015 bookings total 26 vs. range 37-45 calls forecast in 2015). This confirms that Falmouth is currently attracting fewer and smaller vessels than assumed in the Masterplan.

Table 4.22 provides a summary assessment of the outlook for the cruise sector at the Port of Falmouth. This is strongly aligned with the assessment in the 2011 Masterplan which identifies that channel and berth depth is expected to be an increasing constraint to achieving growth in this sector.

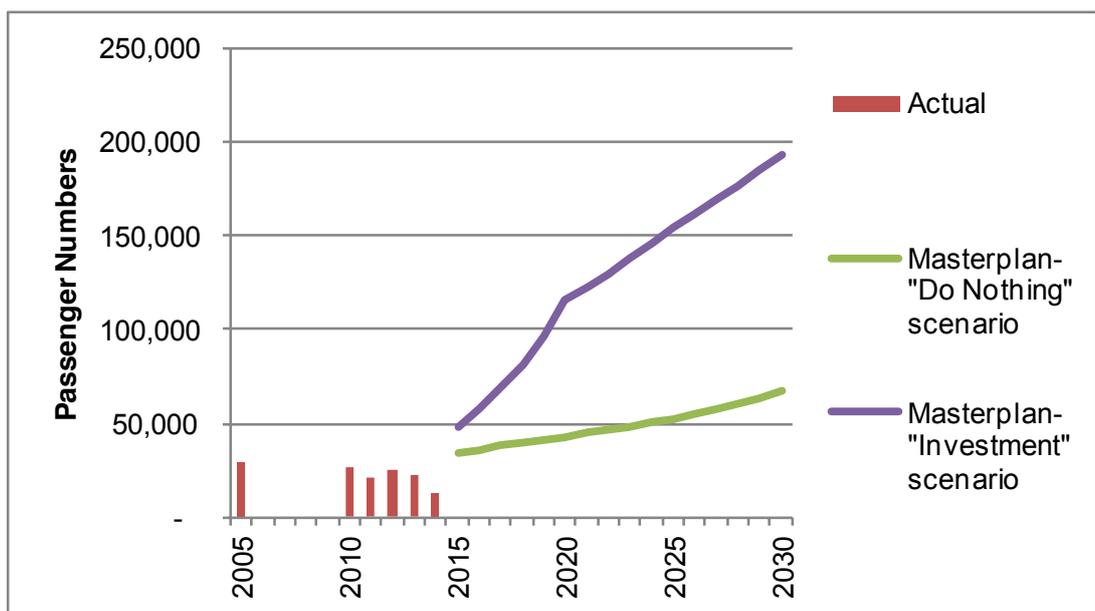
The recent performance in the sector would indicate that until dredging and the associated berth upgrades are undertaken then further growth in passenger numbers is seen to be unlikely, and there is evidence from cruise activity / bookings for the period 2014-2016 that cruise activity is now in decline, i.e. both passenger numbers and vessel numbers are significantly below the performance projected in the Masterplan “Do Nothing” scenario.

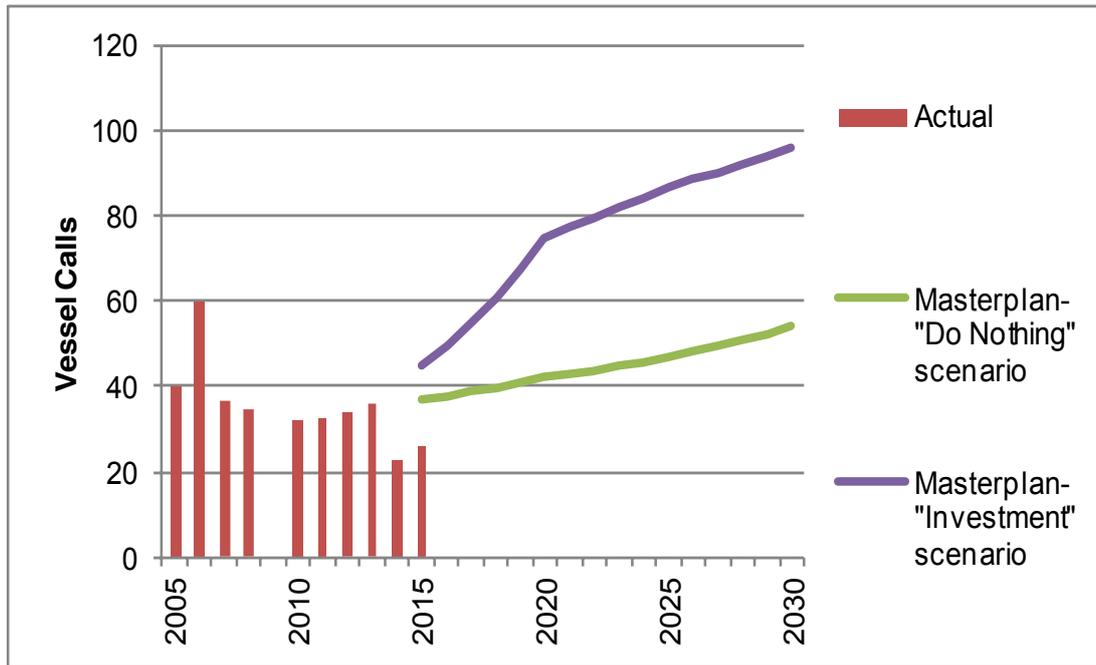
It is noted in the Masterplan that forecasting future cruise activity at Falmouth is challenging due to current low levels of activity – whereby the gain / loss of a single vessel call can have a significant impact on the growth rate. URS reiterates the caveats in respect of forecasting this sector as stated in the Masterplan, but nonetheless have provided an updated outlook for the cruise sector based on the following assumptions:-

- “Do Nothing” scenario: 2015 outlook derived on basis of average activity in period 2010-2016 (actual / estimated based on bookings) – reflecting recent declines in cruise calls and passenger numbers; no further growth in passenger numbers / vessel calls is projected after 2016 onwards reflecting Falmouth’s weak competitive position within the UK market; average passengers per call to remain low due to vessel size constraints at the wharf.
- “Investment” scenario: Pre-dredge / berth upgrade: as per “Do Nothing” scenario; post-dredge / berth upgrade – step-up in cruise activity stimulated by marketing effort immediately post-investment, followed by stronger growth due to Falmouth’s enhanced competitive position (i.e. better able to benefit from overall positive trend in UK market once port offers deeper alongside berths)

In respect of the on-going requirement for the projects identified in the Masterplan then this is summarised in Table 4.24. Dredging is seen to be the most urgently required project to unlock the growth potential in the cruise sector, and is therefore also a prerequisite for other major capital investments including berth extension / upgrade works.

**Figure 4.8 Port of Falmouth Cruise Passengers / Cruise Vessel Calls – Actual and Masterplan Projections, 2005-2030**





Source: Port of Falmouth Masterplan / A&P / Falmouth Harbour Commissioners

**Table 4.22 Qualitative Assessment of Cruise Sector Outlook**

	Downside	Upside
<b>Short Term</b>	<ul style="list-style-type: none"> <li>Reduction in calls due to draft</li> </ul>	<ul style="list-style-type: none"> <li>Limited</li> </ul>
<b>Medium / Long Term</b>	_____	<u>With dredging / berth investments</u> <ul style="list-style-type: none"> <li>Continued growth in UK cruise market will support growth in cruise calls / passenger numbers (average vessel size will increase)</li> </ul>

**Table 4.23 Revised outlook for Falmouth Cruise Sector to 2030**

	2011 Masterplan							
	"Do scenario"		"Nothing" scenario				"Investment" scenario	
	Pax	Calls		Calls		Calls	Pax	Calls
2010 A	27,040	32	27,040	32	27,040	32	27,040	32
2015 F	34,583	37	48,510	45	14,295	26	14,295	26
2020 F	42,944	42	115,275	75	11,124	17	45,289	41
2025 F	52,358	47	154,947	87	11,124	17	72,939	59
2030 F	66,975	54	193,440	96	11,124	17	117,469	84

**Table 4.24 Assessment of On-going Requirement for Projects Identified in the Masterplan**

Masterplan Project	Progress	On-going Requirement	Business Impact
<u>Phase 1 Projects</u>			
3. Dredging	Trial dredge undertaken 2012/2013	Yes	Enable larger vessels to access port, grow business
8. Queen's / Northern Wharf infill / extension	None, contingent upon dredging	Yes	Enable larger vessels to access port, grow business
9a. Port Control offices	None, contingent upon dredging	To be determined	Enhanced service levels
17. Installation of berthing dolphin	None	Under review due to impact on accessibility of County Duchy Wharves	Enable larger vessels to access port, grow business
15. Refurbish Eastern Jetty and breakwater	Underway	Yes	Sustain existing business
<u>Potential Future Projects</u>			
H. Upgrade of County / Duchy Wharf area	None	To be determined – currently limited due to further reduction in cargo handling activity	Provides additional berthing options for smaller vessels and displaced activities from Queens / Northern Wharf

## 4.9

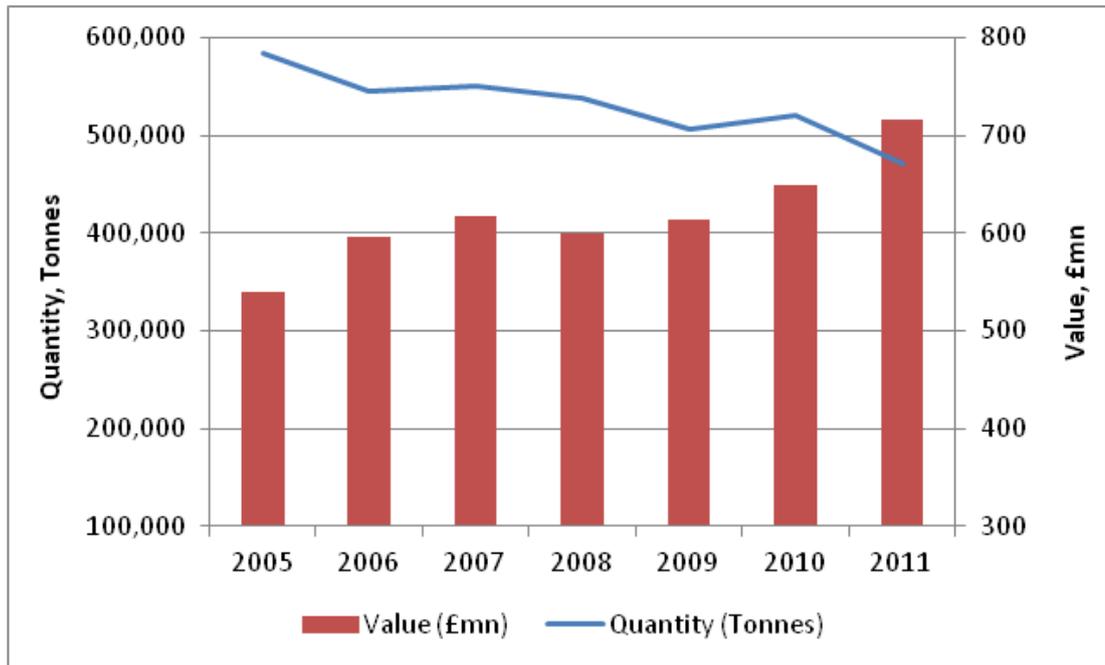
### Fishing

Falmouth is a small scale fishing port, handling just 0.25% of UK fishing vessel activity in 2011. Nonetheless Falfish's activity has continued to grow within the port, complemented by its processing facilities in Redruth.

#### Recent Performance

In recent years, the UK Fishing industry has seen declines in the volumes of fish passing through UK ports, as shown in Figure 4.9. In the last few years fishing has been affected by the global recession, and whilst a recovery started in 2010, volumes fell again in 2011. In terms of value – whilst initially affected in 2008, the value of the fishing industry peaks in 2011. There are a wide number of regulatory, market and economic factors influencing the size - volume and value - of the UK fishing sector.

**Figure 4.9 Fish from UK and Foreign vessels passing through UK Ports, 2005-2011, Quantity and Value**



Source: Marine Management Organisation (2013)

**Table 4.25 Landings into major ports by UK vessels, 2006-2011 ('000 tonnes)**

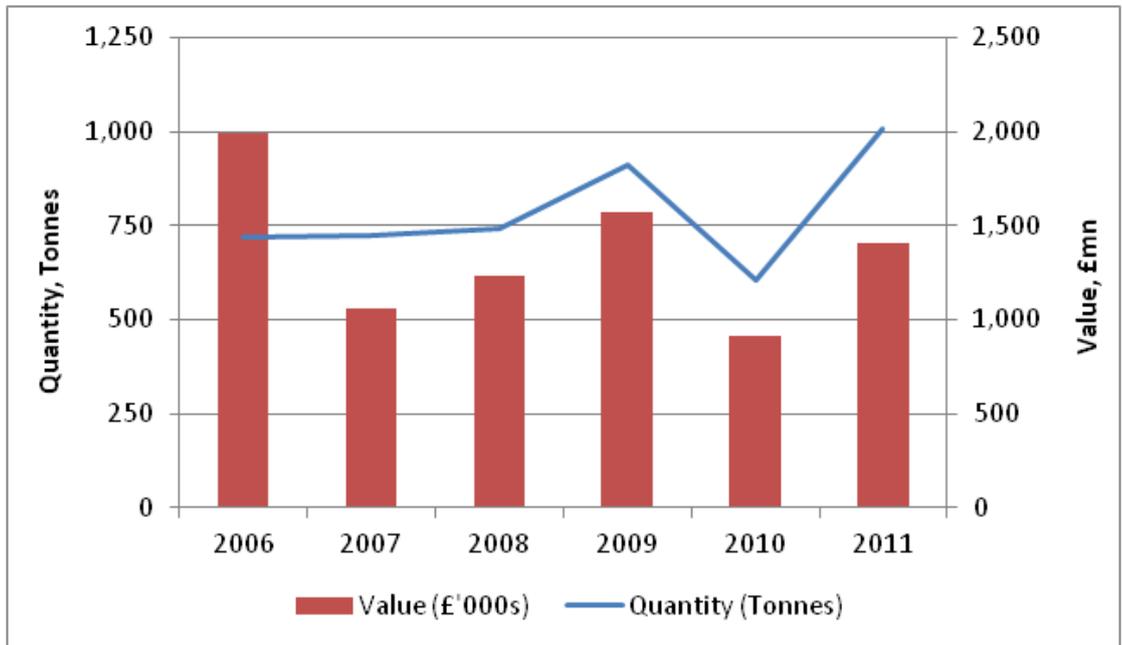
	2006	2007	2008	2009	2010	2011	CAGR 2006 2011
UK	417	440	409	395	411	404	-0.6%
<i>Annual % growth</i>		5.5%	-7.0%	-3.6%	4.1%	-1.7%	
River Fal - Falmouth	0.72	0.72	0.74	0.91	0.60	1.01	6.9%
<i>Annual % growth</i>		0.5%	2.9%	22.4%	-33.6%	66.4%	
Falmouth % share	0.17%	0.16%	0.18%	0.23%	0.15%	0.25%	

Source: Fisheries Administrations in the UK

- The Falmouth fishing industry, in comparison with the wider UK industry, is small, and only represents a 0.2% market share in terms of both quantity and value. In 2011, over 1,000 tonnes of fish passed through Falmouth, worth £1.4 million. As shown in

Figure 4.10, in terms of volumes this is the highest level passing through Falmouth since 2006; however this has not materialised into increasing value of the fish passing through Falmouth and the Fal River.

**Figure 4.10 Fish from UK vessels landing at Falmouth/ Fal River, 2006-2011, Quantity and Value**



Source: Marine Management Organisation

- The list of fish handled is shown in

**Table 4.26.** In 2011 the top two types of fish handled at Falmouth and Fal River were Scallops (at 453 tonnes, worth £872,000) and Sardines (at 291 tonnes, worth £78,000). In comparison, whilst only 32 tonnes of Monks or Anglers was fished, it was valued at £89,000.

**Table 4.26 Fish handled at Falmouth and Fal River, Quantity and Value, 2011**

	Quantity (Tonnes)	Value (£s)
Whiting	36	£29,000
Monks or Anglers	32	£89,000
Haddock	24	£23,000
Lemon Sole	6	£28,000
Sole	2	£26,000
Other Demersal	67	£150,000
<b>Total Demersal</b>	<b>167</b>	<b>£345,000</b>
Sardines	291	£78,000
Mackerel	35	£39,000
Herring	32	£9,000
Other Pelagic	13	£14,000
<b>Total Pelagic</b>	<b>371</b>	<b>£140,000</b>
Scallops	453	£872,000
Squid	6	£30,000
Other Shellfish	9	£17,000
<b>Total Shellfish</b>	<b>468</b>	<b>£919,000</b>
<b>TOTAL Falmouth / Fal River</b>	<b>1,006</b>	<b>£1,404,000</b>

Source: Marine Management Organisation

The local economy however benefits from fish processing activity undertaken by Falfish at its purpose built facility in Redruth. Turnover in 2012/13 exceeded £30m, and wages and salaries paid exceeded £3m.

**Table 4.27 Falfish Ltd – Financial Performance, 2011-2013 (£m)**

Year Ending:	31-Mar-2011	31-Mar-12	31-Mar-13
Turnover (£m)	24.8	32.2	30.7
Wages & Salaries (£m)	2.8	3.1	3.2

Source: Company Accounts

### Outlook

Consultation with companies involved in fishing in Falmouth suggested the outlook was positive with investment planned and sector growth expected. Average growth over the past five years in Falmouth has been around 4% and this is expected to increase as the wider economy picks up.

There were no specific Masterplan projects relating to the Fishing sector, but it was noted that any refurbishment / redevelopment of the Western Wharf would likely benefit FalFish operations. Existing constraints to suitable wharfs for fish landing is reducing ability of the port

to support this sector. There is potential for good growth if landing facilities for 4m vessels and fish packaging can be done on site.

#### 4.10 Marina and Leisure Boating

Falmouth Bay and estuary is one of the largest natural harbours in the world, and it is heavily utilized by leisure craft. It is estimated that there are in excess of 5,400 moorings within the Fal Estuary<sup>8</sup>, many of which are located within the study area.

As detailed in **Error! Reference source not found.** there is a wide range of facilities for leisure users located in the Falmouth Harbour and Penryn River study area – ranging from slipways and marinas to moorings. These facilities are located upstream of the commercial port area.

##### Recent Performance

Demand for leisure services within the Fal Estuary has remained relatively buoyant overall despite the recession.

FHC has reported an annual increase in turnover from the provision of Leisure Services, and maintains well-subscribed waiting lists for its residents' moorings.

**Table 4.28 Falmouth Harbour Commissioners – Leisure Services related turnover, 2010-2012 (£'000)**

	2010	2011	2012
Yacht Haven	154	166	156
Fuel Barge	203	191	202
Custom House Quay	140	144	149
Boat Park	62	69	72
Slipway	10	9	11
Residents' Moorings	156	169	177
Visitors' Moorings	24	28	27
Anchorage	11	11	12
<b>Total</b>	<b>759</b>	<b>787</b>	<b>807</b>

Source: Falmouth Harbour Commissioners

##### Outlook

The Masterplan proposed the development of a new, 290 berth marina facility with associated parking and support facilities to be located to the south of Queens Wharf. With the change of ownership of A&P this project is no longer in alignment with the business strategy for the docks and will not be progressed.

FHC identifies potential benefits in joint development schemes with strategic partners – including Cornwall Council and other providers within the sector - to help meet future demand. It particularly identifies the potential benefit of increasing marina capacity close to the town centre, due to the enhanced economic impact that visiting yachtsmen have on town centre businesses compared to residents' moorings. It also sees benefit in providing enhanced facilities for maritime related events such as the Tall Ships events.

The major constraints to growth in the Marina and leisure boating sector are in summary:-

<sup>8</sup> Penryn River Study Stage 1

- Lack of suitable sites to be developed for marinas / moorings
- Competition for waterside sites from residential and retail developers
- Inadequate landside parking / other transport issues
- Of the 14 companies that responded to the consultation process who are classified as working in the marina and leisure sector over 70% had expansion plans and felt that the sector had opportunities for expansion.
- Localised dredging was the most important project identified as necessary to allow growth in the sector by consultees.

#### 4.11 Marine Renewable Energy Sectors

The marine renewables market is an emerging market. The difficulty of projecting future usage within the Port was identified, but nonetheless the 2011 Masterplan concluded that Falmouth was relatively well positioned to benefit from future growth.

The 2011 Masterplan identified the tidal and wave energy sub-sectors as offering the most growth potential, albeit that commercial application of the technology was seen as unlikely until after 2020. Offshore wind energy was seen as having only limited direct potential due to Falmouth's remote location compared to licensed offshore wind sites, although R&D activity relating to floating offshore wind is now seen to have the potential to create opportunities in Falmouth.

The sector as a whole has considerable supply chain benefits for Falmouth, generating a number of related opportunities for existing Port and Penryn River businesses, for example:-

- Ship Repair Sector:
  - Project management / fabrication of (prototype) devices and manufacture of generating devices.
  - Conversion / construction of specialised vessels / barges required for the offshore energy sector
- Cargo Handling
  - Import and quayside storage of devices / device components
- Marine Support Services
  - Provision of towage/workboat services
  - Port authority services
  - Marine civil engineering services (including diving)

#### Recent Performance

The Crown Estate estimates total theoretical UK marine renewable resource to be in the region of 285 TWh/year – see

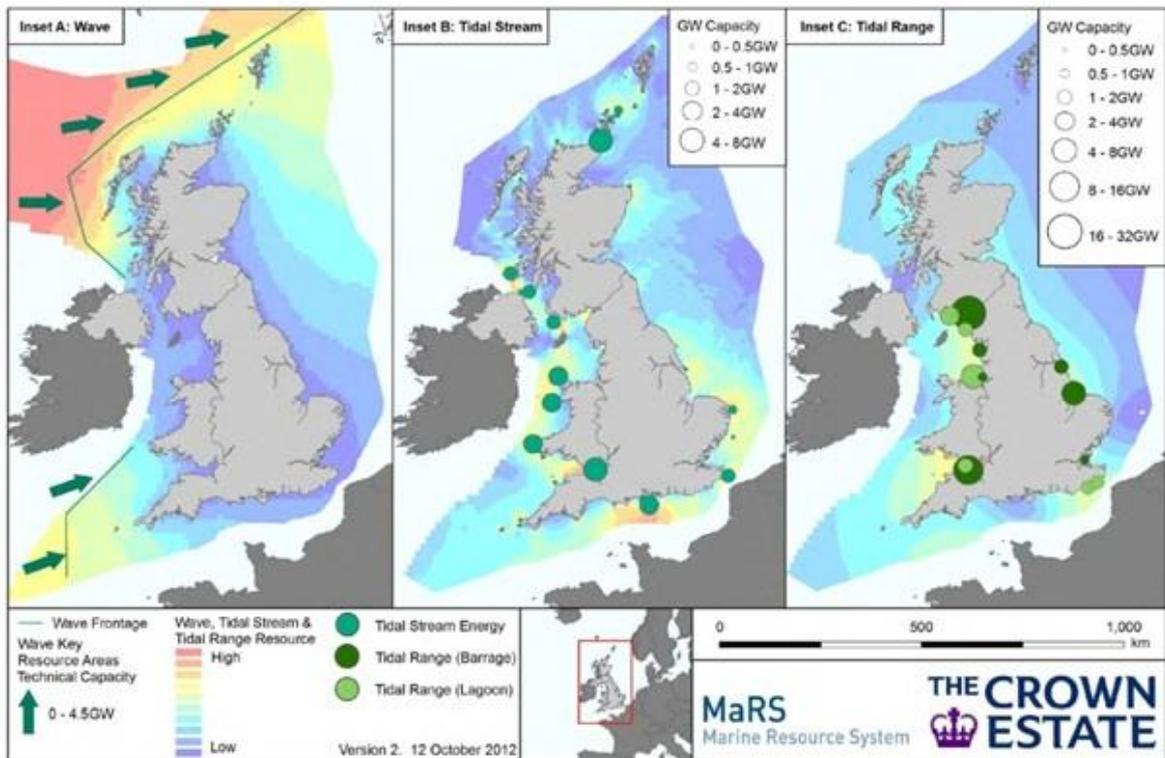
Table 4.29. As detailed in Figure 4.13 there is a large degree of geographic variation in the potential for different marine renewable energy generation – with the South West region being better positioned for tidal and wave energy than for wind, see also Figure 4.14.

**Table 4.29 UK Marine Renewables Resources**

Type	Annual TWh/year	Energy	Indicative Maximum Power (GW)
Wave	69		27
Tidal Stream	95		32
Tidal Range-Barrage	96		45
Tidal Range-Lagoon	25		14

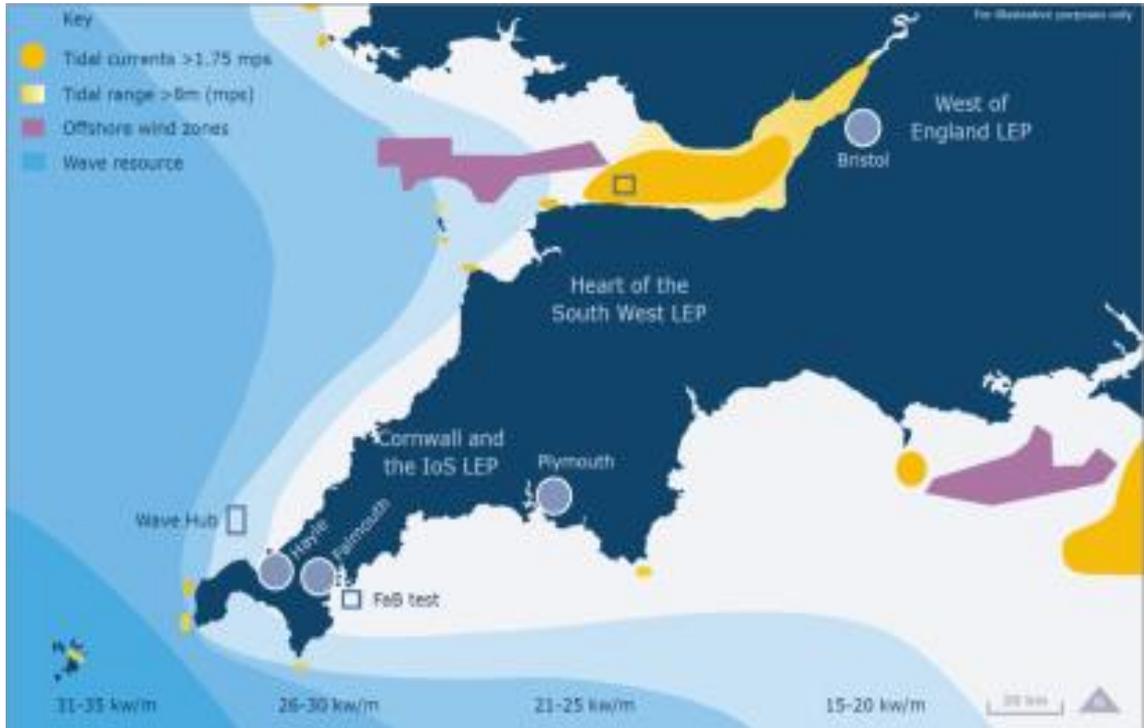
Source: Crown Estate- UK Wave and Tidal Key Resource Areas Project

**Figure 4.13 Geographic distribution of UK Marine Renewable Opportunity**



Source: Crown Estate- UK Wave and Tidal Key Resource Areas Project

**Figure 4.14 Marine Energy Resources in the South West region**



Source: South West Marine Energy Park prospectus

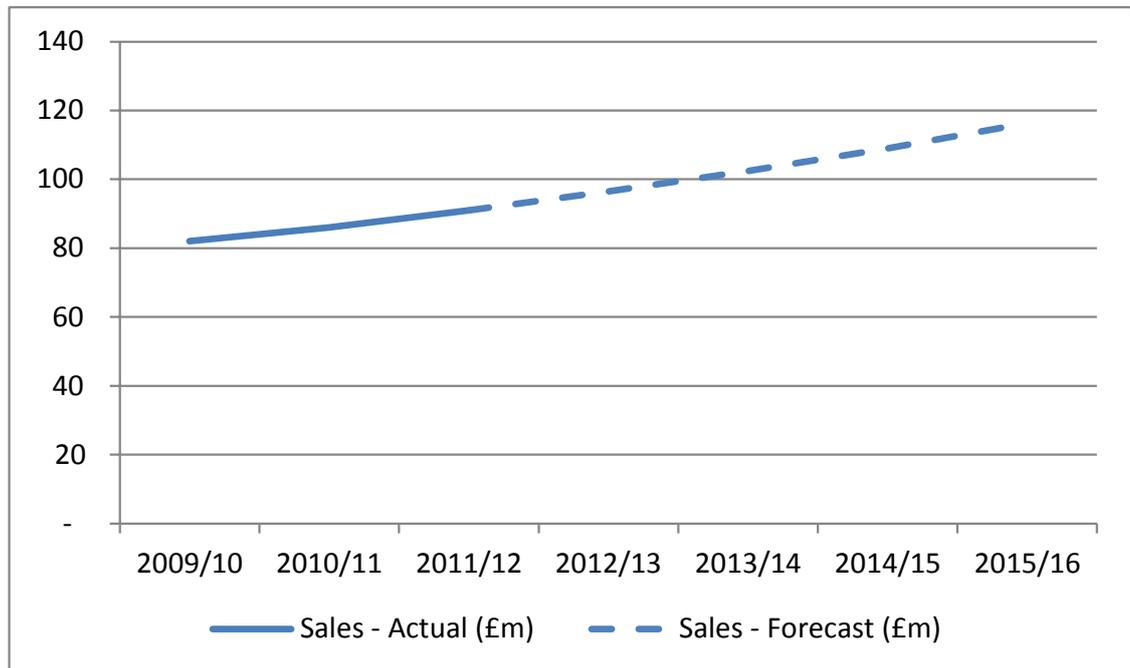
This assessment was supported in the 2011 Masterplan which identified that Tidal and Wave Energy offered the strongest opportunity for Falmouth. This sector however remains very small-scale in the UK compared to other renewable energy technologies. There has however been relatively stable growth in the sector since 2009/10 as detailed in Table 4.30, albeit from a very low base. Energy sales within the sector are forecast to grow by an average 6.3% pa in the period 2011/12 to 2015/16 – see Figure 4.15.

**Table 4.30 Development of employment and Sales in UK Tidal & Wave Energy sector (including supply chain)**

	2009/10	2010/11	2011/12
Employment	552	570	570
Annual % growth		3.3%	0.0%
Sales (£m)	82	86	91
Annual % growth		4.9%	5.8%

Source: Department for Business Innovation & Skills: “Low Carbon environmental Goods and services (LCEGS) – Report for 2011/12”

**Figure 4.15 Projected Development of Wave & Tidal Sector (Sales, £m)**



Source: Department for Business Innovation & Skills: “Low Carbon environmental Goods and services (LCEGS) – Report for 2011/12”

The Masterplan identified the WaveHub project as a stepping stone towards commercial exploitation of wave energy. The project, which was originally conceived in 2003, received the necessary consents in 2007 and was deployed in 2010. In 2013 an application to install and operate a floating wind platform demonstrator has been made, with the aim to accelerate the commercial application of floating foundations for wind turbines<sup>9</sup>.

There have been a number of significant local developments relevant to the marine renewable sector since the publication of the Masterplan:-

- FaBTest:** The Falmouth Bay Test area is a pre-consented (by MMO) area situated in Falmouth Harbour which allows up to three devices to be deployed and tested in relatively sheltered water. The site is leased from Crown Estates, with permits issued by Falmouth Harbour Commissioners. In 2012 the FaBTest site saw its first device installed – the Fred Olsen BOLT ‘Lifesaver’ was manufactured at A&P’s yard in Falmouth and then installed at the test site.
- South West Marine Energy Park (MEP):** launched in 2012 the South West MEP aims to maximize the potential of the region’s physical assets and resources, together with its research facilities and technical excellence within the marine energy sector – “The core objective of the South West MEP is to create a positive business environment that will foster business collaboration, attract investment and accelerate commercial development of the marine energy sector”<sup>10</sup>.
- Marine Offshore Renewables Group (MOR):** a collaborative partnership of companies based in the South West focused on the marine renewables sector.
- PRIMARE :** (Partnership Research Institute for Marine Renewable Energy). A collaboration of leading research institutes with extensive laboratory and field assets.

<sup>9</sup> WaveHub press release, 6 September 2013

<sup>10</sup> South West Marine Energy Park prospectus, January 2012

- The **Offshore Renewable Development Programme (ORDP)**. This includes around £535,000 investment into the marine renewables industry in Cornwall and Plymouth. The funds will target marine renewable projects over the next two years aiming to assist the industry in innovation and commercialisation, as well as supporting the development of the local supply chain.

A number of businesses within the study area have reported activity linked into the marine renewable sector – including fabrication, deployment and operations & maintenance support services.

In addition to the deepwater facilities offered within the docks, there are additional opportunities for smaller scale activities located within the Penryn River, with demand for small-scale waterside industrial units with marine access noted.

Nine companies contacted as part of the consultation exercise stated that they were linked to the marine renewables sector. Average growth over the past five years for these companies was around 3% indicating a relatively healthy market in renewables considering it has been a period of extended economic stagnation.

**Outlook**

As identified in the 2011 Masterplan the status of the marine renewables sectors as an emerging market opportunity means it is not possible to provide a meaningful assessment of future demand with any degree of confidence.

This section therefore provides an updated assessment of the marine renewable sector, identifying the opportunities for businesses located within the study area. See Figure 4.16 below for an overview of the technology progression in wave and tidal energy sector.

Renewable UK indicates that wave and tidal energy is expected to increase from current 9MW installed capacity to over 120MW by 2020, with national employment in the sector estimated to reach 20,000 by 2035. Renewable UK identify the technological progression as follows, with the sector currently moving towards commercial deployment.

**Figure 4.16 Technology Progression in Wave and Tidal Energy Sector**



Source: RenewableUK

In Falmouth, short-term direct opportunities relating to marine renewables are identified as relating to the earlier phases of the development process, for example:-

- Project development partnerships between A&P and technology developers to provide handling and fabrication services using existing facilities. A&P indicate that due to the uncertain outlook for the sector the short-term approach is to utilize current assets and adopt low / no cost solutions. The company however will continue to develop relationships with the technology developers. It reports an increase level of inquiries, and is participating in the Tidal DP Barge project, which is part-funded by the Technology Strategy Board.

**Table 4.31 Tidal DP Barge Project Summary**

Project :	Tidal DP Barge		
Description:	The project will develop and test a low cost Dynamic-Positioning barge installation vessel suitable for installing tidal turbine arrays at energetic and exposed tidal sites. The vessel will be based on a flat top barge with significant deck space and adequate craneage capacity to deploy a wide range of tidal devices of 1MW size and above with associated drilling equipment, umbilicals etc. The vessel will have a novel propulsion system and bespoke DP controller onboard designed to maximise the tidal and weather operating window of the vessel. The project aims to deliver a DP tidal array installation vessel that can be chartered at a small fraction of current offshore DP vessel rates.		
Partners:	IT Power (project lead), KML (marine contractor & shipowner), Reygar Ltd (DP controller developer) and A&P (Falmouth based shipbuilders).		
Duration:	1 <sup>st</sup> December 2012 – 31 August 2015		
Grant Value:			£3.0m

Source: Technology Strategy Board

- EPCI (engineer, procure, construct, install) services for new market entrants by KML. KML indicates that its current workshop / wharf facility at Falmouth Wharves offers a low cost and flexible option for technology developers.
- Nine companies contacted as part of the consultation exercise stated that they were linked to the marine renewables sector. Almost 80% have expansion plans over the next five years. Dredging was seen as the most important single project to enable the sector to expand. This is because it will allow larger ships to continue to use the Port.

Longer term opportunities related to the commercial deployment of wave and tidal technology are seen to be more limited, and Falmouth will face increased competition from larger ports within the region such as Plymouth and Bristol.

As with other sectors channel depth is a constraint, but in addition to dredging investment in expanded/strengthened quayside handling areas will be required, together with investment in heavy lift equipment and an extended fabrication workshop.

**Table 4.32 Strength and Weakness Assessment of Falmouth in Relation to Marine Renewable Sector**

	Strength	Weakness
Technology Development Phase	Extensive marine engineering /  Local towage / work boat  University of Exeter Renewable	Constrained channel depth for deployment of full-scale testing  Limited heavy lift capability
Construction Phase	Extensive marine engineering / fabrication services  Availability of dry docks for construction activity  Local towage / work boat providers	   gauge cargo movements into
Operations Phase	Extensive marine engineering / fabrication services  Local towage / work boat providers	Not the closest port to commercial array sites for offshore wind sector

In respect of the Masterplan URS additionally identifies that the dredging and berth upgrade projects would benefit the port's competitive position in respect of the marine renewable sector. As companies move towards commercial operations then there is a corresponding increase in operational requirements.

**Table 4.33 Assessment of On-going Requirement for Projects Identified in the Masterplan**

Masterplan Project	Progress	On-going Requirement	Business Impact
<u>Phase 1 Projects</u>			
3.Dredging	Trial dredge undertaken in 2012/2013	Yes	renewable sector would require deeper water than currently available – dredging will
7. CHP plant	None	Not identified	The project has not been progressed further since the change in ownership of A&P
8. Queens / Northern Wharf improvements	None	Yes	The upgraded wharf capability would facilitate a wider range of potential  Infill results in improved access to Queens Wharf which would increase ability to bid for marine renewable fabrication, assembly and
<u>Potential future Projects</u>			
D.Multi-use shiprepair and renewables workshops	None	Subject to demand	Focus on marine renewable fabrication and assembly seen to be highly complementary to shiprepair business.

#### 4.11.1 Technical Requirements for Offshore Renewables

URS has undertaken some specific additional research to identify the technical requirements of the emerging offshore renewable sector, specifically examining the following sub-sectors:-

- Offshore Wind – Seabed Foundations
- Offshore Wind – Floating Foundations
- Wave
- Tidal

##### ***Offshore Wind – Seabed Foundations***

To date commercial offshore windfarms have utilised seabed mounted foundation concepts:

- Monopile
- Gravity-Based
- Multi-Leg – Tripod
- Multi-Leg – Jacket

The installation requirements for seabed mounted foundations require the use of specialised installation vessels with jack-up capability to install turbines onto the seabed foundation. Turbines are partially assembled on the quayside, and then loaded to the installation for vessel for final assembly and commissioning at the offshore wind farm site.

This mode of construction requires significant investment in port facilities, and with the growth in turbine size the capability requirements for ports in the offshore wind supply chain are increasing.

**Table 4.34 Seabed-Mounted Offshore Wind Turbines: Infrastructure Requirements**

Construction ports <sup>1</sup>	Manufacturing Ports	O&M Ports
- Free area of 80,000+ m <sup>2</sup> suitable for lay down and pre-assembly of components	Same requirements as construction ports plus the following:	- Wind farm reachable in 2 h
- 200 to 300 m length of quayside with high load bearing capacity (20 t /m <sup>2</sup> or higher) and adjacent access for installation	- Up to 5 km <sup>2</sup> (500 ha) of flat area for factory and product storage	- Quay of at least 80 m length / tide independent berth depth of at least 3.5 m; generally lower quay loading requirements 5 t/m <sup>2</sup>
- Able to accommodate vessels up to 140 m length / 45 m beam / 8 m draught without tidal or other access restrictions like locks <sup>2</sup>	- Direct access to dedicated high load bearing deep water quayside, minimum 500 m length	- Sufficient storage area of 2,000 m <sup>2</sup> minimum for tools, small spare parts and components and general operating resources
- Overhead clearance to sea of 100+ m to allow vertical shipment of towers <sup>3</sup>	- Ease of landside logistics and access to skilled workforce.	- Appropriate office and associated facilities for 15 to 20 personnel, with supply of water and electricity
- An additional lay-down area, up to 300,000 m <sup>2</sup> for sites with greater weather restrictions on construction		- Bunkering capabilities
- Proximity to wind farm sites advantageous due to high charter cost of installation vessels		- Good connection the public road network

Note: (1) Capacity to handle 100 turbines p.a.; (2) Future installation vessels are expected to exceed 242 m LOA / 8 m draught; (3) Future overhead clearance, crane capabilities and lifting capabilities are expected to be higher.

Source: "Wind in our Sails" by the European Wind Energy Association (2011)

Falmouth's location is the primary reason it is not able to compete within this sub-sector of the market, with constrained port facilities an additional limiting factor.

***Offshore Wind – Floating Foundations***

The offshore wind market is moving towards larger turbines, which is promoting the development of floating foundation concepts. The technology in this arena is growing faster than initially anticipated. This technology allows installation of offshore wind turbines at deeper waters, where the reliability of the wind resource is higher.

Another benefit of floating platforms is the commissioning and assembling at the quayside. This eliminates offshore lifting operations, so installation offshore is less restricted by weather windows.

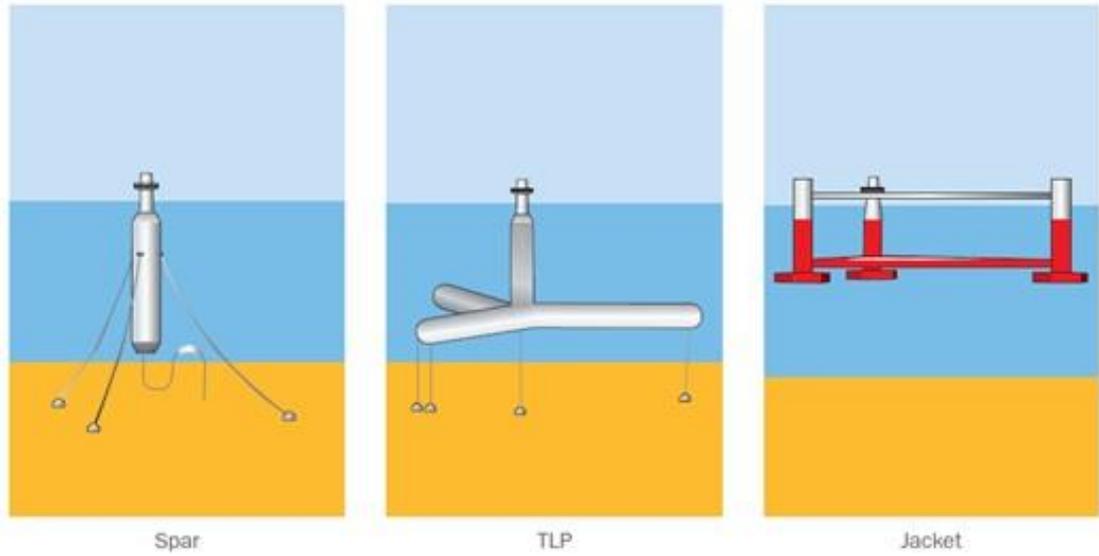
Three types of floating turbine concepts exist:

- Spar (ballast stabilized buoy platforms and catenary mooring anchors)
- Tension Leg Platforms (suction pile anchors to the seabed)
- Buoyancy Stabilized platform- floating jacket structure ( 'barge' device and catenary mooring lines)

The basic design of each type of turbine is demonstrated in Figure 4.17. This sub-sector of the offshore wind market is currently at the R&D phase, with a small number of pilot initiatives underway – see

Table 4.35 (based on 2011 information supplied).

**Figure 4.17 Floating Turbine Concepts**



Sources: MSCGusto / ECN / TU Delft; others: GLGH

Source: Wind in our sails by the European Wind Energy Association-2011

**Table 4.35 European Pilot Initiatives for Floating Offshore Turbines**

Project	Country	Development Status
<u>Full Scale Testing Underway</u>		
Statoil Hywind	Norway	Full scale testing since 2009; next generation planned construction 2015/16
Principle Power WindFloat	USA, pilot in operation in Portugal	Full scale pilot started 2011 in Portugal
<u>Full Scale Testing Planned</u>		
Technip Vertiwind	France	Full scale with 2MW turbine in 2014
GICON	Germany	Full scale testing planned for 2014
Pelagic Power	Norway	Full scale planned for 2014
Blue H	Netherlands	Full scale with 5MW turbine planned for 2014/15
Nass et Wind WinFlo	France	Full scale test planned for 2014
IDEOL Floater (Floatgen)	France	Full scale planned for 2015 with 2MW Gamesa turbine and 3MW Acciona turbine
Pelastar	USA, with testing in UK	Full scale (6MW) testing in UK by 2015
Technip Floater INFLOW	France	Full scale with 2MW turbine in 2015
Project Zephyr	Spain	Phase 2 to deploy floating turbine technology, timing unknown
<u>Scale Prototype Planned</u>		
HiPRwind	EU	1/10 scale prototype to be deployed in 2013
Sea Twirl	Sweden	Scale pilot tested
Posiedon Floating Power	Denmark	Scale pilot launched, new pilot planned for 2014/15
<u>Design and Early Stage Testing</u>		
Windsea Floater	Norway	Tank tests completed
Iberdrola FLOTTEK ETORGAI	Spain	Tank tests 2012

Project	Country	Development Status
Gusto Semisub Trifloater	Netherlands	Tank tests completed
Hexicon Floater	Sweden	In design phase
DIWET Semisub	France	In design phase
WindSea	Norway	In design face in 2010/11, no further details available
Ocean Breeze	UK	No details available

Source: "Wind in our Sails" by the European Wind Energy Association (2011) / "Floating Offshore Wind Foundations: Industry consortia and Projects in United States, Europe and Japan" by Main (e) International Consulting (2013)

The quay requirements are determined by the tugs and the "at yard draft" of the floating platform, which is seen in general to be less demanding than the quay requirements for a conventional seabed mounted offshore turbine assembly operation which will handle conventional cargo vessels and offshore installation vessels / jack-ups. Investment in berth infrastructure to facilitate jack-up rigs, which are typically deployed for installation of conventional seabed mounted turbines, is costly, often requiring major upgrade or reconstruction of the quay wall, and for floating turbines this will not be required.

A key feature of many floating foundation designs is the focus on designs that are suitable for typical shipyard fabrication processes.

**Table 4.36 Summary Construction and Assembly Port Requirements for IDEOL floating foundation**

Construction location	On quayside with skidding or in graving dock
Port Draft Requirements	6.4m for towing
Laydown area	20 units requires >9,000m <sup>2</sup> free surface area

Source: IDEOL

In addition the water depth required at the port is determined by the draft at yard of the floating platform supporting the floating turbine/s. It is noted that the "draft at yard" is shallower than the draft at operation. URS research indicates that the floating turbine pilots existing/in development to date are known to have the following port draft requirements:-

**Table 4.37 Example Draft Requirements for Floating Turbines**

Floating Turbine	Draft at Construction Yard
Poseidon	4.5m
Ideol Floater	6.4m
Windsea (3.6MW) (3 turbines per platform)	7m
Hywind (2.3MW)	10m
Windfloat (3-10 MW)	20m

Source: URS research

**Table 4.38 Summary of Port Requirements for Assembly of Floating Wind Turbines**

Floating Offshore Wind Turbines - Port Requirements	
Adequate laydown area for components	High-capacity cranes
Quayside assembly area with adequate load capacity - typically in region of 20 tonnes / m <sup>2</sup>	Dry dock and/or alongside berth for assembly and commissioning
No air draft restrictions	Adequate berth space for tugs

Source: URS research / "A Buoyant Future for Floating Wind Turbines", Renewable Energy World.com May 2011

Whilst proximity to the offshore wind turbine site would still be advantageous, the relatively lower cost of the towage enables ports in a wider geographic area to compete for business. Falmouth's dry dock facilities would be attractive, but the draft and load capabilities of the current quays would need to be enhanced.

**Wave and Tidal Energy**

The wave and tidal sector is progressing from single device demonstrations to the development and installation of multi-device arrays.

Table 4.39 summarises wave devices currently in operation / under development, with

Table 4.40 providing a summary of the technical specification of a selected number of devices to give an impression of their technical attributes. The fabrication of the devices is well suited to shipyards, and A&P Falmouth is already active in this market. Draft requirements vary according to device design, and whether devices are assembled and commissioned in port prior to deployment.

**Table 4.39 Existing Wave Devices (as of 2013)**

Operator	Device	Status
<u>Full Scale Devices Installed or Currently Operating in UK</u>		
Aquamarine Power		In operation at Billa Croo, EMEC
E.ON	Pelamis P2	In operation at Billa Croo, EMEC
Scottish Power Renewables	Pelamis P2	In operation at Billa Croo, EMEC
Seatricity	Oceanus	Previously in operation at Billa Croo, EMEC now being tested at  10MW grid connected array to be developed at WaveHub by
Wello	Penguin	In operation at Billa Croo, EMEC
<u>Projects in Development / Other Projects</u>		
Wavegen (Voith)		Inverness operation closed in 2013
AWS Ocean Energy	AWS-III	Testing of 2.5MW prototype in 2014 Deployment of 10MW array in 2016
Ocean Power Technologies	Powerbouy	Mark 3 ocean testing undertaken in 2011 Mark 4 under development
Wave Dragon	Wave Dragon	Prototype undergoing testing in Denmark
AW Energy	Wave Roller	Testing undertaken in 2012/2013 Further testing to be undertaken in Finland
OWEL	Marine Demonstrator	Marine Demonstrator design completed in 2013
Fred Olsen	Bolt 2 device at Fabtest	The BOLT-2-Wavehub collaborative project was established in July 2010

Source: Wave and Tidal Energy in the UK-Feb 2013 by RenewableUK / URS research

**Table 4.40 Technical Specification of Wave Devices**

Operator	Device	Technical Specifications
AWS Ocean Energy	AWS-III	Typical device consists of array of 12 cells generating 2.5MW Each cell 16m wide x 8m deep
Ocean Technologies Power	Mark 3 Powerbouy	11m diameter buoy extending 11.5m above waterline Mounted on 32m spar
E.ON	Pelamis P2	Modular design – 5 4m diameter tubes joined together to provide total length 180m, total weight  Commissioned at quayside prior to being towed to
Seatricity	Oceanus “	10 metre diameter floating ring

Source: URS research

Note that the technologies detailed in Table 4.40 above is not an exhaustive list, rather it is a sample of wave devices to provide information on their technical specifications.

Table 4.41 summarises tidal devices currently in operation / under development. The tidal power market is strongly focused on EMEC in Scotland, where tidal potential is strongest.

**Table 4.41 Existing Tidal Devices (as of 2013)**

Operator	Device	Status
<u>Full Scale Devices Installed or Currently Operating in UK Waters</u>		
Andritz Hammerfest	Hydro	In operation at Fall of Warness, EMEC
Marine Turbines (Siemens)	Current SeaGen	In operation at Strangford Lough, NI
Neptune Renewable Energy	Proteus	In operation at North Humberside
OpenHydro	Open Turbine Centre	In operation at Fall of Warness, EMEC
Scotrenewables Tidal Power	SR250	In operation at Fall of Warness, EMEC
Alstom	DeepGen 1MW	In operation at Fall of Warness, EMEC 4-10MW pre-commercial array scheduled for 2014/16
<u>Projects in Development</u>		
MayGen		
Minesto	Deep Green	¼ scale prototype undergoing long-term sea trials in Strangford Lough, NI
Tidal Energy	DeltaStream	1.2MW planned for year long trial in early 2014 in 10MW commercial array planned for St Davids Head,
Kawasaki Heavy Industries	Kawasaki 1MW	Testing of full scale prototype at EMEC planned for 2015
Pulse Tidal	Pulse Stream 100	100kW deployed in River Humber in 2009 Commercial Demonstration planned for 2014 at Lynmouth, North Devon
Voith Hydro	Voith HY TIDE 1000-16	1MW test power station at EMEC

Source: Wave and Tidal Energy in the UK-Feb 2013 by RenewableUK / URS research

#### 4.12 Marine Support Services

An important aspect of Falmouth and the Penryn River is the strength of the maritime supply chain, and marine support services form an integral part of this supply chain for both the commercial and leisure sectors.

In the context of these studies marine support services are defined as businesses that provide ancillary services to vessels calling at Falmouth for one of the identified primary economic activities – see Table 4.42.

**Table 4.42 Commercial and Leisure Marine Services**

Commercial Marine Services	Leisure Marine Services
<p>Services to commercial vessels calling at Falmouth for the following primary economic activity:-</p> <ul style="list-style-type: none"> <li>• Ship Repair</li> <li>• Bunkering</li> <li>• Superyachts</li> <li>• Cargo Operations</li> <li>• Cruise</li> <li>• Fishing</li> <li>• Marine Renewables</li> </ul>	<p>Services for the following primary economic activity:-</p> <ul style="list-style-type: none"> <li>• Leisure               <ul style="list-style-type: none"> <li>○ Marina and related services</li> <li>○ Watersports</li> <li>○ Marine events</li> <li>○ Boat trips - river bus services, estuary cruises, etc</li> </ul> </li> <li>Leisure fishing</li> </ul>

There are a number of significant providers of marine services within Falmouth, with several companies offering services to both the commercial and leisure sectors. Larger service providers identified within the study are identified below, together with the marine services they provide:

- Falmouth Harbour Commissioners – provision of pilotage services to commercial vessels calling in Port of Falmouth, overall management of the harbour, services to leisure craft
- A&P – provision of towage services within Falmouth Docks
- Seawide Services – diving and salvage, laying / positioning / maintenance of moorings, marine civil engineering, charter provision of small marine craft (barge / tenders / R.I.B.s)
- Serco Marine – M.O.D. fleet tender support unit, services including passenger transfer, search & rescue training, range safety support
- KML – towage, marine civil engineering,
- Falmouth Yacht Services – repair / maintenance / refit of yachts
- Western Electrical – electrical wholesalers to marine industry
- Righton Ltd – metals and plastics for marine industry

**Recent Performance**

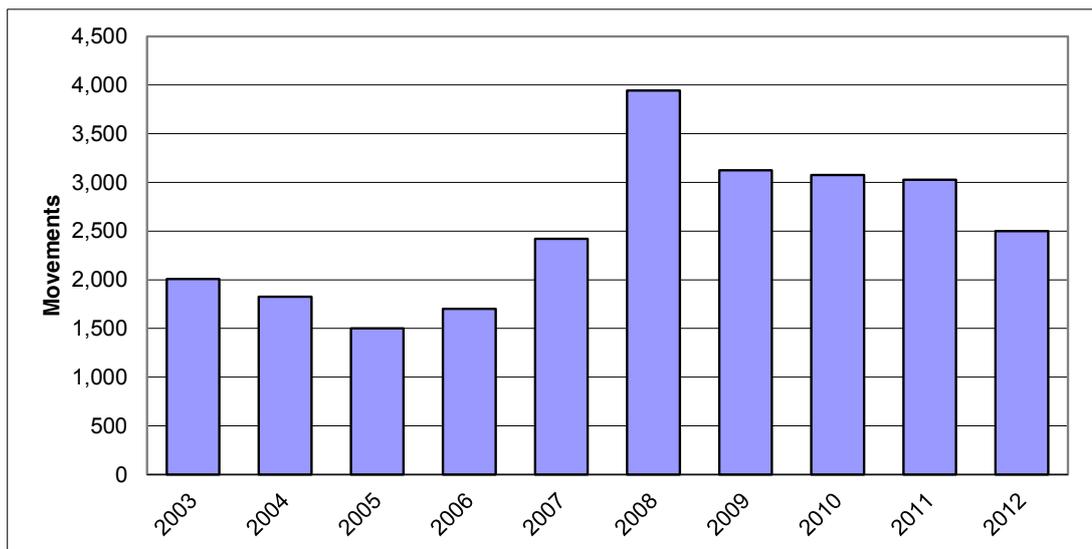
The economic activities described in the preceding sections rely heavily upon a range of marine support services. Companies operating within this sector are a critical part of the maritime supply chain within the study area.

Whilst activities such as ship repair and bunkering in many ports would be classified as marine support services, the scale of these activities in Falmouth is such that they require examination in their own right. In addition these businesses generate vessel calls at Falmouth which would otherwise not occur.

Falmouth Harbour Commissioners is identified as a major stakeholder in the port, and its activities can be classified as Marine Support Services.

In respect of commercial vessel movements in Falmouth, then these peaked in 2008, supported by strong growth in bunkering activity after the introduction of the North Sea Emissions Control Area. Activity levels have declined in the period 2009-2012 but still remain above those experienced in the early 2000s. However YTD figures for 2013 show a further decline in commercial vessel activity, in line with the reported lower activity levels at key businesses within the port.

**Figure 4.11 Acts of Pilotage in Port of Falmouth, 2003-2012**



Note: includes claims / cancels

Source: Falmouth Harbour Commissions

**Table 4.43 Acts of Pilotage in Port of Falmouth by area, 2009-2012**

Pilotage Zone	2009	2010	2011	2012
A - Sea/Bay	1656	1665	1719	1374
B - Sea/Roads	403	478	173	154
C - Truro/R.Fal	94	55	72	35
D - P/Stock	199	276	226	183
E - Docks Berths	562	461	631	588
F - Intrnl Moves	166	115	184	138
<b>Total Movements (excluding cancellations claims)</b>	<b>3080</b>	<b>3050</b>	<b>3005</b>	<b>2472</b>
Annual % growth		-1.0%	-1.5%	-17.7%
<i>Cancel</i> s	<i>31</i>	<i>22</i>	<i>20</i>	<i>21</i>
<i>Claim</i> s	<i>4</i>	<i>5</i>	<i>3</i>	<i>6</i>
<b>Total Chargeable Acts</b>	<b>3125</b>	<b>3077</b>	<b>3028</b>	<b>2499</b>
Annual % growth	-20.7%	-1.5%	-1.6%	-17.5%

Source: Falmouth Harbour Commissioners

**Table 4.44 Falmouth Harbour Commissioners Turnover from Services of Commercial Vessels**

	2010	2011	2012
Harbour Dues	515.3	559.1	526.1
Acts of Pilotage	914.6	901.3	774.3
Pilot Boat Boarding and Landing	815.4	893.4	796.1
Other Commercial Income	39.8	53.9	19.0
<b>Total</b>	<b>2,285.1</b>	<b>2,407.7</b>	<b>2,115.4</b>
Bunker calls		1079	880
<i>average dues per vessel</i>		<i>£ 405</i>	<i>£ 414</i>
<i>% increase</i>			<i>2.2%</i>
Other Commercial vessel calls			
<i>average dues per vessel</i>		<i>£ 371</i>	<i>£ 406</i>
<i>% increase</i>			<i>9.4%</i>

Source: Falmouth Harbour Commissioners

## Outlook

Growth in demand for commercial marine support services depends largely on the success of the primary businesses within the port – ship repair, bunkering, cruise, etc. Many businesses operating in the marine services sector are an essential part of the supply chain for docks' businesses and their customers. A significant downturn in docks' activity would likely have an impact on the viability of many of these service providers.

It is difficult to provide a consolidated outlook for marine support services, given the wide range of businesses and wide range of activities undertaken by these businesses.

### 4.13 Other factors impacting demand

#### Transport links

There are on-going transport issues within the Port of Falmouth and in the immediate vicinity that will require to be addressed in an on-going manner with the relevant parties. Transport matters were addressed in the 2011 Masterplan (see 2.7.55 p41). The main transport constraint cannot be overcome as it includes the fact that the main access route to the Port is only possible via the Bar Road due to the natural barrier of the cliffs to the south east.

The following points were made by companies contacted as part of the consultation exercise:

- **Road access:** 28.6% of companies felt that road access and congestion on the surrounding road network was a constraint to growth at the Port. A comment was made on improving the road links to Newquay Airport.
- **Rail access:** Only 5.7% of consultees felt that improving the rail frequency was the most important factor to boost the growth prospects of POF. A comment was made that integrated transport was generally poor with links between bus and rail in need of improvement. Parsons Brinckerhoff produced a Port of Falmouth Transportation Assessment in 2012, which included a travel plan for the Docks which seeks to address these concerns<sup>11</sup>.
- **Inter-port passenger boat services:** the integration of the Port of Falmouth Masterplan and the Penryn River Study is seen to provide an opportunity for a review of the requirements for estuary boat services, as it will provide enhanced understanding of the linkages between the port and the other commercially active areas on the river. FHC identify the difficulties of parking both within the port and the town, and see enhanced use of river transport as a means of reducing pressure on town centre roads / parking.

#### Commercial developments

- There are no known development plans for commercial development at the Port. This is partly a result of short term lack of demand due to the recession although none of the consultees suggested that they had plans to expand commercial development in the short to medium term. This is partly caused by the lack of certainty over key Masterplan projects such as dredging which if they do not happen could threaten the overall status of the port as a viable business location.
- A&P suggested that there are very limited plans for commercial development following on from its change of ownership. Commercial development is no longer a priority for A&P.

<sup>11</sup> Cornwall Council, Port of Falmouth Transport Assessment (2012) , produced by Parsons Brinckerhoff

**4.14 Summary outlook for Port of Falmouth and Projects**

See Table 4.45 below for a summary of demand outlook in the short term and medium/long term for the key Port and Penryn River maritime sectors.

**Table 4.45 Summary outlook for Port of Falmouth and Penryn River Maritime-Related Economic Activities**

Sector	Area	Short-Term Outlook (to end 2015)	Medium-Long-Term Outlook (2016 onwards)
Ship Repair and Marine Engineering	Port	Declining activity levels Q4 2013 / 2014 Recovery in 2015	<u>With dredging</u> Growth <u>Without dredging</u> Stable
	Penryn River	Stable	<u>With dredging</u> Growth <u>Without dredging</u> Stable
Bunkering	Port	Recovery in 2015	<u>With dredging</u> Stronger growth <u>Without dredging</u> Stable / low growth
Superyacht building and refit	Port	Sustained growth	<u>With no further capital investment</u> Sustained growth until current facility reaches capacity <u>With further capital investment</u> Sustained growth
Port Cargo Operations	Port	2013 – decline in volumes 2014/15 – stable at 2013 levels	Stable With dredging – Growth possible with new cargos and deeper water for self-discharge vessels and regional container hub
Cruise	Port	Decline in vessels requiring tenders	<u>With dredging / berth investments</u> Sustained growth <u>Without dredging</u> Decline - as average cruise vessel size increases Falmouth's competitive position weakens
Marina and Leisure Boating	Port & Penryn River	Sustained growth	Sustained growth
Fishing	Port & Penryn River	Stable	Growth possible with wharf improvements

Sector	Area	Short-Term Outlook (to end 2015)	Medium-Long-Term Outlook (2016 onwards)
Marine Renewables	Port	Small-scale projects	Increasing activity levels from a low base. Dredging of benefit in medium-long term.
Marine Support Services	Port & Penryn River	Dependent on performance of the primary economic activities within the port.	Dependent on performance of the primary  Decline due to projected decline of primary

Table 4.46 below summarises the on-going requirement for projects identified in the 2011 Masterplan. This list of projects feeds directly into the revised EIA.

**Table 4.46 Assessment of On-going Requirement for Projects Identified in the Masterplan**

Masterplan Project	Progress	On-going Requirement	Sectors	Business Impact
<u>Phase 1 Projects</u>				
1. New Crane at No. 2 Dock	Completed	-	Shiprepair	Sustain existing operations / enhanced capability
2. Marina – 290 berth plus car park	None	None – not in alignment with new owner’s business strategy	Leisure	Unfulfilled leisure demand to be met elsewhere in estuary
3. Dredging	Trial dredge undertaken 2012/2013	Yes	Cross-sector (Shiprepair, bunkering, cruise)	Enable larger vessels to access port – sustain / grow activity levels in key sectors
4. Remediation, capping and car park over former landfill site	None	Yes but new owner identified that land not available as required for their own business plans.	Superyachts	Optimise land-use within port
5. Superyacht workshops and offices	Completed		Superyachts, bunkering	Optimise land-use within port
6. Superyacht dock basin and new pier	Underway		Superyachts	Growth in business activity
7. CHP plant	None	No - assessed but not cost effective	-	-
8. Queen’s / Northern Wharf infill / extension	None, contingent upon dredging	Yes	Cross-sector (Shiprepair, cruise)	Enable larger vessels to access port, grow business

Masterplan Project	Progress	On-going Requirement	Sectors	Business Impact
9a. Port Control offices	None, contingent upon dredging	To be determined	Cross-sector	Enhanced service levels
9b. Workshop on Queen's Wharf	None	Yes	Shiprepair	Growth in business activity
10. Enlarged workshop facilities at No. 1 Dock	Planning permission obtained	Yes in longer term	Superyachts	Growth in business activity
11. Upgrade of fuel tanks	Underway, due for completion November 2014	-	Bunkering	
12. New low flash slops facility	On hold due to lack of identified site	Yes	Bunkering	Growth in business
13. Gateway Development – Stage 1	None	None – not in alignment with new owner's business strategy	-	Demand to be met outside of port estate
14. New ship repair workshops	None		Shiprepair	Increased capacity / enhanced capability
15. Refurbish Eastern Jetty & Breakwater	Underway, due for completion November 2015	-	Cross-Sector / Bunkering	Sustain existing operations Enhance capacity of shoreside bunkering facility
16. Sustainable Transport package	Measures have been introduced by Pendennis as part of their travel planning	Yes	Cross-Sector	
17. Installation of berthing dolphin	None	Not being considered while the County and Duchy Wharves remain operational	Cross-sector (Ship repair, cruise)	Enable larger vessels to access port, grow business
<u>Potential Future Projects</u>				
A. New Shiprepair workshops	None	Yes – subject to demand	Shiprepair	Increased capacity / enhanced capability
B. Port related business and operations units	None	Yes – subject to demand	Cross-sector	Support current / future business activity
C. Cliff-face multi-storey car park	None	Yes	Cross-sector	Optimise land-use within port

Masterplan Project	Progress	On-going Requirement	Sectors	Business Impact
D. Multi-use shiprepair and renewables workshop	None	Yes – subject to demand	Shiprepair / renewables	Growth in business activity
E. New superyacht workshops	None	Yes	Superyacht	Growth in business activity
F. Western Wharf load-out	None	Yes – subject to demand (contingent upon future of County / Duchy Wharves)	Cross-sector (cargo operations / renewables / ship repair)	Growth in business activity
G. Enlarged marina	None	No – not in alignment with new owner's business strategy	-	-
H. County / Duchy Wharf Area	None	Future use to be determined	Future use to be determined	Future use to be determined
I. Expansion of FHC Marina	None	Potential – requires review of options	Leisure	Growth in activity
J. Dredging of Eastern Jetty pocket for bunkering	Brought forward to Phase 1 - completed	-	Bunkering	Enhanced capability
K. Gateway Development – Stage 2	None	None – not in alignment with new owner's business strategy	n/a	Demand to be met outside of port estate

#### 4.15 Conclusion

The demand assessment investigated the main maritime sectors in the Port and Penryn River area based on analysis of current macro-economic and sector trends and direct consultation with maritime operators. It also assessed the ongoing requirement of the 2011 Masterplan projects. There are some linkages between the two areas but broadly the Port retains its role as an industrial port and the Penryn River area is predominantly focused on the marina and leisure market. The main linkages between the two areas are in the marine support services, leisure and supply chain companies. This element is covered in more detail in the following chapter.

In summary most sectors have weathered the recession and are expected to grow in line with the demand forecasts of the 2011 Masterplan, assuming the Masterplan projects are implemented. However, the cruise sector is increasingly vulnerable and without the Masterplan projects coming forward; especially the channel dredging, its long term future is in doubt. The Marina project has been discontinued and related commercial development at the port is unlikely to come forward partly linked to uncertainty over delivery of the Masterplan. Due to the supply chain linkages between the ship repair and other sectors this would have a significant effect on the overall viability of the Port as an industrial location. Certain sectors are growing above the trend outlined in the 2011 Masterplan. Demand in the Superyachts sector continues to grow and the marine renewable sector is an expanding sector. The short, medium and long term demand outlook for each of the sectors as described in this section feeds the revised EIA in section 6.

## 5 FALMOUTH AND PENRYN RIVER MARTIME SUPPLY CHAIN ASSESSMENT

### 5.1 Introduction

This section builds on the demand assessment, which describes maritime sector growth trends, by providing more specific information on the maritime supply chain in Falmouth and the Penryn River area. The primary role is to describe the maritime economy, the current interactions that exist between the Port and companies located within the Penryn River and to explore opportunities for improvement or issues that potentially constrain those future growth opportunities.

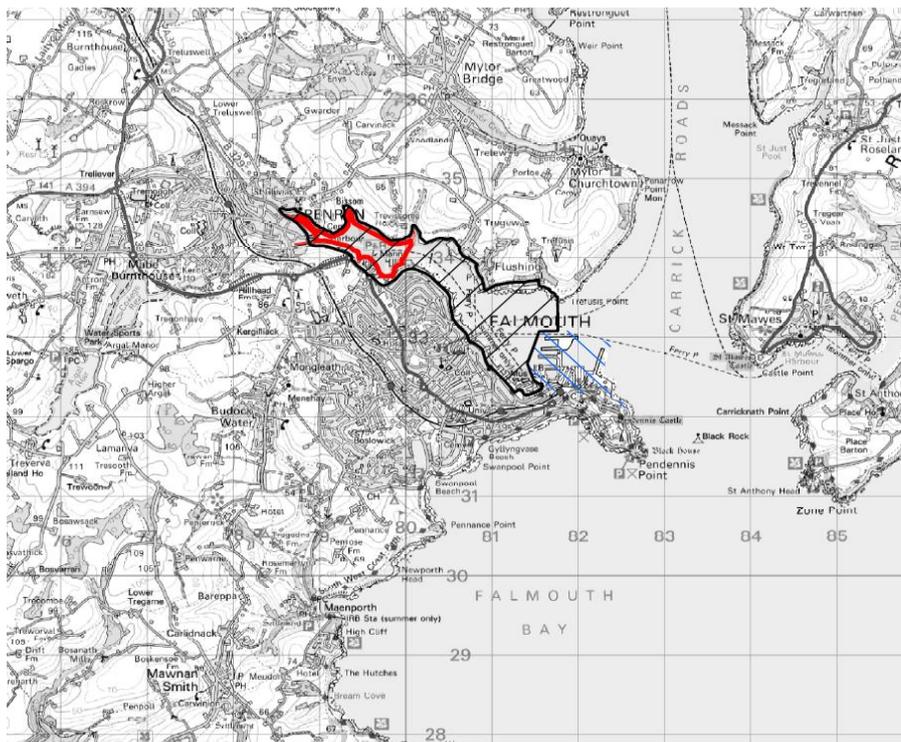
The section also explores the characteristics and geography of the supply chain network focusing on key linkages between companies and interactions between sectors. This information informs a needs assessment that focuses on the physical, training and skills requirements that might need to be addressed, through targeted initiatives and intervention, in order to overcome constraints and achieve growth.

### 5.2 The Falmouth and Penryn Maritime Economy

The extent of the Port of Falmouth includes Falmouth Docks, the inner Harbour, Carrick Roads Anchorage, Cross Roads Anchorage and Falmouth Bay. Falmouth Bay provides natural deepwater shelter for larger vessels that are too large to be able to navigate and moor within the Port area. These include larger cruise vessels which drop anchor in the Bay and then transport passengers to the Docks by tender. However, the Docks are the only place in which cruise passengers are able to alight from their tenders, due to security requirements.

As shown by Figure 5.1 below the Port of Falmouth borders the Ports of Penryn and Truro. These bordering Ports offer services that support those provided by the Port of Falmouth.

**Figure 5.1 Extent of Port of Falmouth**



Source: CDC

**Figure 5.2 Falmouth Docks and Inner Harbour**

Source: A&P

**Figure 5.3 Falmouth Docks**

Source: A&P

### Key Ownerships

The Port of Falmouth comprises a number of key ownerships including the Falmouth Harbour Commissioners, A&P Group, Falmouth Docks & Engineering Company and Cornwall Council.

Appendix 1 Map A1 shows the land ownership position within the study area. Also, the 2011 Masterplan (Section 2) provides further detailed information with regard to landownership and the overall make-up of the Port of Falmouth which is not repeated here. In summary the

ownership situation in the Port of Falmouth is complex and represents a potential constraint to development.

### Maritime Sectors & Supply Chain Linkages

The maritime sectors discussed in this part of the assessment are the same as those included in the demand assessment. They fall under the following broad headings due to their common overarching characteristics. These include; industrial, leisure (commercial and personal), commercial fishing and renewable energy. The sectors and sub-sectors assessed and commented upon are shown in **Table 5.1** below:

**Table 5.1 Falmouth and Penryn River Area Maritime Sectors and Sub-Sectors**

Industrial	Leisure	Commercial Fishing	Renewable Energy
Ship repair	Marina & leisure boating	Commercial fishing	Marine renewable manufacturing
Bunkering	Cruise sector	Small scale fishing (Sole traders or family fishing companies)	Marine renewable support services
Coastal shipment and transshipment	Port related events		Marine renewable R&D and business incubation
Superyacht building and refit	Recreational/tourism water sports – diving, sea kayaking etc.		

The demand assessment provides a detailed summary of the outlook for the sectors and sub-sectors. It is concluded in the demand assessment that economic activity in the Port relies heavily upon a range of marine support services. The demand assessment recognises that an important aspect of Falmouth and the Penryn River is the strength of the maritime supply chain, and marine support services form an integral part of this supply chain for both the commercial and leisure sectors which are particularly concentrated within the Penryn River.

It is recognised that growth in demand for commercial marine support services depends largely on the success of the primary businesses within the port – ship repair, bunkering, cruise, etc. A significant downturn in commercial activity at the Port of Falmouth would likely have an impact on the viability of many of these marine support service providers. However, it is difficult to provide a consolidated outlook for the marine sector with the Penryn River given the wide range of businesses and wide range of activities undertaken by these businesses. Accordingly, this part of the assessment is reliant upon the response to the supply chain consultation.

### Characteristics & Geography

A total of 65 companies were identified by URS as being part of the Port of Falmouth and Penryn River Supply Chain; 28% (18) of which were located within the Port. The remainder are located in the Penryn River area, wider Falmouth and Cornwall area and some in Plymouth. The locations of supply chain companies, as defined in the Penryn River Study Stage A, are shown in Figure 5.4 and 5.5 (also at Appendix 1).

**Figure 5.4 Falmouth and Penryn Maritime Supply Chain Companies**



**Figure 5.5 Cornwall and Plymouth Maritime Supply Chain Companies**



Of the companies located outside of the Port, 24.4% are located within the Penryn River Study Area, 20.5% are located elsewhere in Falmouth and Penryn (mainly the Tregonneie Industrial Estate) and 17.9% outside Falmouth and Penryn but in Cornwall. Approximately 8% were located outside of Cornwall.

**Linkages, Dependencies and Interactions between Companies and Sectors**

As part of the questionnaire all companies surveyed were asked to confirm within which sectors they worked in. The majority of the companies surveyed identified themselves as working within a number of sectors/sub-sectors. The ‘Shiprepair’ and ‘Other’ category held the majority with over 50% of respondents identifying themselves as working within these sectors; closely followed by ‘Superyachts’ and ‘Marine and Leisure’ at 46% and 40% respectively. Only 3 companies (9%) identified themselves as working within one sector. This demonstrates that there is a high degree of cross sector working with the supply chain.

There are three key layers of interaction between supply chain companies in the Port of Falmouth and Penryn River area as follows:

- The interaction between primary port companies and their suppliers
- The symbiotic relationship between primary port companies who share work/clients
- The relationship between landlords and tenants

Of the companies that responded to the survey 86% confirmed that they regularly worked with A&P. This is unsurprisingly since it is known that A&P is a key company within the Port and additionally, the main Port landlord. Pendennis Shipyard however closely followed with 74% of respondents confirming that they regularly worked with the company. 54% of respondents confirmed that they regularly worked with Falmouth Petroleum Limited.

'Other' companies that the supply chain companies consulted stated that they regularly traded with include:

- Falmouth Harbour Commissioners (11%)
- Denholm Wilhelmson (11%)
- MTS (9%)
- Submarine Services (9%)
- Truro and Penryn Harbour Authority (6%)
- Cornwall Council (6%)
- Cornwall Development Company (6%)
- Falcon (6%)
- Seacore (6%)
- Falfish (6%)

It is clear from the survey responses that outside of the Port, A&P and Pendennis Shipyard remain key players in the maritime economy. Approximately 80% of respondents located with the study area, but outside of the Port, confirmed that they regularly work with both companies. This illustrates how vulnerable the supply chain could potentially be to loss of either company. The long term success of both companies, including the Port itself, is therefore integral to the long term health and success of the supply chain.

We know from the survey response that at least 8% of the supply chain companies confirmed that if activity at the Port of Falmouth were to discontinue that this would likely result in 100% loss in turnover due to relocation and/or closure. Of these companies 5% were located outside of the Port of Falmouth.

However, companies located within the Port of Falmouth itself are inherently more vulnerable. In total approximately 77% (circa £95.5 million) of turnover within the Port of Falmouth is considered to be at risk if activity at the Port were to cease. This is high in comparison to the perception of companies located outside of the Port which reported that 21% of its turnover (circa £15.2 million) would be at risk. Whilst lower, this would still be a considerable loss to the area as a whole.

### **5.3 Supply Chain Constraints and Opportunities**

#### **Constraints**

The survey responses identified that the supply chain companies face a number of constraints. These constraints affect current business activity and hinder plans for future growth. To release more of the Port of Falmouth full potential and the accompanying local employment opportunities, these constraints could be addressed. The key constraints as identified by maritime supply chain companies consulted include the following (in order of significance):

**Table 5.1 Key Port of Falmouth Maritime Sector Constraints**

Key Constraint	% of Response	Explanation
Inadequate dock facilities	34%	More deep water berths and additional wharfage is urgently needed. Respondents recognised that if dredging occurred then larger and therefore more vessels would be able to utilise the dock. The general quality of the existing dock facilities was also referred to.
Access	31%	Comments made with regard to access were two fold. Some commented on the poor road access in and out of Falmouth (as well as Cornwall generally). Some also commented on the current lack of water access, particularly deep water access and the transfer of access from land to sea.
Availability of land	31%	Respondents expressed concern with regard to lack of land availability for expansion/growth as well as an overall loss of water side access.
Availability of premises	26%	Respondents expressed concern with regard to lack of land available premises and quality of existing premises.
Lack of private and public sector funding	26%	Comments were made with regard to rising costs, particularly those associated with environmental costs. Comments were also made with regard to the general lack of investment in the docks which has limited expansion. It was recognised that
Availability of labour skills	20%	Discussed below.
Business Rates	17%	None.
Use of waterside access	11%	It was recognised that waterside access is essential. Deep water mooring or pontoon space was considered to be a huge advantage for which dredging is required.
Local and national planning requirements	11%	Concerns were raised with regard to the existing and proposed environmental designations which prove costly to deal with. A general comment that the planning system is too long and too bureaucratic was also made.
Lack of required workforce	11%	It was recognised that a lack of a required workforce limits expansion. Furthermore, the somewhat isolated location of the Falmouth /the docks was identified as being part of the issue in this regard.
Lack of required suppliers	3%	None.

## Opportunities

Companies were asked what single improvement could be made to the Falmouth /Penryn area that would have an immediate impact on improving the function of the area and potential growth opportunities. 63% confirmed that dredging of the channel and deep water berths should be undertaken although many of the companies surveyed identified more than one improvement as being important. Table 5.2 below provides a summary of the survey response in this regard.

**Table 5.2 Key Port of Falmouth Maritime Sector Opportunities**

Key Opportunity	Improvement	% of Response	Additional Comments
Dredged Harbour		63%	Whilst dredging does not directly affect many of the companies that make up the wider Penryn River supply it is recognised that the docks will not survive without dredging accordingly, many companies rely upon it. One respondent commented “No dredging, no dockland, no
Road Network		29%	None.
Car Parking		11%	None.
Added University Facilities		11%	None.
Rail Frequency		6%	None.
Other		23%	<ul style="list-style-type: none"> <li>• General improvements and modernisation to improve quality of facilities and</li> <li>• Improvements to the overall availability of land and wharf space for expansion.</li> <li>• Availability of land for green energy</li> <li>• Improvements to public transport to ensure</li> </ul>

Source: URS Consultation Exercise 2013/14

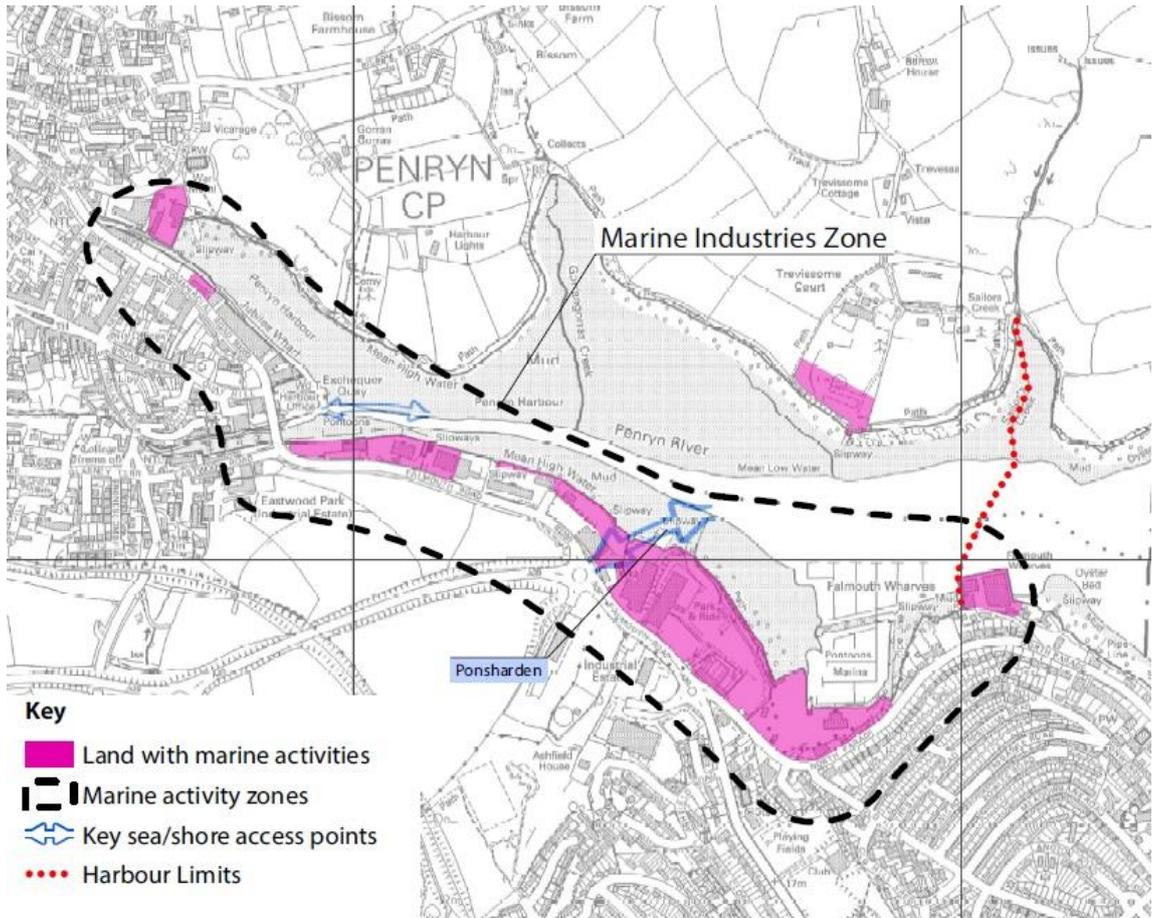
## Penryn River and Port of Falmouth Zones of Opportunity

The Penryn River Study Stage A produced research into zones of potential opportunity in the Penryn River and Port of Falmouth Area. The overarching map is shown at Figure 4.1 above. As part of this study these zones of opportunity were reassessed in terms of their suitability for retention as areas of maritime activity and potential expansion. Each zone is dealt with separately below, discussion of potential opportunities where applicable and a conclusion made on each. The conclusions on these zones are based on information gathered during the consultation with operators and stakeholders, site visits and professional judgment.

**Penryn Marine Industries Zone of Opportunity**

Figure 5.6 below shows the extent of the Penryn Marine Industries Zone. It shows that the eastern portion of the zone around Ponsharden up to the Marina and Falmouth Wharf retains an industrial maritime character with several companies located there linked to the yacht building and marine support services such as Rustler Yachts. There is some maritime activity north of Falmouth Road after the Ponsharden Roundabout. The western portion around Penryn Harbour has seen significant change of use to residential, retail and leisure uses.

**Figure 5.6 Penryn Marine Industries Zone of Opportunity**



Based on the research undertaken in this study it is recommended that the Penryn Marine Industries Zone of Opportunity is retained in the form suggested in the Penryn River Study Stage A (as shown in Figure 5.6 above). Within this area there is likely to be significant pressure for change of use to higher value uses such as residential due to its attractive location. However, given the likely future demand for marine economy businesses as discussed in the previous chapter and explored in greater detail in the next chapter (Economic Impact Assessment of the Masterplan) it is recommended that existing maritime uses are retained. These uses generate significant and sustainable local employment, both directly and indirectly through the local multiplier effect.

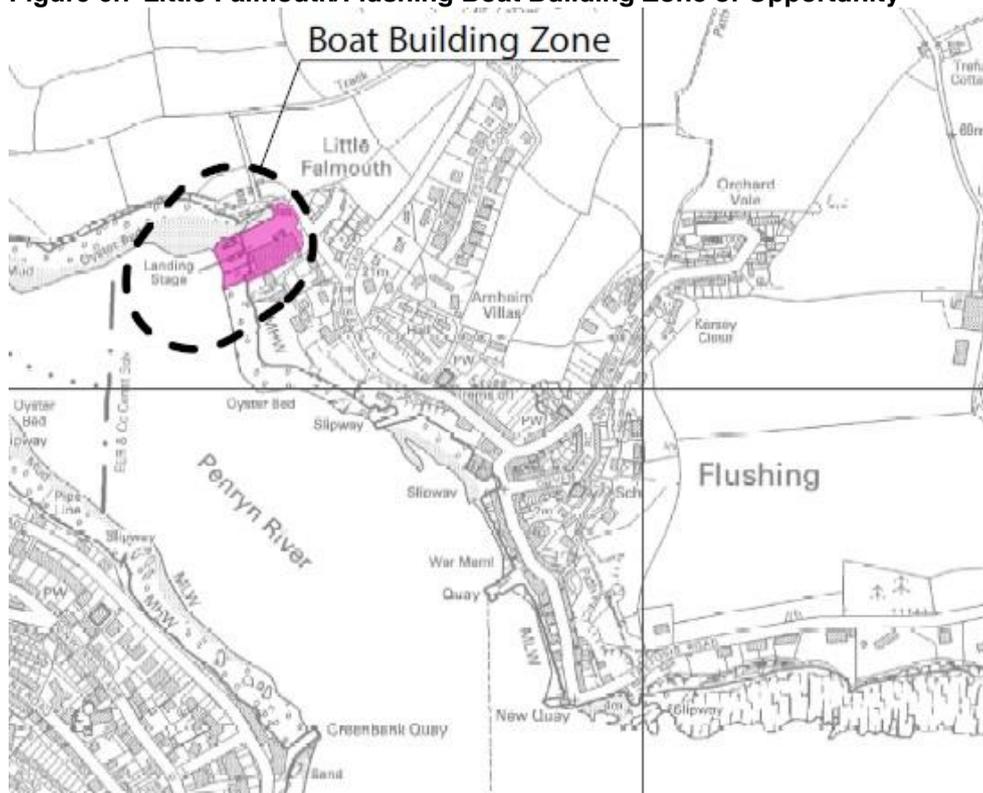
While there are no immediate sites known that present opportunities for redevelopment for marine uses with the exception of Falmouth Wharf which is discussed below it is recommended that protection is afforded to existing maritime sites in this areas to avoid erosion of the maritime capacity of the Penryn Maritime Zone. This is based on the premise that once these lower value employment uses are ‘gone they are gone forever’.

In relation to Falmouth Wharf comments were made that there are opportunities to use the deep water wharf there for additional future renewable energy projects. Given the restricted nature of the site which is surrounded by residential uses the physical activity would mainly relate to unloading equipment delivered from other sites from the wharf into the bay. This would require improved access arrangements to Falmouth Wharf. Currently the site is accessed via a private road off North Parade. It is not clear what improvements could be made without consulting landowners but it is likely that the capacity of the site is not likely to be increased significantly given the physical access constraints. For example, consultees felt that HGVs would not be able to gain access to Falmouth Wharf given the turning circles so this would restrict the site to smaller scale renewable energy technologies. However as one of the few sites outside of the Docks with (relatively) deepwater berthing capability its ongoing use for marine-related activity was seen as important. Supplementing the berth capability with a slipway was seen to be of value.

***Little Falmouth/Flushing Boat Building Zone of Opportunity***

This area, shown in Figure 5.7 is a small boat building area on the north side of the Penryn River. It is one the last areas of maritime activity north of the river. It provides a small number of local jobs and it is recommended for retention to support the wider Falmouth/Penryn maritime sector.

**Figure 5.7 Little Falmouth/Flushing Boat Building Zone of Opportunity**

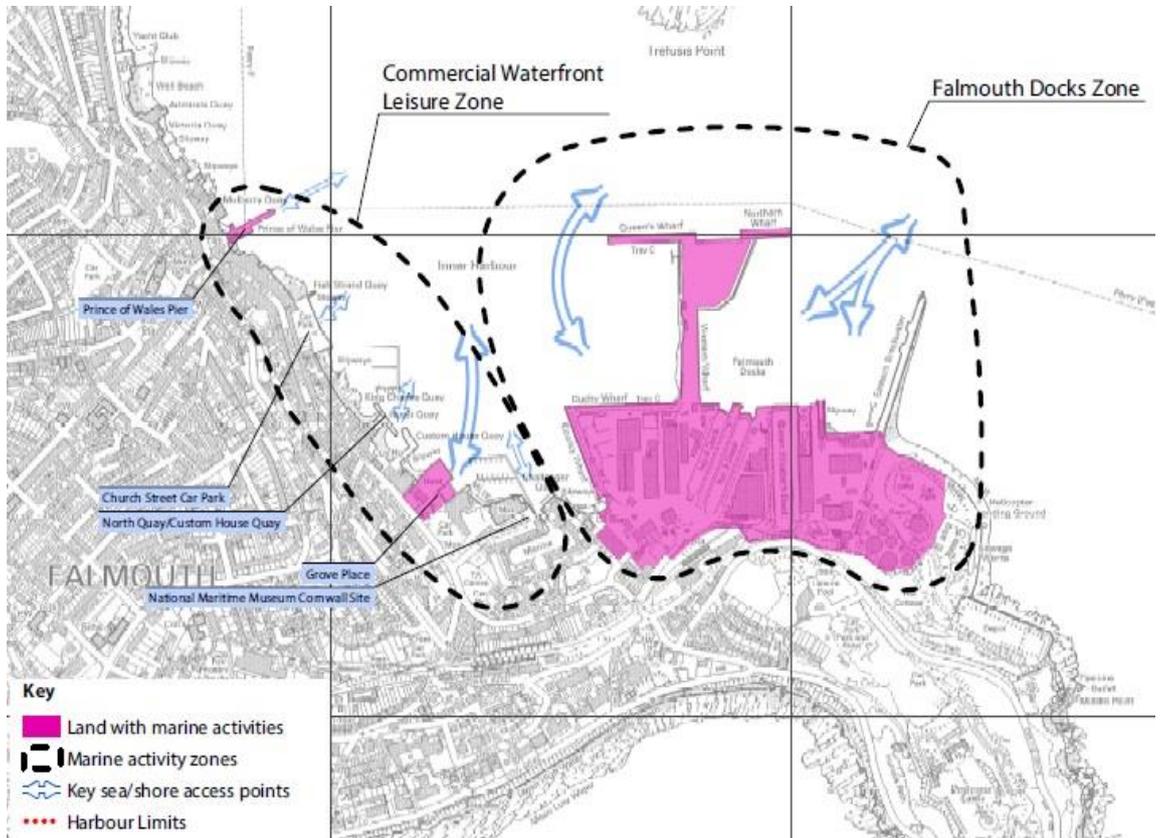


***Falmouth Commercial Waterfront Leisure Zone***

This area is shown in Figure 5.8 below. It is at the core of the shopping and tourist area of Falmouth. It contains numerous retail and shore side commercial properties such as restaurants and pubs and some residential properties. There remain numerous small slipways, quays and moorings on the harbour side. These are mainly used by small private vessels, fishing boats and tourist vessels. There are also several surface car parks such as Church Street Car Park. The main marine activity zone is the boatyard at Grove Place. It is recommended that given the sensitive nearby receptors that this area would not be major zone of expansion for industrial based activities. However, there are clearly opportunities for

leisure based expansion. Existing marine uses such as Grove Place and tourist moorings and marinas etc. should be retained and developed to support the growth of the marine sector as projected by the demand assessment and EIA within this study.

**Figure 5.8 Falmouth Commercial Waterfront Leisure Zone of Opportunity**



**Falmouth Docks Zone**

This area is shown in Figure 5.8 above. It is the core industrial maritime sector in Falmouth and the South West of England. As discussed throughout this study it is critical to the local economy and its continuing success is reliant on the key industrial companies A&P and Pendennis. It is recommended for protection to avoid any erosion of its capacity to provide employment.

**5.4 Current and Future Business Needs**

**Expansion Plans**

On average companies within the study area grew +3% per annum over the last five years, although at least two of the companies who responded to the survey witnessed a decline in activity. Approximately 70% of companies that responded to the survey were considering expansion plans in the next five years. However, two companies confirmed that expansion plans were contingent on dredging.

In total, companies were planning to invest approximately £104 million within the study area and approximately £4.5 million outside of the study area - £1.2 million of which will be invested worldwide. Notwithstanding, the majority of companies (40%) did not envisage that the number of staff employed by the company would increase over the same period although, generally speaking, those that had expansion plans considered that the number of people employed by them would increase by 1 to 5 employees. This is perhaps an indicator of the relatively small nature of supply chain companies. In total, 34% of companies confirmed that

they had plans to increase the number of staff employed by 1 to 5 additional employees. Only one company, located within the Port of Falmouth, confirmed that they had plans to employ any more than 10 additional employees.

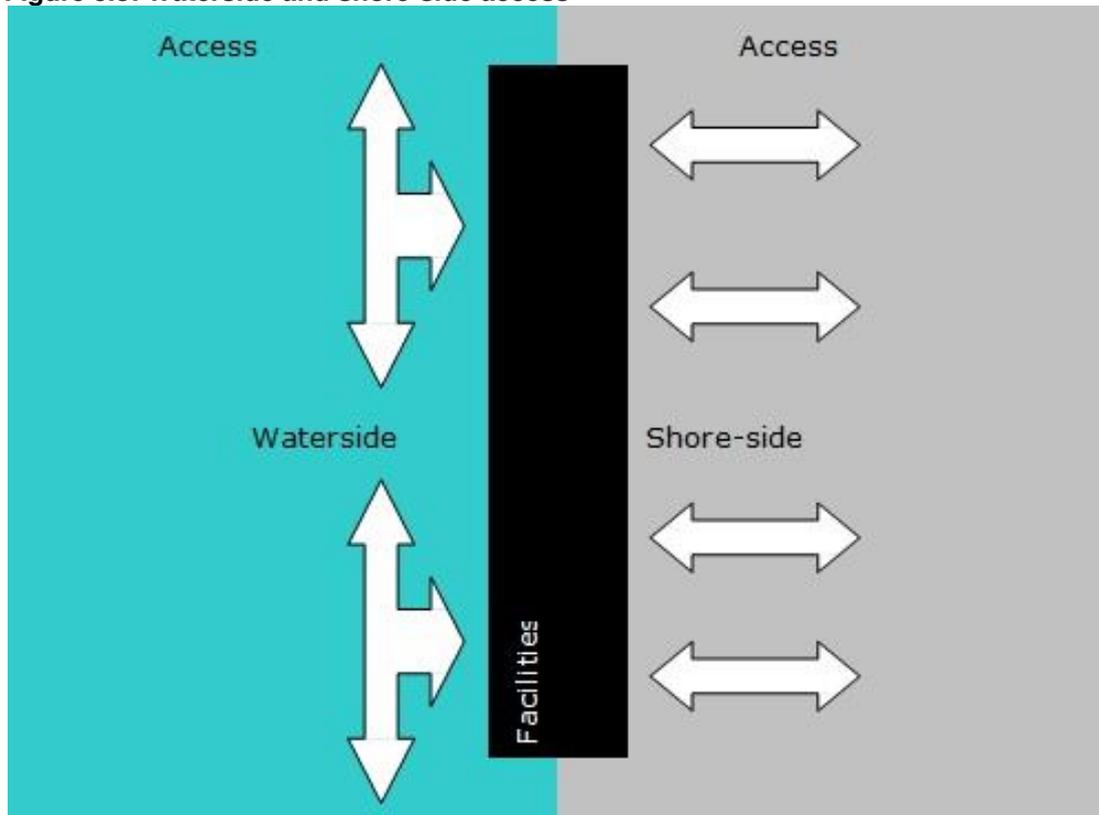
**Expansion Site Requirements**

Specific requirements for expansion varied. In areas within the docks it is recognised from the survey response that sites are required for expansion generally but that, in particular, sites were required for low flash slops, parking and deep water access and berths. Similarly, companies outside of the Port of Falmouth reported that sites were required for expansion generally and that, in particular, sites were required for expansion of manufacturing and flat areas for expansion of renewable energy.

**Waterside and shore-side access**

Adequate waterside and shore-side access is a key requirement for a well functioning port. The consultation with supply chain companies sought views on how waterside and shore-side access and its relationship with facilities, workspace and marine focused activity could be improved. This relationship is demonstrated in Figure 5.8 below:

**Figure 5.8: Waterside and shore-side access**



63% of companies who responded confirmed that they required direct access to water, 50% of which are located outside of the Port (although this represents only 47% of the companies located outside of the Port who responded). The nature of improved access required included:

- Deep water berths and longer deep water berths
- Additional slipway for deployment of craft
- Wharf/Jetty access for vessels
- Improved gangway access
- Additional Cranes
- Additional or improved hard standings and drying pads

The top three ways that access could be improved (in order of importance) were suggested by consultees as follows:

- Dredging of channel and berths
- Improvements to the Western Wharf
- Creation of deep water berths capable of accommodating longer vessels

In particular dredging of the docks and channel was identified as being urgently required. This is consistent with the findings of the demand assessment contained in Section 5 of this report. The only site specific consultation comments on ways of improving access related to Falmouth Wharf and Flushing. It was remarked that opportunities for expansion at Flushing were unlikely due to the lack of adequate access arrangements. Opportunities to improve access to Flushing were seen as unlikely and unviable in terms of the likely pay off in terms of additional economic activity there. Flushing is likely to remain a small scale marine leisure and tourist boating location.

### **Employment Skills and Training Needs**

Of the companies who responded to the survey 57% confirmed that their business required specific employment skills and training. Approximately 30% confirmed that they do not require specific employment skills or training although this may be because training is provided in-house or that training/employment needs are already being met.

It is clear from the survey data that the maritime time economy in Falmouth requires some relatively specific skills sets. In particular it is apparent that more practical skills such as boat handling, tug deckhands and plant operators as well as more specialist skills such as commercial diving, health and safety and engineering that are in short supply.

A list of specific skills requirements as defined by Falmouth and Penryn River maritime supply chain firms is provided as follows:

- General marine and engineering skills and qualifications (i.e. LEEA Qualified)
- Commercial diving
- Boat Handling
- Plant handling/operation
- Welding/fabrication

- Sea Survival
- Banksman
- Health and Safety
- Hazardous substances training/skills
- Tug deckhands
- Masters
- Shipwrights

### Skills and Training Providers

Key local skills and training providers and courses include the following:

**Table 5.3 Local Marine Skills, Education and Training Providers**

Course	Training Provider	Location
<b>Higher Education</b>		
Renewable Energy Bsc	University of Exeter	Penryn
Cruise Management Bsc Hons	University of Plymouth	Plymouth
Marine and Composites Bsc Hons	University of Plymouth	Plymouth
Marine Technology BEng/MEng	University of Plymouth	Plymouth
Maritime Business and Logistics Bsc Hons	University of Plymouth	Plymouth
Maritime Transport and Logistics Bsc Hons	University of Plymouth	Plymouth
Maritime Business and Maritime Law Bsc Hons	University of Plymouth	Plymouth
Marine Science and Biology Foundation Degree	Falmouth Marine School	Falmouth
Marine Sports Science Foundation Degree	Falmouth Marine School	Falmouth
Operational Yacht Science Foundation Degree	Falmouth Marine School	Falmouth
Marine Conservation Foundation Degree	Cornwall College/Plymouth University	Newquay
Science and Engineering Access to HE Diploma	Falmouth Marine School	Falmouth
Marine Engineering BTEC	Falmouth Marine School	Falmouth
Marine Leisure Management BTEC	Falmouth Marine School	Falmouth
Marine Biology and Ecology BTEC	Falmouth Marine School	Falmouth

Course	Training Provider	Location
Marine Biology Bsc	University of Exeter/University of Plymouth	Penryn/Plymouth
<b>Vocational Training</b>		
Health and Safety /COSHH (Day Courses and in company courses available)	Cornwall College	Camborne/Saltash
Engineering Technical Support NVQ Extended Diploma	Cornwall College	St Austell/Plymouth
Fabrication and Welding NVQ Diploma (work based learning)	Cornwall College	St Austell/Plymouth
Marine Engineering NVQ	Babcock International Ltd	Cornwall
Basic Welding Skills (short courses)	Cornwall College	St Austell/Plymouth
Light Marine Engineering Diploma	Falmouth Marine School	Falmouth
Yacht Fit Out and Composites Diploma	Falmouth Marine School	Falmouth
Windsurfing Assistant Instructor Course	Falmouth Marine School	Falmouth
Watersports Instructor Diploma	Falmouth Marine School	Falmouth
Safety Boat Level 2 (2 day course)	Falmouth Marine School	Falmouth
Dingy Instructor	Falmouth Marine School	Falmouth
RYA Competent Crew	Fowey Maritime Centre	Fowey
RYA Day Skipper	Fowey Maritime Centre	Fowey
RYA Coastal Skipper	Fowey Maritime Centre	Fowey
RYA Cruise Instructor	Fowey Maritime Centre	Fowey
Yachtmaster Prep and Dot Exam	Fowey Maritime Centre	Fowey
RYA Yachtmaster Development Programme	Cornish Cruising	
PADI/SDI/PSAI Diving Courses (entry level and continued education courses available)	Cornish Diving School/Atlantic Scuba	Falmouth/Penryn
RYA Powerboat/Motor Boat Courses	Cornish Cruising	Falmouth
RYA Sea Survival	Plymouth Powerboat School/Cornish Cruising	Plymouth/Falmouth
<b>Apprenticeships</b>		
Engineering Apprenticeships	Cornwall College	Camborne/St Austell/Plymouth

Course	Training Provider	Location
Fish Industry Skills Apprenticeship	Cornwall College	Camborne
Marine Engineering Apprenticeships	Cornwall College/Falmouth Marine School/Cornwall Marine Network	Falmouth/Cornwall
Marine Surface Finishing Apprenticeships	Cornwall College	Camborne
Boatbuilding Apprenticeships	Falmouth Marine School	Falmouth
Watersports Apprenticeship	Falmouth Marine School/Cornwall Marine Network	Falmouth/Cornwall
Marine Manufacturing Apprenticeship	Cornwall Marine Network	Cornwall
Boat Building Apprenticeship	Cornwall Marine Network	Cornwall

Table 5.3 provides an example of local maritime skills courses. It shows that there is a reasonable coverage of available courses. Whilst there appears to be a number of courses delivered locally that are relevant and specific to the needs of the marine economic in Falmouth the supply chain consultees suggested that if a skill cannot be found locally within the supply chain then these skills are often sought from outside of the local supply chain in areas where that particular skill is more common. For example, from a renewable energy perspective personnel with relevant skills are drafted in from areas such as Scotland which has a more established renewable energy sector. This represents an opportunity cost in terms of employment opportunities for the local population. It provides further justification for encouragement of local renewable energy skills courses.

In general there appears to be a relative lack of courses locally that provide specific skills and training for the renewable energy sector. Given that this is a growth sector in Falmouth this is one area of skills and training provision that could be expanded. The following renewable energy skills courses are provided nationally:

**Table 5.4 Renewable Energy Courses**

Course	Training Provider	Location
Positive Community Engagement - Essential Workshop	Renewables Training Network (RTN)	National
Managing Safely for Offshore Renewables	Via RTN Training Providers: Consulting; Maersk Training; Orkney College; Safesetters; TUV SUD PMSS	Scotland
Renewables: An Executive Perspective	Cranfield University	Bedford
Awareness of Composites	Composites Skills Alliance	National
Introduction to Behavioural Safety	Renewables Training Network (RTN)	National
Managing Safely for Wind	ARMSA Consulting	National
Wind Farm & Wind Farmer	Garrad Hassan	National

Course	Training Provider	Location
Introduction to Offshore/Onshore Wind	Offshore Marine Academy	Bristol

In summary none of the supply chain consultees raised particular concerns over the level of local skills and training needs to meet demands of the local maritime sector. This is perhaps unsurprising given the relative specialization and long standing tradition of Cornwall in the maritime sector. Most companies seek people with particular skills and there are a variety of courses and apprenticeship options available to meet those needs. If the investment in the POFDI goes ahead there appears to be sufficient capacity in local skills and training providers to 'upscale' to meet the demands that the increased jobs will generate. None of the consultees mentioned an issue with lack of basic skills. The one exception to this is the marine renewable sector. It not being a traditional maritime sector in Cornwall means there is a relative lack of local skills and local training provision to 'bridge the gap' in this area.

### Potential for Start-ups

Consultees felt the main potential for marine related startups were in the renewable energy sector and supply chain firms related to the marine leisure and tourism sector. Much of the traditional marine repairs and support sector industries are more difficult to break into for new companies due to the relatively high initial investment costs. The current economic climate and continuing risk aversion of many finance lenders means that companies requiring high set up costs and investment in machinery etc. may find it hard to gain the financial support necessary to get started. Startup firms supporting the leisure and tourism sectors such as catering, hospitality and entertainment are more likely to be successful given the relatively low level of initial investment required and the growth and confidence of this sector in general in the UK.

The marine renewable sector has a reasonable potential for start-ups given the expectation of significant future growth, high levels of potential return on capital for venture capitalists and potential for public sector grants and subsidies match funding. According to the UK Renewable Energy Road Map 2013 Update, between January 2010 and September 2013 around £31billion of private sector investment was made in the renewable energy sector across the UK. It expects this significant level of investment to grow exponentially in the future. This gives an indication of the potential for the sector and Falmouth and Cornwall are well placed given their geographical location on the Atlantic coast and with higher levels of sunshine than the UK average. Another positive for the marine renewable sector in Cornwall is the fact that many innovative entrepreneurs in the renewable technologies sector seek to work in areas with a good quality of life and environment such as Falmouth can offer.

Venture capitalists see the marine renewable sector as having high potential for growth given the expected rapid expansion of the sector due to increasing pressures of climate change and acceptance of its importance from policy makers. Numerous investment funds exist. These include; South West Cleantech Co-investment Fund, ReEnergise SmartEnergy Fund, Guinness Alternative Energy Fund and Carbon Trust Venture Capital Fund amongst many others.

The chances of seed capital from venture capitalists are increased if match funding is made available from the variety of grant funding packages that exist. These include grants provided by private corporations seeking sponsorship through social corporate responsibility programmes, educational institutions such as the University of Exeter through the FaB Test and numerous tailored public sector packages such as Cornwall Local Carbon Grant Fund, Brant for Business Investment (GBI) and Energy Entrepreneurs Fund

According to consultees the key requirements for start-ups in Falmouth include access to seed capital as discussed above, cheap available and well serviced accommodation and certainty from the public sector. Public sector certainty includes certainty that investment projects such as the dredging of Falmouth Harbour channel will go ahead and support for the growth sectors in planning decisions such as shown through the protection of Falmouth Wharf for potential future renewable energy companies.

## **5.5 Future projects**

Marine supply chain consultees suggested that the priority should be to continue to support the delivery of the current planned Masterplan projects. None of the consultees suggested additional new projects. The only exception was the renovation of Falmouth Wharf to provide more dock space for SME Renewable Energy firms. Given the known desire of the land owner at Falmouth Wharf to redevelop the site for residential uses it is unclear whether this is a practical option at this stage.

## **5.6 Summary and Conclusion**

The findings of this section are based on the responses of supply chain consultees with data from the Penryn River Stage 1 and professional judgment referenced where appropriate. The research has demonstrated that the maritime sector in Falmouth is both diverse and viable with future growth opportunities but also that it faces key challenges and vulnerabilities. Given the relatively small size of the sector in the national context but significant importance to the local economy the careful management of these issues is important to ensure the maximisation of benefits to the local area.

The main maritime economy sectors include three established sectors; industrial, leisure and fishing. The fourth is the Renewable Energy sector which is small but has significant potential for growth and start-up companies. The other area with potential for start-ups is for small and medium sized firms linked to the marine leisure sector especially those linked to catering and tourism. Of the three established sectors, industrial, which includes ship repair, cargo and bunkering, is the most vulnerable. The industrial firm A&P are by far the most significant company in the Port of Falmouth supply chain with 86% of supply chain consultees stating that they trade with A&P. 64% of respondents saw the dredging of the channel as the main opportunity to expand the maritime economy in Falmouth. The cruise sector is also vulnerable if the dredging is not carried out. The cruise sector has significant local supply chain linkages across the range of maritime companies as well as in generating economic benefits through increased visitor spend.

The leisure sector is the strongest and most stable sector due to the strength of the superyacht business and tourism draw of the area. The Penryn River area provides some supply chain linkages to the main Port for the leisure sector and the marine support services. The Penryn River area is relatively self-sufficient with numerous small companies mainly providing services to private yacht owners. Despite this there is a fundamentally a symbiotic relationship between the Port and the leisure sector base on Penryn River and without each other the maritime sector in and around Falmouth would likely be unviable.

The key future requirements identified by consultees include the need to protect shore side / waterside land and access in Penryn River area. There is considerable pressure from higher value uses such as residential uses but the marine sector requires clear access to the shore side and water and to the road network for their supplies. For example, Falmouth Wharf, being the only deep water berth outside the Port is critical for the retention and expansion of the burgeoning renewable energy sector as it can be used to launch vessels and renewable energy equipment. The identified zones of opportunity have been assessed in terms of their suitability for retention as areas of marine activity and potential expansion. These marine uses generate significant and sustainable local employment, both directly and indirectly through the local multiplier effect. It is recommended that protection is afforded to existing maritime sites in these areas to avoid erosion of the maritime capacity of the Penryn Maritime Zones. This is

based on the premise that once these lower value employment uses are 'gone they are gone forever'.

Local skills and training capacity is generally seen as acceptable with the exception of training for the renewable energy sector where training provision capacity locally could be expanded.

In general it was felt that the priority should be to concentrate on the existing planned POFDI Masterplan projects. Providing confidence and commitment that the existing projects will go ahead, especially the dredging, is the key to sustaining the maritime sector in Falmouth.

## 6 ECONOMIC IMPACT ASSESSMENT UPDATE

### 6.1 Introduction

The following economic impact assessment (EIA) sets out a reappraisal of the estimated additional employment and Gross Value Added (GVA) impacts associated with the Port of Falmouth Masterplan 2011 for the period 2013 to 2030. The EIA updates the 2011 Masterplan by taking account of projects that have either discontinued or completed and establishing a new baseline. The information is based on the responses of supply chain firms consulted, as described in greater detail in Chapter 3.

#### Methodology

URS utilises an ‘industry standard’ methodology to estimate the additional impacts associated with business and other development or major infrastructure projects. The methodology is consistent with:

- The Homes and Communities Agency’s (HCA) Additionality Guide (4th Ed), published in 2014
- The HM Treasury’s guide to Appraisal and Evaluation in Central Government (referred to as ‘The Green Book’), published in 2003
- The ODPM’s guidance on Assessing the Impacts of Spatial Interventions (referred to as the 3Rs guidance), also published in 2003

Net additional impacts are estimated by comparing the impacts associated with the implementation of a project or intervention with what would have taken place anyway i.e. the ‘Reference Case’ or ‘Deadweight’. This process is commonly referred to as ‘Additionality’.

**Figure 6.1 Additionality Process**



Source: HCA 2014<sup>12</sup>

The following EIA seeks to re-appraise the net additional economic impacts associated with the 2011 Masterplan. Whilst there is a degree of qualitative analysis involved in any economic forecast it is possible to quantify additional economic impacts by estimating two standard measures - total net additional employment (i.e. the number of job generated) and total net Gross Value Added (GVA) – both of which are used in this EIA.

To calculate total net additional impacts a series of adjustments need to be made to the gross direct impacts of both the intervention option and the reference case (deadweight). Figure 6.1 outlines the process by which gross direct economic impacts should be adjusted to calculate total net additional impacts as per HCA (2014) guidelines.

<sup>12</sup> HCA, 2014, Additionally Guide (4th Ed), page 3

**Figure 6.1 Calculating Total Net Additional Impacts<sup>13</sup>**



Figure 6.1 introduces a number of important factors that are used to adjust gross direct impacts in order to draw conclusions with regard to what the total net additional impacts of a project is likely to be. These are termed ‘additionality factors’ and include ‘leakage’, ‘displacement’, ‘substitution’ and ‘multiplier effects’. A definition for each is provided below:

- **Leakage:** The proportion of outputs lost from the target area - i.e. the proportion of outputs that benefit those outside of the target area or group.
- **Displacement:** The extent to which a project will take market share, labour, land or capital from other local firm - i.e. the proportion of the outputs / outcomes accounted for by reduced outputs / outcomes elsewhere in the target area.
- **Substitution:** The extent to which firms substitute one activity for a similar one to take advantage of public sector assistance – i.e. recruiting a jobless person while making another redundant in order to benefit from a public sector imitative.
- **Multiplier effect:** This is associated with additional local income and local supplier purchases. There are two types of multiplier effects:
  - **Indirect Impact:** A supply linkage (or indirect) multiplier from the purchases made from suppliers as a result of the project and further purchases associated with linked firms along the supply chain which need to be added.

<sup>13</sup> HCA, 2014, Additionally Guide (4th Ed), Figure 2.3

- **Induced Impact:** An income (or consumption/ induced multiplier) associated with increased local expenditure as a result of those who derive incomes from the direct and supply linkage impacts of the project which need to be added.

The HCA Additionality Guidance (2014) contains ‘ready reckoner’ values that can be used when assessing additionality. However, although these are based on UK wide economic research and are often appropriate for this EIA the additionality factors have been deduced from data gathered directly from companies surveyed at the Port of Falmouth through the consultation exercise. This is considered by the HCA guidance as the most robust and appropriate approach where it is practically possible as shown by Table 6.1 below.

**Table 6.1: Additionality Best Practice Framework<sup>14</sup>**

Level of Best Practice	Description
<b>Best</b>	Bespoke investigation using various data capture methods, such as surveys or the results of bespoke economic or other modelling.
<b>Good</b>	Values chosen through a review of previous evaluations recognising differences in: <ul style="list-style-type: none"> <li>• the policy and location (e.g. geographic, demographic or economic difference)</li> <li>• the assumptions made in the original evaluation</li> <li>• significant changes in situation (due to time of the investigation)</li> </ul>
<b>Adequate</b>	Default values chosen from available guides, where the choice has been carefully considered and the reasoning explained.
<b>Not adequate</b>	Default values without consideration of any of the above. Values used without reference to origin/fitness for purpose.

Source: HCA (2014)

In line with best practice guidelines (Table 6.1) URS undertook a re-survey of the businesses located at the Port of Falmouth (see Section 3). The socio-economic baseline and the factors/multipliers used to inform the following EIA are derived from the survey response. Where this has not been feasible then the best practice framework (Figure 6.1) has been followed to ensure an appropriate level of robustness for the EIA.

## 6.2 Port of Falmouth Economic Baseline

This section appraises the current socio-economic baseline for the Port of Falmouth. The baseline information is derived from the 2013/14 survey response. Responses will have generally been based upon financial information gathered from year 2012/13 (since the survey commenced in July 2013).

Where relevant this section draws upon comparisons between the current baseline and the baseline that was reported in the 2011 Masterplan.

### Target Area

The economic impacts of the Port of Falmouth Masterplan are considered relative to the local authority area. In this case this is Cornwall. This represents the principal labour market catchment area (that is, the area which incorporates the population that may reasonably be expected to travel to and directly benefit from the Masterplan).

<sup>14</sup> HCA, 2014, Additionally Guide (4th Ed), Page 7

## Employment

It can be concluded from the survey response that 1,401 people are currently employed by companies located at the Port. This translates to a total of 1,377 Full Time Equivalent (FTEs)<sup>15</sup> jobs as shown in Table 6.2<sup>16</sup>. This represents a 1.7 % decline in FTEs per annum at the Port since 2009. This relatively small decline is likely to be at least partly a result of the long lasting economic downturn that has occurred since 2008 but which is now in 2014 showing signs of reversing.

**Table 6.2 Employee Number and Full Time Equivalent Jobs at the Falmouth Docks, 2013**

	Directly Employed		Sub Total	Employed through agencies/sub-contractors		Sub Total	Total
		Part time			Part time		
Actual Employees	1,031	51	1,082	317	2	319	<b>1,401</b>
FTE Jobs	1,031	28	1,059	317	1	318	<b>1,377</b>

Table 6.2 shows that of the FTEs reported for 2013, 1,059 were directly employed by companies located at the Port and 318 were employed via an agency, or as a sub-contractor.

Table 6.3 provides a breakdown of where employees currently live. The table shows that the majority of employees (59.7 %) live within Falmouth and Penryn. 40.3% of employees live outside of Falmouth and Penryn but still reside in Cornwall. Therefore, according to the results of the survey all employees live within Cornwall.

**Table 6.3 Distribution of Employee (FTE) Residence, 2013**

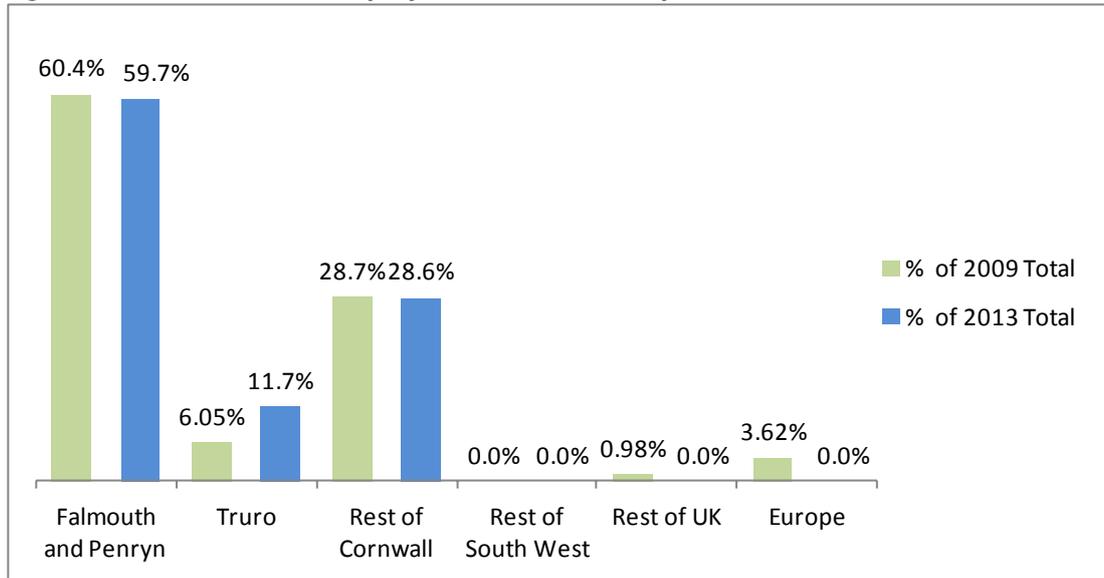
Location	% of Total	Total FTEs
Falmouth and Penryn	59.7%	821
Truro	11.7%	161
Rest of Cornwall	28.6%	394
Rest of South West	0.0%	0
Rest of UK	0.0%	0
Europe	0.0%	0
<b>Total</b>	<b>100.0%</b>	<b>1,377</b>

As shown in Figure 6.2 below the distribution of employee residence is broadly similar to now as it was in 2009 with the exception that in 2013 none of the respondents claimed that their employees lived outside Cornwall.

<sup>15</sup> FTEs are estimated based on the total number of hours worked by part-time employees.

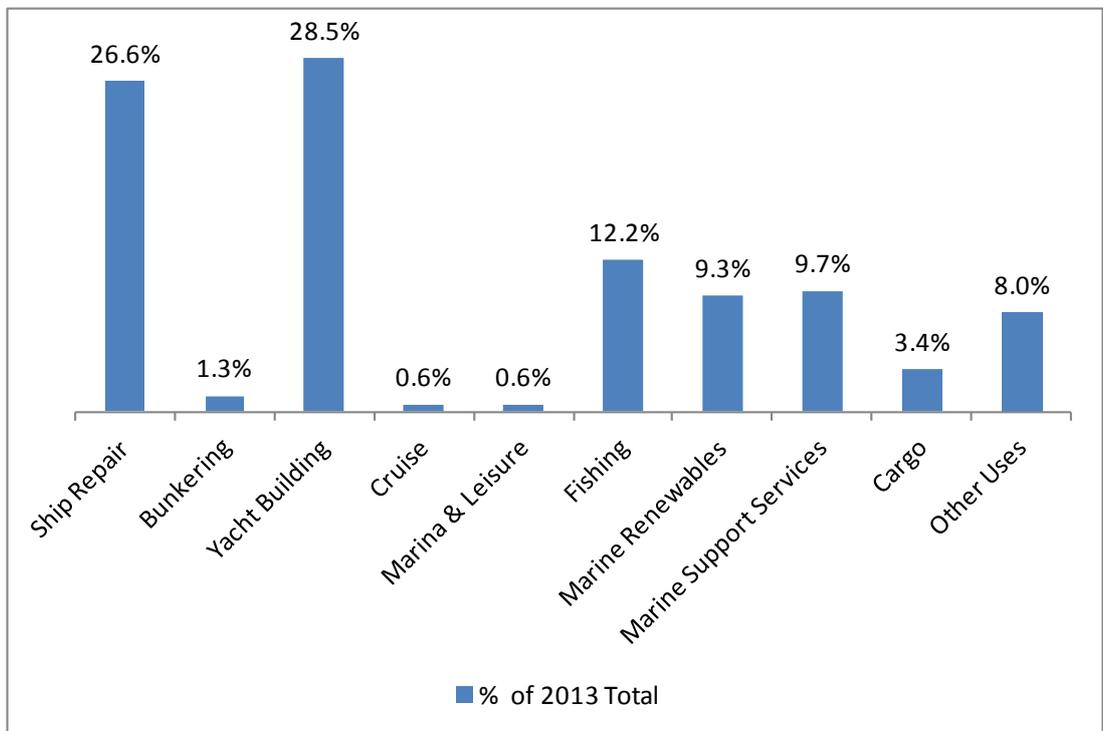
<sup>16</sup> To ensure the baseline was complete and comparable with the 2011 Masterplan estimates were made for five companies that did not respond. These were based on the averages for the companies where data was received.

**Figure 6.2 Distribution of Employee Residence Comparison 2009 & 2013**



A breakdown of employment share by sector is set out in Figure 6.3 below. This shows that Yacht building is the largest sector at 28.5% of total jobs. If this is compared to the results of 2009 from the 2011 Masterplan EIA<sup>17</sup> it shows that the Ship repair sector, which was 46% of total jobs in 2009 has fallen fairly significantly to 26.6% in 2013.

**Figure 6.3 Breakdown of Employment Share by Sector, 2013**



<sup>17</sup> POFDI, Port of Falmouth EIA, Roger Tym (2011), Figure 3.1

### Average Salaries

Table 6.4 below sets out the total salary/wage payments made from companies located in the Port to employees direct and/or to agencies/sub-contractors. The table shows that in 2013 the total salary/wage bill for those companies located in the Port of Falmouth stood at £30.1 million per annum. This is approximately £1.3m (4 %) less than the total salary/wage bill reported in 2009 – a trend that is consistent with the weak economic climate and the fewer number of total employees in the period between 2009 and 2013.

**Table 6.4 Average Wage/Salary Payments**

	Total Salary/Wage Payments POF firms	Number of FTEs	Average Salary
FTE Employees	£30,086,759	1,377	£21,856

### Turnover and GVA

The turnover of companies located at the Port is estimated to have been around £135 million in 2013 which is £19m more than the turnover estimated in 2009. This increase suggests that companies have been more efficient and profitable even though the wider economic climate has been more challenging. It perhaps is also consistent with the fact that the greatest growth sectors in Falmouth have been the yacht building sector which has links to high worth individuals which have been one of the few areas of the UK and global economy that have seen growth in the last few years.

Gross Value Added (GVA) is essentially the value created by the operation of a business and is calculated by subtracting the value of the inputs purchased by a business (i.e. supplies) from the businesses overall turnover. Survey data indicates that the total value of supplies purchased by the Port companies in 2013 amounted to £53.3m. The total GVA<sup>18</sup> is therefore £81.8m. This is similar to the £75m GVA estimated in 2009.

GVA per job is therefore £59,400. As described above and throughout the demand and supply chain assessment, this increasing GVA per job is likely to be primarily related to the growth in the superyacht sector which is has been increasingly successful and profitable against a backdrop of economic stagnation in the wider economy. Table 6.5 provides a summary of this calculation.

**Table 6.5 Calculating GVA per Job**

Component	Value
A. Turnover	£ 135,111,446
B. Total Value of Supplies	£ 53,339,338
C. Total GVA (A – B)	£ 81,772,108
D. Total FTEs <sup>19</sup>	£ 1,377
E. GVA per Job (C ÷ D)	£ 59,401

## 6.3

### Calculating Additionality Factors and Values

In accordance with Figure 6.1 (Calculating Total Net Additional Impacts) the following additionality factors are calculated utilising the information appraised within the baseline section above. These tailored additionality factors are then applied to the revised Masterplan sector demand assessment to arrive at the net additional jobs and GVA.

<sup>18</sup> GVA = Total Turnover – Total Value of Supplies

<sup>19</sup> Total FTEs as set out in Table XX

### Leakage

Leakage is the proportion of outputs lost from a target area. With relevance to this assessment a key measure of leakage is the proportion of people who work within but live outside of a target area<sup>20</sup>. In 2009 the number of FTE jobs that ‘leaked’ outside of Cornwall accounted for 4.6% of FTE jobs overall. In 2013 this figure was zero based on the consultation responses and as discussed at Table 6.3 above.

It is recognised that surveys are only a ‘snapshot in time’ therefore, bearing in mind the disparity between the 2013 and 2009 survey, it is considered appropriate to use generic ready reckoners to estimate the effect of leakage adjusted by the assumptions based on the data received. Ready reckoners for leakage are set out in the HCA Additionality Guide but, for ease of reference, are reproduced in Table 6.6 below.

**Table 6.6 HCA Leakage Ready Reckoners<sup>21</sup>**

Level	Description	Leakage
None	All of the benefits go to people within the target area/group.	0%
Low	The majority of benefits go to people within the target area/group.	10%
Medium	A reasonably high proportion of benefits will be retained within the target area/group.	25%
High	Many of the benefits will go to people outside of the target area/group.	50%
Very High	A substantial proportion of those benefitting will live outside of the target area/group.	75%
Total	None of the benefits go to the target area/target group.	100%

Source: HCA (2014)

Having regard to Table 6.6, the 2009 survey response and average data for Cornwall it is appropriate to assume that the overall level of leakage is likely to remain low i.e. somewhere between 0% and 10%. Accordingly, it is estimated that leakage will account for approximately 5%<sup>22</sup> of FTE jobs generated as a result of the Masterplan.

### Displacement

Displacement arises when outputs (i.e. an increased number of jobs) are accounted for by reduced outputs elsewhere. For example, a company may take market share away from others located in the same target area or sector, consequently eroding benefits overall. The extent to which displacement occurs can be affected by a number of factors including the amount of competition in a market and/or the availability of resources i.e. a skilled workforce.

In this case displacement depends on the extent to which activities at the Port reduce the scale of similar activities at other ports due to competition. In the 2011 Masterplan EIA it was assumed that displacement would occur at a 10% level. This assumption was made on the basis that the displacement effect, associated with activities at the Port of Falmouth, was likely to be minor, principally due to the Port of Falmouth’s unique position on the south west coast.<sup>23</sup> The position in this regard has not changed. Accordingly, a 10% level of displacement is also applied for the purpose of this assessment.

<sup>20</sup> This is based on the standard assumption that people tend to spend their wages/salary in the area in which they live rather than the area in which they work.

<sup>21</sup> HCA Additionality Guidance 2014, Table 4.3 p27

<sup>22</sup> 5% equates to the mid-point between ‘none’ and ‘low’ leakage.

<sup>23</sup> Roger Tym & Partners, Port of Falmouth Masterplan: Economic Impact Assessment of Masterplan option and the Masterplan. Final Report, 2011. Paragraph 3.16 – 3.17.

### Substitution

Substitution is the effect that arises as a result of one activity being replaced by a similar activity in order to benefit from public sector assistance. Such effects are often observed where public sector interventions are implemented to target the labour market. An example of this is if a company was to make a position redundant in order to appoint someone who, up until that point, had been in long term unemployment in order to benefit from a grant in place to encourage a reduction in levels of long term unemployment. Similarly, if the Government were to subsidise rents in order to encourage business activity in a particular area you might expect companies to relocate from existing premises in order to benefit from the subsidy. Both effects would need to be taken into consideration in assessing net additional impacts.

However, since the projects that comprise the Masterplan are infrastructure led and do not involve public sector employment assistance it is not considered that there will be any substitution effect(s) arising from activities at the Port.

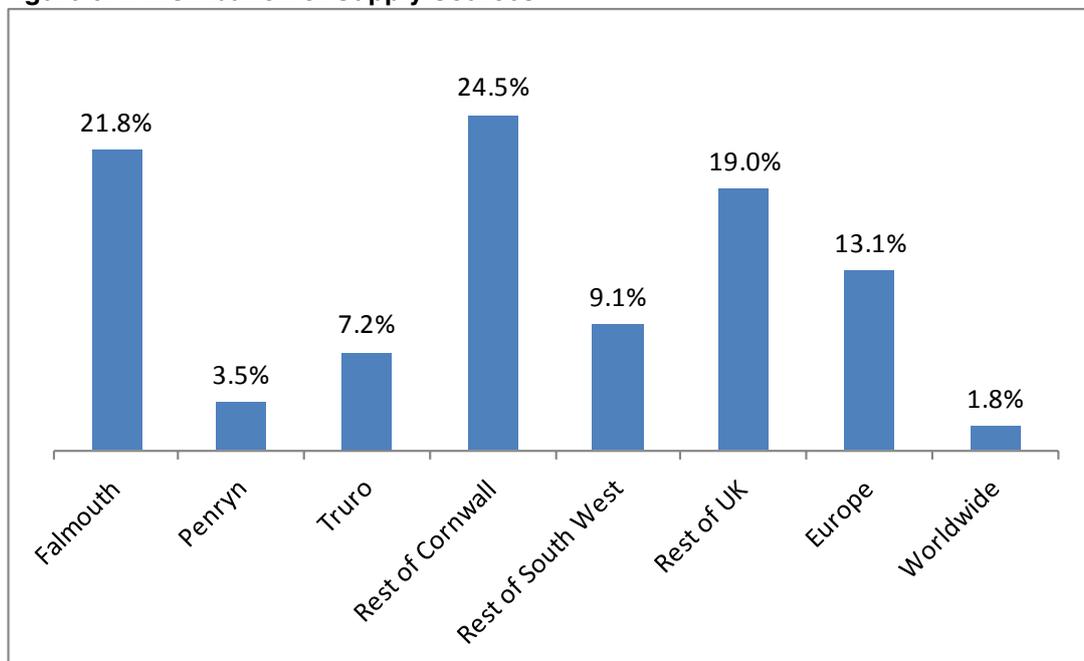
### Multiplier Effects

#### Indirect multiplier

Indirect multiplier effects represent the jobs generated by trade between companies in the supply chain and the Port of Falmouth. These linkages are described in a more qualitative way in the previous chapter. They also include the purchases made from suppliers and further purchases associated with linked firms along the supply chain which all need to be added together to form the indirect or supply chain multiplier.

The 2013 survey found that companies spent around £53.3m in total on their supplies. Of these approximately £30.4m were spent in Cornwall which represents 57% of total supplies. The distribution of supply sources is shown in Figure 6.4 below:

**Figure 6.4: Distribution of Supply Sources**



Supplies in Cornwall but excluding Falmouth total approximately £18.7m or 35.1%. To avoid double counting a median point between the supplies in Cornwall and the supplies in Cornwall excluding Falmouth is assumed. This totals approximately £24.6m (46.1% of total supplies)<sup>24</sup>. Purchases through sub-contracting totaled approximately £7m. When the same

<sup>24</sup> The 2011 Masterplan EIA excluded all supplies in Falmouth to deduce its indirect multiplier by avoiding double counting. However, this seems an overly precautionary step because, as discovered in the supply chain assessment

proportion of local benefits is assumed (i.e. 46.1% as above)<sup>25</sup> this amounts to approximately £3.2m of costs for sub-contractor supplies in Cornwall with 50% excluded for Falmouth to account for double counting. When the net direct supplies and sub-contractor supplies are added together this amounts to £27.8m. If the average sales per employee figure in 2012 taken from the ONS data for the Finance, Communications, Property, Transport services, Business services, Retail, and Hospitality and tourism sectors of £119,868 is applied to this figure of £27.8m, it generates an estimated 232 indirect employees. As a percentage of the total direct jobs taken from the consultation responses, this equals 16.8%, which is assumed to be the indirect multiplier effect.

### ***Induced multiplier***

An income (or consumption/ induced multiplier) is associated with increased local expenditure which results from those who derive incomes either from the direct or supply chain linkage impacts of the project. These also should be added to the direct and indirect impacts to derive net impacts.

The total salaries of the direct employees as defined through the consultation exercise equals approximately £30m. The total salaries of their suppliers equals around £7m based on the number of FTE sub-contractor employees and the latest average wage in Cornwall figure of £22,087. If these two figures are added together (£37.1m) and divided by the average sales per employee figure (£119,868) as described above this provides an estimate of 310 induced multiplier jobs. As a percentage of total direct jobs (1,377) this represents an induced multiplier of 22.5%.

The composite multiplier is calculated by adding together the indirect and induced multipliers. For this study it is estimated to be 39.3%. This can be 'sanity checked' against 2014 HCA Additionality Guidance (paragraph 4.5.6) ready reckoners. According to the HCA Guidance ready reckoner multipliers range from 5% for low neighbourhood level multipliers to 70% for high regional level. This suggests that an indirect multiplier of 39.3% is realistic and potentially conservative, especially given the research that suggests that the Ports Industry sector typically has very strong supply chain multiplier effects. For example, according to a report into the Economic Impact of the UK Ports Industry by Oxford Economics in 2011 they estimate the composite multiplier of the UK Ports industry to be around 200%<sup>26</sup>.

## **6.4 Economic Impact Assessment of the Updated Masterplan**

The EIA process is as follows:

### **Baseline**

1. Calculate the baseline of existing jobs and GVA in Port of Falmouth based on consultation response data (as shown at 6.2 above)
2. Apply tailored additionality factors as described at 6.3 above to arrive at net jobs and GVA.
3. The effects of 2011 Masterplan projects that have already been completed, including: 1) A new crane adjacent to No. 2 Dock and, 5) Superyacht workshops and bunkering offices, are taken account of in the updated baseline. The continuing effects of these projects on demand in the future will also be built into the EIA as described below.

### **Quantifying Demand linked to Updated Masterplan & Do Nothing Case**

4. The starting point for the demand element of the EIA is to use the compound annual growth rates (CAGR) for each sector as defined in the 2011 Masterplan. These relate to

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(chapter 5) which is based on consultation responses, there is a significant amount of trade between the Port of Falmouth and supply chain companies within Falmouth but outside the Port - for example at the Tregonnie Industrial Estate.

<sup>25</sup> This assumption is applied due to the lack of geographic information in the data on sub-contractors.

<sup>26</sup> Oxford Economics, The Economic Impact of the UK Ports Industry (2011) p13

the projected demand arising from the 2011 Masterplan projects. This is performed for the Masterplan and the 'Do nothing' option.

5. Masterplan projects are assigned to the sectors that they are likely to influence e.g. *Project 10) enlarged workshop at Dock 1* is assigned 100% to superyachts and *Project 5) Superyacht workshop and bunkering offices* are assigned 50% to Superyachts and 50% to Bunkering sectors. Each project is weighted relative to its importance in delivering the projected benefits of the overall Masterplan. This is estimated using project costs relative to the total Masterplan package or other relevant information where appropriate.
6. Projects that will not go ahead are discounted and the original 2011 Masterplan CAGR for that sector is adjusted downwards accordingly.
7. The sector CAGRs are then further adjusted where necessary based on the findings of the demand chapter ('sector outlook' as shown in section 4). For example, if the short term outlook for the ship repair sector is less positive than in the 2011 Masterplan the CAGR is adjusted downwards accordingly.

#### EIA

8. The updated CAGR for each sector based on the demand assessment described above is applied to the baseline jobs to create the estimated future jobs by sector. This is performed for the four time periods 2010 to 2014, 2015 to 2020, 2021 to 2025 and 2026 to 2030.
9. The intervention case comprises the 2011 Masterplan projects as listed in Tables 2.2 and 2.3 less those that have already been completed (as described in the demand methodology above).
10. The 'Do Nothing' case is estimated by removing the effect of Masterplan projects, although those projects that have already been completed are factored in. In this respect the scenario is re-named the 'Do Nothing Further' case as some of the Masterplan projects have been completed.
11. For both the Intervention case and the 'do no more' case the additionality factors described above are factored in to provide net jobs and GVA.
12. To derive net additional impacts in GVA and Jobs the Intervention case (Masterplan) is compared to the 'Do Nothing Further' case.

Based on the process described above, Table 6.7 shows the total net impacts by sector of the 'Intervention Case':

**Table 6.7 Total Net Impacts (FTE Jobs and GVA) of the Masterplan (Intervention Option)**

	2013		2013 2015		2015 2020		2020 2025		2025 2030	
	Jobs	GVA (£m)								
<b>SHIPREPAIR</b>										
Gross Direct Impacts	485	28.8	477	28.4	606	36.0	657	39.0	689	40.6
<i>Less Leakage (5%)</i>	-24	-1.4	-24	-1.4	-30	-1.8	-33	-2.0	-34	-2.0
Gross Local Direct Impacts	460	27.3	454	26.9	576	34.2	624	37.1	654	38.6
<i>Less Displacement (10%)</i>	-46	-2.7	-45	-2.7	-58	-3.4	-62	-3.7	-65	-3.9
Net Local Direct Impacts	414	24.6	408	24.3	519	30.8	561	33.4	589	34.7
Plus Indirect and Induced Impacts	163	9.7	161	9.5	204	12.1	221	13.1	232	13.6
<b>Total Net Local Impacts</b>	<b>577</b>	<b>34.3</b>	<b>569</b>	<b>33.8</b>	<b>722</b>	<b>42.9</b>	<b>782</b>	<b>46.5</b>	<b>820</b>	<b>48.3</b>
<b>SUPERYACHTS</b>										
Gross Direct Impacts	392	23.3	450	26.7	560	33.3	564	33.5	563	33.5
<i>Less Leakage (5%)</i>	-20	-1.2	-22	-1.3	-28	-1.7	-28	-1.7	-28	-1.7
Gross Local Direct Impacts	372	22.1	427	25.4	532	31.6	536	31.9	535	31.8
<i>Less Displacement (10%)</i>	-37	-2.2	-43	-2.5	-53	-3.2	-54	-3.2	-54	-3.2
Net Local Direct Impacts	335	19.9	385	22.8	478	28.4	482	28.7	482	28.6
Plus Indirect and Induced Impacts	132	7.8	151	9.0	188	11.2	190	11.3	189	11.3
<b>Total Net Local Impacts</b>	<b>467</b>	<b>27.7</b>	<b>536</b>	<b>31.8</b>	<b>667</b>	<b>39.6</b>	<b>672</b>	<b>39.9</b>	<b>671</b>	<b>39.9</b>
<b>OIL BUNKERING</b>										
Gross Direct Impacts	17	1.0	18	1.1	23	1.4	26	1.5	26	1.6
<i>Less Leakage (5%)</i>	-1	-0.1	-1	-0.1	-1	-0.1	-1	-0.1	-1	-0.1
Gross Local Direct Impacts	17	1.0	17	1.0	22	1.3	24	1.5	25	1.5
<i>Less Displacement (10%)</i>	-2	-0.1	-2	-0.1	-2	-0.1	-2	-0.1	-2	-0.1
Net Local Direct Impacts	15	0.9	16	0.9	20	1.2	22	1.3	22	1.3
Plus Indirect and Induced Impacts	6	0.3	6	0.4	8	0.5	9	0.5	9	0.5
<b>Total Net Local Impacts</b>	<b>21</b>	<b>1.2</b>	<b>22</b>	<b>1.3</b>	<b>28</b>	<b>1.7</b>	<b>30</b>	<b>1.8</b>	<b>31</b>	<b>1.9</b>
<b>CARGO</b>										
Gross Direct Impacts	47	2.8	47	2.8	48	2.9	53	3.1	54	3.2
<i>Less Leakage (5%)</i>	-2	-0.1	-2	-0.1	-2	-0.1	-3	-0.2	-3	-0.2
Gross Local Direct Impacts	44	2.6	44	2.6	46	2.7	50	3.0	51	3.0
<i>Less Displacement (10%)</i>	-4	-0.3	-4	-0.3	-5	-0.3	-5	-0.3	-5	-0.3
Net Local Direct Impacts	40	2.4	40	2.4	41	2.4	45	2.7	46	2.7
Plus Indirect and Induced Impacts	16	0.9	16	0.9	16	1.0	18	1.1	18	1.1
<b>Total Net Local Impacts</b>	<b>55</b>	<b>3.3</b>	<b>56</b>	<b>3.3</b>	<b>57</b>	<b>3.4</b>	<b>63</b>	<b>3.7</b>	<b>64</b>	<b>3.8</b>
<b>OTHER PORT BUSINESSES</b>										
Gross Direct Impacts	539	32.0	553	32.8	588	34.9	627	37.2	653	38.8
<i>Less Leakage (5%)</i>	-27	-1.6	-28	-1.6	-29	-1.7	-31	-1.9	-33	-1.9
Gross Local Direct Impacts	512	30.4	525	31.2	559	33.2	595	35.4	620	36.8
<i>Less Displacement (10%)</i>	-51	-3.0	-53	-3.1	-56	-3.3	-60	-3.5	-62	-3.7

	2013		2013 2015		2015 2020		2020 2025		2025 2030	
	Jobs	GVA (£m)								
Net Local Direct Impacts	461	27.4		28.1	503	29.9		31.8	558	33.2
Plus Indirect and Induced Impacts	181	10.8	186	11.0	198	11.8	211	12.5	219	13.0
<b>Total Net Local Impacts</b>	<b>642</b>	<b>38.2</b>	<b>659</b>	<b>39.1</b>	<b>701</b>	<b>41.6</b>	<b>747</b>	<b>44.4</b>	<b>777</b>	<b>46.2</b>
<b>CRUISE</b>										
Gross Direct Impacts	8	0.5	8	0.5	16	0.9	19	1.0	23	1.3
<i>Less Leakage (5%)</i>	0	0.0	0	0.0	-1	0.0	-1	-0.1	-1	-0.1
Gross Local Direct Impacts	8	0.5	8	0.5	16	0.9	18	1.0	22	1.2
<i>Less Displacement (10%)</i>	-1	0.0	-1	0.0	-2	-0.1	-2	-0.1	-2	-0.1
Net Local Direct Impacts	7	0.4	7	0.4	14	0.8	16	0.9	20	1.1
Plus Indirect and Induced Impacts	3	0.2	3	0.2	6	0.3	6	0.4	8	0.4
Plus Wider Economy Impacts	55	3.2	48	2.9	99	5.9	160	9.5	257	15.3
<b>Total Net Local Impacts</b>	<b>64</b>	<b>3.8</b>	<b>58</b>	<b>3.4</b>	<b>119</b>	<b>7.0</b>	<b>182</b>	<b>10.7</b>	<b>285</b>	<b>16.8</b>
<b>MARINA</b>										
Gross Direct Impacts	8	0.5	8	0.5	8	0.5	8	0.5	8	0.5
<i>Less Leakage (5%)</i>	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Gross Local Direct Impacts	7	0.4	7	0.4	7	0.4	7	0.4	7	0.4
<i>Less Displacement (10%)</i>	-1	0.0	-1	0.0	-1	0.0	-1	0.0	-1	0.0
Net Local Direct Impacts	7	0.4	7	0.4	7	0.4	7	0.4	7	0.4
Plus Indirect and Induced Impacts	3	0.2	3	0.2	3	0.2	3	0.2	3	0.2
<b>Total Net Local Impacts</b>	<b>9</b>	<b>0.5</b>								
<b>ADDITIONAL EMPLOYMENT SPACE</b>										
Gross Direct Impacts	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0.0
<i>Less Leakage (5%)</i>	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0.0
Gross Local Direct Impacts	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0.0
<i>Less Displacement (10%)</i>	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0.0
Net Local Direct Impacts	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0.0
Plus Indirect and Induced Impacts	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0.0
<b>CONSTRUCTION</b>	<b>0</b>	<b>0.0</b>	<b>54</b>	<b>3.3</b>	<b>54</b>	<b>3.3</b>	<b>54</b>	<b>3.3</b>	<b>54</b>	<b>3.3</b>
<b>Total Net Impacts of Masterplan</b>	<b>1,827</b>	<b>108.5</b>	<b>1,944</b>	<b>115.6</b>	<b>2,356</b>	<b>140.1</b>	<b>2,539</b>	<b>150.9</b>	<b>2,712</b>	<b>160.8</b>

Table 6.7 above demonstrates that the updated Masterplan should generate an estimated 2,712 additional jobs and £161m additional GVA in Cornwall by 2030. The three largest growth sectors are Other Port Business<sup>27</sup> which increases from 642 jobs in 2013 to 777 by 2030, Superyachts which increase from 467 to 671 and Ship Repair from 577 to 820 in the same time period.

### **Reference Case**

The reference case<sup>28</sup> is the extent to which impacts (additional employment/GVA) would have been generated anyway i.e. in absence of the implementation of the Masterplan. Therefore, the 'Do Nothing Further' option represents the 'reference case' and the outputs associated with that option represent the benefits which would be achieved if the remaining Masterplan projects (apart from those that have already started or been completed ) were not delivered. Table 6.8 shows the 'Do Nothing Further' case net impacts by sector:

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<sup>27</sup> To allow comparison with the 2011 Masterplan 'Other Port Business' includes fishing, marine renewables, marine support services and other uses.

<sup>28</sup> This is also known as deadweight i.e. what is projected to happen in the absence of any intervention (Masterplan)

**Table 6.8 Total Net Additional Impacts (FTE Jobs and GVA) of the Masterplan (Do Nothing Further/ Reference Case)**

	2013		2013 2015		2015 2020		2020 2025		2025 2030	
	Jobs	GVA (£m)								
<b>SHIPREPAIR</b>										
Gross Direct Impacts	485	28.8	480	26.5	393	22.9	344	17.8	343	17.8
<i>Less Leakage (5%)</i>	-24	-1.4	-24	-1.3	-20	-1.1	-17	-0.9	-17	-0.9
Gross Local Direct Impacts	460	27.3	456	25.1	373	21.7	326	17.0	326	16.9
<i>Less Displacement (10%)</i>	-46	-2.7	-46	-2.5	-37	-2.2	-33	-1.7	-33	-1.7
Net Local Direct Impacts	414	24.6	410	22.6	336	19.5	294	15.3	294	15.2
Plus Indirect and Induced Impacts	163	9.7	161	8.9	132	7.7	116	6.0	116	6.0
<b>Total Net Local Impacts</b>	<b>577</b>	<b>34.3</b>	<b>571</b>	<b>31.5</b>	<b>468</b>	<b>27.2</b>	<b>409</b>	<b>21.3</b>	<b>409</b>	<b>21.1</b>
<b>SUPERYACHTS</b>										
Gross Direct Impacts	392	23.3	435	23.7	448	20.5	448	16.0	448	15.9
<i>Less Leakage (5%)</i>	-20	-1.2	-22	-1.2	-22	-1.0	-22	-0.8	-22	-0.8
Gross Local Direct Impacts	372	22.1	413	22.5	426	19.5	426	15.2	426	15.1
<i>Less Displacement (10%)</i>	-37	-2.2	-41	-2.3	-43	-1.9	-43	-1.5	-43	-1.5
Net Local Direct Impacts	335	19.9	372	20.3	383	17.5	383	13.7	383	13.6
Plus Indirect and Induced Impacts	132	7.8	146	8.0	151	6.9	151	5.4	151	5.4
<b>Total Net Local Impacts</b>	<b>467</b>	<b>27.7</b>	<b>518</b>	<b>28.3</b>	<b>534</b>	<b>24.4</b>	<b>534</b>	<b>19.1</b>	<b>534</b>	<b>19.0</b>
<b>OIL BUNKERING</b>										
Gross Direct Impacts	17	1.0	18	1.1	20	0.8	21	0.5	22	0.5
<i>Less Leakage (5%)</i>	-1	-0.1	-1	-0.1	-1	-0.0	-1	-0.0	-1	-0.0
Gross Local Direct Impacts	17	1.0	17	1.0	19	0.7	20	0.4	21	0.4
<i>Less Displacement (10%)</i>	-2	-0.1	-2	-0.1	-2	-0.1	-2	-0.0	-2	-0.0
Net Local Direct Impacts	15	0.9	16	0.9	17	0.7	18	0.4	19	0.4
Plus Indirect and Induced Impacts	6	0.3	6	0.4	7	0.3	7	0.2	7	0.2
<b>Total Net Local Impacts</b>	<b>21</b>	<b>1.2</b>	<b>22</b>	<b>1.3</b>	<b>24</b>	<b>0.9</b>	<b>25</b>	<b>0.6</b>	<b>26</b>	<b>0.6</b>
<b>CARGO</b>										
Gross Direct Impacts	47	2.8	47	2.5	30	2.2	25	1.7	25	1.7
<i>Less Leakage (5%)</i>	-2	-0.1	-2	-0.1	-2	-0.1	-1	-0.1	-1	-0.1
Gross Local Direct Impacts	44	2.6	44	2.4	29	2.1	24	1.6	24	1.6
<i>Less Displacement (10%)</i>	-4	-0.3	-4	-0.2	-3	-0.2	-2	-0.2	-2	-0.2
Net Local Direct Impacts	40	2.4	40	2.2	26	1.9	21	1.5	21	1.5
Plus Indirect and Induced Impacts	16	0.9	16	0.9	10	0.7	8	0.6	8	0.6
<b>Total Net Local Impacts</b>	<b>55</b>	<b>3.3</b>	<b>56</b>	<b>3.0</b>	<b>36</b>	<b>2.6</b>	<b>30</b>	<b>2.0</b>	<b>30</b>	<b>2.0</b>
<b>OTHER PORT BUSINESSES</b>										
Gross Direct Impacts	539	32.0	552	32.6	271	28.2	150	22.0	136	21.9
<i>Less Leakage (5%)</i>	-27	-1.6	-28	-1.6	-14	-1.4	-8	-1.1	-7	-1.1
Gross Local Direct Impacts	512	30.4	525	31.0	257	26.8	143	20.9	130	20.8

	2013		2013 2015		2015 2020		2020 2025		2025 2030	
	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)
<i>Less Displacement (10%)</i>	-51	-3.0		-3.1	-26	-2.7		-2.1	-13	-2.1
Net Local Direct Impacts	461	27.4	472	27.9	232	24.1	128	18.8	117	18.7
Plus Indirect and Induced Impacts	181	10.8	186	11.0	91	9.5	51	7.4	46	7.4
<b>Total Net Local Impacts</b>	<b>642</b>	<b>38.2</b>	<b>658</b>	<b>38.9</b>	<b>323</b>	<b>33.6</b>	<b>179</b>	<b>26.2</b>	<b>162</b>	<b>26.1</b>
<b>CRUISE</b>										
Gross Direct Impacts	8	0.5	8	0.5	8	0.4	8	0.3	8	0.3
<i>Less Leakage (5%)</i>	0	-0.0	0	-0.0	0	-0.0	0	-0.0	0	-0.0
Gross Local Direct Impacts	8	0.5	8	0.5	8	0.4	8	0.3	8	0.3
<i>Less Displacement (10%)</i>	-1	-0.0	-1	-0.0	-1	-0.0	-1	-0.0	-1	-0.0
Net Local Direct Impacts	7	0.4	7	0.4	7	0.4	7	0.3	7	0.3
Plus Indirect and Induced Impacts	3	0.2	3	0.2	3	0.1	3	0.1	3	0.1
Plus Wider Economy Impacts	46	2.7	31	1.9	24	1.4	24	1.4	24	1.4
<b>Total Net Local Impacts</b>	<b>55</b>	<b>3.3</b>	<b>41</b>	<b>2.4</b>	<b>34</b>	<b>1.9</b>	<b>34</b>	<b>1.8</b>	<b>34</b>	<b>1.8</b>
<b>MARINA</b>	8	0.5	8	0.5	8	0.4	8	0.3	8	0.3
Gross Direct Impacts	0	-0.0	0	-0.0	0	-0.0	0	-0.0	0	-0.0
<i>Less Leakage (5%)</i>	7	0.4	7	0.4	7	0.4	7	0.3	7	0.3
Gross Local Direct Impacts	-1	-0.0	-1	-0.0	-1	-0.0	-1	-0.0	-1	-0.0
<i>Less Displacement (10%)</i>	7	0.4	7	0.4	7	0.3	7	0.3	7	0.3
Net Local Direct Impacts	3	0.2	3	0.2	3	0.1	3	0.1	3	0.1
Plus Indirect and Induced Impacts	9	0.5	9	0.6	9	0.5	9	0.4	9	0.4
<b>Total Net Local Impacts</b>	<b>8</b>	<b>0.5</b>	<b>8</b>	<b>0.5</b>	<b>8</b>	<b>0.4</b>	<b>8</b>	<b>0.3</b>	<b>8</b>	<b>0.3</b>
<b>ADDITIONAL EMPLOYMENT SPACE</b>	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Gross Direct Impacts	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<i>Less Leakage (5%)</i>	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Gross Local Direct Impacts	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<i>Less Displacement (10%)</i>	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Net Local Direct Impacts	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Plus Indirect and Induced Impacts	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>CONSTRUCTION</b>	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total Net Impacts of Masterplan</b>	<b>1,827</b>	<b>108.5</b>	<b>1,875</b>	<b>106.0</b>	<b>1,427</b>	<b>91.4</b>	<b>1,219</b>	<b>71.6</b>	<b>1,204</b>	<b>71.3</b>

Table 6.7 above demonstrates that by 2030 an estimated 1,204 jobs and £71.3m of GVA would exist in the Port of Falmouth if no further Masterplan projects were completed in the same time period. Only the Super yachts business will continue to grow moving from 467 jobs in 2013 to 534 in 2030. Table 6.9 contrasts the net additional impacts of the Intervention Case (Masterplan) with the jobs that would occur if no further Masterplan Projects are completed (The Reference Case). This is shown by sector. The resulting figures for jobs and GVA are the estimated net additionality generated by the updated Port of Falmouth Masterplan.

**Table 6.9 Total Net Local Impacts Summary Table**

	2013		2013 2015		2015 2020		2020 2025		2025 2030	
	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)
<b>SHIP REPAIR</b>										
Masterplan	577	34.3	569	33.8	722	42.9	782	46.5	820	48.3
Reference Case	577	34.3	577	31.5	577	27.2	409	21.3	409	21.1
<b>Total Net Additional Local Impacts</b>	<b>0</b>	<b>0.0</b>	<b>-8</b>	<b>2.3</b>	<b>145</b>	<b>15.7</b>	<b>373</b>	<b>25.2</b>	<b>411</b>	<b>27.2</b>
<b>SUPERYACHTS</b>										
Masterplan	467	27.7	536	31.8	667	39.6	672	39.9	671	39.9
Reference Case	467	27.7	518	28.3	534	24.4	534	19.1	534	19.0
<b>Total Net Additional Local Impacts</b>	<b>0</b>	<b>0.0</b>	<b>18</b>	<b>3.5</b>	<b>133</b>	<b>15.2</b>	<b>138</b>	<b>20.9</b>	<b>137</b>	<b>20.9</b>
<b>OIL BUNKERING</b>										
Masterplan	21	1.2	22	1.3	28	1.7	31	1.8	31	1.9
Reference Case	21	1.2	22	1.3	24	1.1	25	0.8	26	0.8
<b>Total Net Additional Local Impacts</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>4</b>	<b>0.6</b>	<b>6</b>	<b>1.0</b>	<b>5</b>	<b>1.0</b>
<b>CARGO</b>										
Masterplan	55	3.3	56	3.3	57	3.4	63	3.7	64	3.8
Reference case	55	3.3	56	3.0	36	2.6	30	2.0	30	2.0
<b>Total Net Additional Local Impacts</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.3</b>	<b>21</b>	<b>0.8</b>	<b>33</b>	<b>1.7</b>	<b>34</b>	<b>1.8</b>
<b>OTHER PORT BUSINESSES</b>										
Masterplan	642	38.2	659	39.1	701	41.6	747	44.4	777	46.2
Reference Case	642	38.2	658	38.9	323	33.6	179	26.2	162	26.1
<b>Total Net Additional Local Impacts</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.2</b>	<b>378</b>	<b>8.0</b>	<b>568</b>	<b>18.2</b>	<b>615</b>	<b>20.1</b>
<b>CRUISE</b>										
Masterplan	55	3.3	41	2.4	119	7.0	182	10.7	285	16.8
Reference Case	55	3.3	41	2.4	34	1.9	34	1.8	34	1.8
<b>Total Net Additional Local Impacts</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>85</b>	<b>5.0</b>	<b>148</b>	<b>8.9</b>	<b>251</b>	<b>15.0</b>
<b>MARINA</b>										
Masterplan	9	0.5	9	0.5	9	0.5	9	0.5	9	0.5
Reference Case	9	0.5	9	0.6	9	0.5	9	0.4	9	0.4
<b>Total Net Additional Local Impacts</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.1</b>	<b>0</b>	<b>0.2</b>	<b>0</b>	<b>0.2</b>
<b>ADDITIONAL EMPLOYMENT SPACE</b>										
Masterplan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Reference Case	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total Net Additional Local Impacts</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>CONSTRUCTION</b>										
Masterplan	0	0.0	54	3.3	54	3.3	54	3.3	54	3.3
Reference Case	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

	2013		2013 2015		2015 2020		2020 2025		2025 2030			
	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)		
<b>Total Net Additional Local Impacts</b>	0	0		3	54	3	54	3	54	3		
<b>Cumulative Additional Impacts</b>	<b>Total</b>	<b>Net Local</b>	0.0	0.0	64	9.6	820	48.7	1319	79.3	1,508	89.5

Table 6.10 below summarises the information of Table 6.9 by showing total net additional impacts of the updated Masterplan. This shows that in total the Masterplan is estimated to generate approximately 1,508 additional jobs and £89.5million GVA by 2030 in Cornwall. Predicting future events in detail, such as jobs within specific sectors is prone to error as unpredicted events can occur. However, there is a high degree of confidence in the total aggregated jobs figure shown in Table 2 above. Although it is not possible to assess the margin of potential error a basic sensitivity test can be performed by applying + or – 20%. This creates potential net additional benefits ranging from 1,206 to 1,809 jobs and £71.6m to £107.4m GVA.

**Table 6.10 Total Net Additional Impacts of Masterplan (Additionality)**

	2013		2013 2015		2015 2020		2020 2025		2025 2030	
	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)
A) Masterplan Total Net Additional Local Impacts	1,827	108.5		115.6	2,356	140.1		150.9	2,712	160.8
B) Reference Case Total Net Additional Local Impacts	1,827	108.5	1,875	106.0	1,427	91.4	1,219	71.6	1,204	71.3
<b>Additionality (A – B)</b>	-	<b>0.0</b>	<b>69</b>	<b>9.6</b>	<b>929</b>	<b>48.7</b>	<b>1,319</b>	<b>79.3</b>	<b>1,508</b>	<b>89.5</b>

## 6.5 Value for Money: Net Present Value (NPV), Benefit to Cost Ratio (BCR) and Cost per Job

NPV is estimated by calculating the sum of 2014 Masterplan project costs in the year that they are projected to occur up to 2030<sup>29</sup> and estimated benefits to 2030 (in terms of additional GVA calculated in this 2014 study by each time period). Each cash inflow and outflow is then discounted back to the present value using a HM Treasury Green Book Guidance<sup>30</sup> discount rate of 3.5%. The estimated NPV shown in Table 6.11 below:

**Table 6.11 Net Present Value of Masterplan**

	NPV of additional GVA
POFDI Masterplan development	£370,186,442

Table 6.11 shows a significant NPV. This is lower than that estimated in the 2011 Masterplan of around £1billion. However this is to be expected given the new baseline which includes Masterplan projects that have already been completed and the slightly lower demand forecasts based on worsening economic conditions since the last study was completed.

<sup>29</sup> Costs are those that were defined in the 2011 Masterplan

<sup>30</sup> HM Treasury, The Green Book, Appraisal and Evaluation in Central Government (2011) para 5.49 p26

The benefits to cost ratio is shown in Table 6.12. This represents the cumulative total of benefits as represented by the NPV divided by the total costs. Also, the annual additional GVA in 2030 divided by total costs is shown.

**Table 6.12 Benefits Cost Ratio of Masterplan**

	Masterplan Indicator
BCR – based on NPV	3.7
BCR – based on additional GVA in 2030	0.6

The cost of investment, via the Masterplan projects, required to generate £1 of additional GVA is shown in Table 6.13 below:

**Table 6.13 Cost per Job of Masterplan**

	Masterplan Indicator
Cost per £1 GVA	£ 0.04
Cost per 1 net additional FTE job	£ 65,870

The cost per £1 GVA is only 4p which is lower than that estimated in the 2011 Masterplan (10p). This is due to the greater profitability of businesses in the Port of Falmouth and is mainly due to the success of the Superyachts sector. The cost per 1 net additional job is lower due to the relatively lower number of jobs generated by the Masterplan. However the cost per additional job is still reasonable and is in line with the Government guidelines as defined in the DCLG paper ‘Valuing the benefits of Regeneration’ (2010)<sup>31</sup>. This suggests the typical public sector costs per net additional job for projects to promote business development range from £35,492 for low cost to £57,209 for medium cost up to £78,926 for high cost projects.

## 6.6 Risk Assessment

The updated risk assessment is in Table 6.14 below. The process followed was the same as that used in the 2011 Masterplan. Each risk was scored between 1 and 5 in terms of the likelihood (probability) of the risk occurring (with 1 the least likely and 5 the most) and the impact on the delivery of the Masterplan and its key objectives. The ‘X’ is used to denote the type of risk i.e. whether the risk is related to time, cost or environmental factors. Updated risk scores from the 2011 Masterplan are highlighted in bold:

<sup>31</sup> DCLG, Valuing the Benefits of Regeneration (2010), Fig 8.1 p108

**Table 6.14 Risk Assessment**

Risk Effect:	Likelihood	Impact	Risk Rating	Time	Cost	Environmental
Failing to continue successful PoFDI partnership cooperation	1	5	5	X	X	
Failing to establish a delivery task force	2	4	8	X	X	X
Securing landowners co-operation and commitment	3	5	15			
Failing to reach projected turnover after implementation						
Shiprepair	2	3	6	X	X	
Cruise sector	3	5	15	X		
Cargo	2	2	4	X		
Superyachts sector	2	5	10	X	X	
Other supporting businesses; marine engineering	1	4	4	X	X	
Marine renewables: wave energy	3	4	12	X	X	X
Leisure boating	1	3	3	X	X	
Marine related events	2	3	6	X	X	
Commercial property lettings/sales	4	4	16	X	X	
Residential property lettings /sales	-	-				
Damage to the environment	3	4	12	X	X	X
Pollution incident	2	4	8	X	X	X
Planning risk	2	5	10	X	X	
Delayed approval of landside environmental consents / licences	2	3	6	X	X	X
Delayed approval of dredging & disposal licences	5	4	20	X	X	X
Availability of private funding for new business spaces	3	4	12	X	X	
Availability of private funding for new port infrastructure	4	5	20	X	X	
Availability of private funding for dredging	5	5	25	X	X	
Availability of public funding for new business spaces	5	4	20	X	X	
Availability of public funding for new port infrastructure	4	5	20	X	X	
Availability of public funding for dredging	4	5	20	X	X	
<b>TOTAL</b>			<b>277</b>	<b>22</b>	<b>20</b>	<b>6</b>

The overall risk assessment score has increased by 14.5% since 2011. This increased risk score is mainly related to the fact that the prolonged economic downturn since the 2011 Masterplan has negatively affected investor confidence. Finance lenders and private businesses are generally more risk averse so this increases the risk profile for the availability of funding elements of the risk assessment. Finally the Government austerity programme means that in general public funding is more difficult to obtain so this increases the risk profile of these elements.

## **6.7 Summary**

The updated EIA has shown that the Masterplan should produce significant benefits to Falmouth and Cornwall. In terms of jobs it suggests that by 2030 there will be approximately 1,500 additional jobs in a variety of professions over and above what would have occurred anyway. In terms of GVA the Masterplan would generate £90million in Cornwall by 2030. The Net Present Value is also positive at around £370m and the cost per additional job at around £65,000 is in line with average project costs as per Government guidance<sup>32</sup>.

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<sup>32</sup> DCLG, Valuing the Benefits of Regeneration (2010),

## 7 CONCLUSION

### 7.1 Introduction

This section summarises the key elements of the study, including the supply chain linkages between the maritime economy in Penryn River and Port of Falmouth, the maritime sector demand assessment, the status of Masterplan projects and the findings of the updated EIA. It provides conclusions on whether the economic impact of the proposed Port of Falmouth Masterplan is still positive and provides recommendations on the overall programme.

### 7.2 Summary

This study has updated the Port of Falmouth 2011 Masterplan Demand and Economic Impact Assessment. It has also extended the study area to include the Penryn River area. This element of the work was performed to gain a better understanding of the interactions between the Port of Falmouth and the Penryn River.

The information presented in the study is based on data and information received through an extensive consultation exercise with maritime supply chain companies. The primary data is strengthened where appropriate through a review of relevant third party data and literature and professional judgment. 65 companies were contacted in the consultation exercise. This represents 80% of the value of Port of Falmouth's supply chain. Several rounds of consultation were performed and extensive efforts made to gain responses. 54% of the total sample ultimately responded and responses were received from 78% of those Port of Falmouth companies surveyed in the 2011 Masterplan. In addition tailored consultation interviews were performed with key Port of Falmouth maritime companies.

The key findings of the updated socio economic and policy context section are that the local economy of Falmouth and Penryn has suffered since the 2011 Masterplan as a result of the economic downturn. This has led to a significant contraction of local employment opportunities. The planning framework has also been refined with the NPPF and abolition of regional planning meaning Cornwall Council now arguably having a greater responsibility to facilitate economic growth in their local area. In summary, the implications of the updated context are that the importance of the Masterplan and its ability to generate local jobs and income is increased.

The supply chain analysis found that the maritime sector in Falmouth is diverse and viable with future growth opportunities. It also faces key challenges and vulnerabilities. Although the Port is generally focused on industrial processes such as ship repair, bunkering and superyacht building and the Penryn River area on smaller scale marine support industries and the marine leisure sector there are crucial linkages that could be enhanced through the Masterplan proposals. A&P are the main maritime economy company with 84% of the companies consulted stating that they trade with A&P. There are three sectors with significant growth potential. These are the superyachts, cruise and renewable energy sectors. The superyacht sector is relatively self-sufficient due to the strong international demand in the luxury sector but the renewable energy sector will require some nurturing. The cruise sector is reliant on the dredging of the channel to allow larger ships to berth. One of the key projects is the reactivation of Falmouth Wharf as a deep water wharf capable of launching renewable energy equipment and craft. Other areas with possibility for start-ups include the leisure sector. The main public sector requirement is protection for marine related areas and for cheap available and well serviced accommodation to be made viable through planning policy and decisions and certainty from the public sector in regards to the Masterplan projects going ahead.

The Superyachts sector has a brighter outlook than in 2011 due to the success of the luxury sector globally. The marine renewable sector also has significant growth potential although it is dependent on policy support at a national and international level which although it is expected that this will increase in time as the implications of climate change become more pressing there is a large degree of uncertainty in this regard. This is partly indicative of the

increased risk aversion of investors which again strengthens the arguments for the necessity of certainty on the Masterplan projects.

The updated EIA has shown that the Masterplan should produce significant benefits to Falmouth and Cornwall. In terms of jobs it estimates that by 2030 there will be approximately 1,500 additional jobs in a variety of professions over and above what would have occurred anyway. In terms of GVA the Masterplan would generate £90million in Cornwall by 2030. The Net Present Value is also positive at around £370m and the cost per additional job at around £65,000 is in line with average project costs as per Government guidance.

### **7.3 Recommendations**

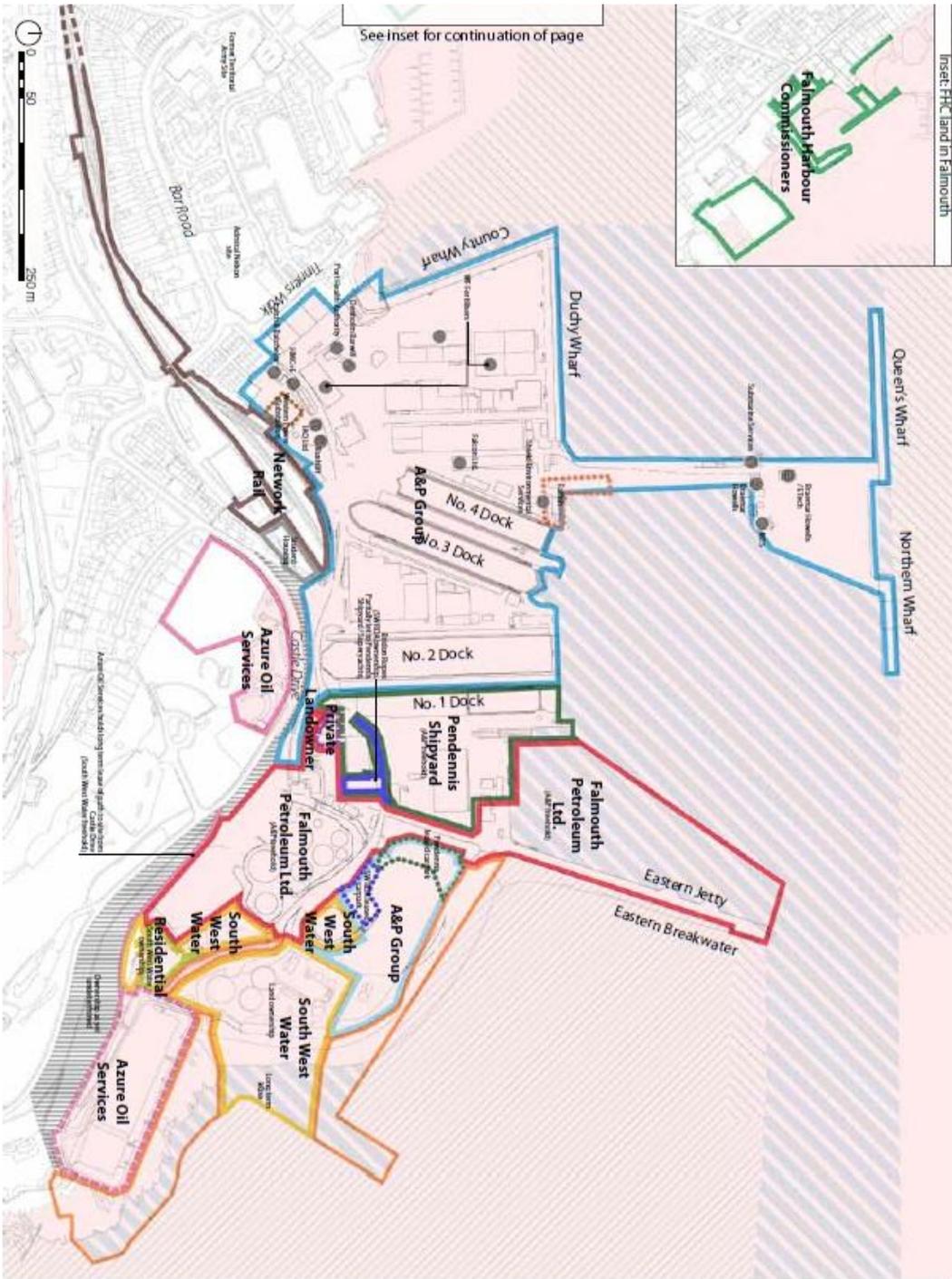
Although not much time has passed since the 2011 Masterplan study and many of the conclusions and recommendations of that study remain consistent, this study has uncovered some new findings. The key specific recommendations of the study are that where possible support should be provided for the growing renewable energy sector. This is in terms of training programmes and protection of sites such as Falmouth Wharf that have potential to be used by the sector. If possible access to Falmouth Wharf should be improved although it is recognised that this could be challenging due to the surrounding residential uses. For this reason it is likely that Falmouth Wharf would be used by smaller scale operations such as launching of smaller equipment that has been delivered to the site on non-HGV vehicles. Consultees suggested that the Penryn River area has a potentially significant role to play in the future for the deployment of this type of small scale marine renewable technology, for example testing equipment. There were no further new projects suggested by consultees. Most felt that the main priority of POFDI should be to prioritise the existing initiatives, especially the dredging of the main channel. This would help to provide confidence to the business community that 'something will be done' and that POFDI is going ahead.

### **7.4 Conclusion**

The study has re-emphasised the importance of the Masterplan to the Falmouth and Cornish economy. In the three years since the original 2011 was performed the local economy has suffered due to the global economic downturn. This perhaps makes the Masterplan more important than ever even though the estimate of net additional jobs is lower than that estimated in 2011. 2,700 gross and 1,500 net additional jobs and £160m gross and £90 net GVA will generate a significant effect on the local economy. Due to the interconnectedness of the Falmouth and Penryn River maritime economy these jobs will be provided across the area in a variety of different companies. On the contrary the do nothing option shows that without the Masterplan the maritime sector in the Port of Falmouth would yield only 1,200 jobs and £71m GVA. This study therefore provides strong evidence for the Masterplan to proceed as soon as possible so that the future of Falmouth and its maritime economy is secured.

## **APPENDIX 1: Report Maps**

Map A1 : Port of Falmouth Key Ownerships\*



- Study Area
- Land Ownership and Long term leases**
- Ownership or long term lease
- Assumed ownership or long term lease: boundary uncertain
- Short term leases and wayleaves
- Other A&P tenants (approximate locations shown)
- Ownership as yet undetermined
- Colour key of principal landowners**
- A&P Group
- South West RDA
- Pendennis Shipyard/Superyachts - A&P freehold
- Falmouth Petroleum Ltd. - A&P freehold
- Private landowner
- Azure Oil Services
- South West Water (freehold land unless otherwise specified)
- Long term residential lease (South West Water Ownership)
- Network Rail
- Falmouth Harbour Commissioners
- Falmouth Oil Services/Azure Oil
- Water / seabed ownership**
- Seabed registered to Falmouth Docks & Engineering Company (A&P)
- Owned by A&P Seabed not registered (note: continues further than extent of page)
- Seabed owned by Falmouth Harbour Commissioners

Note: \* Land Ownership and Leaseholds may have changed since publication of the CC 2011 Masterplan

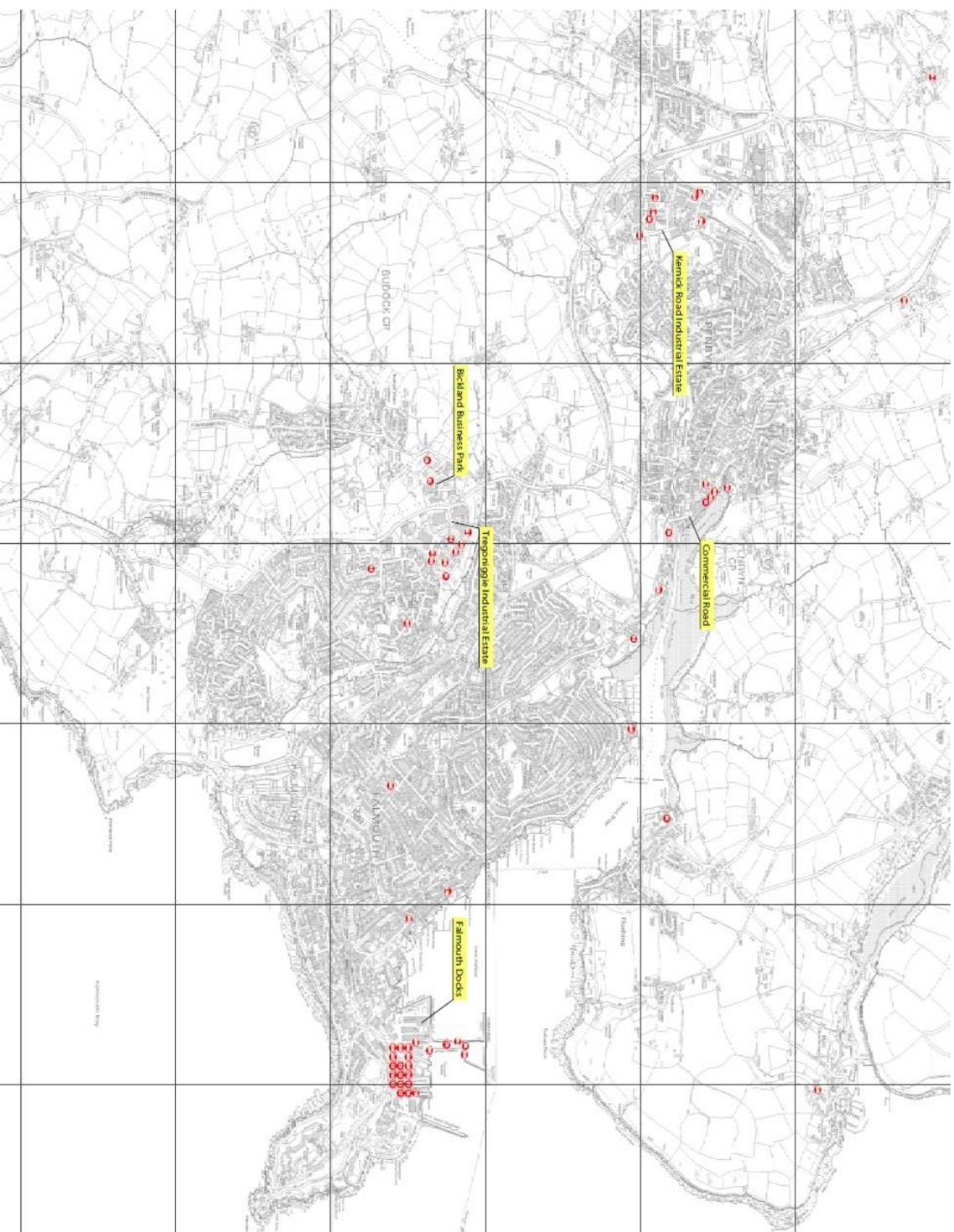




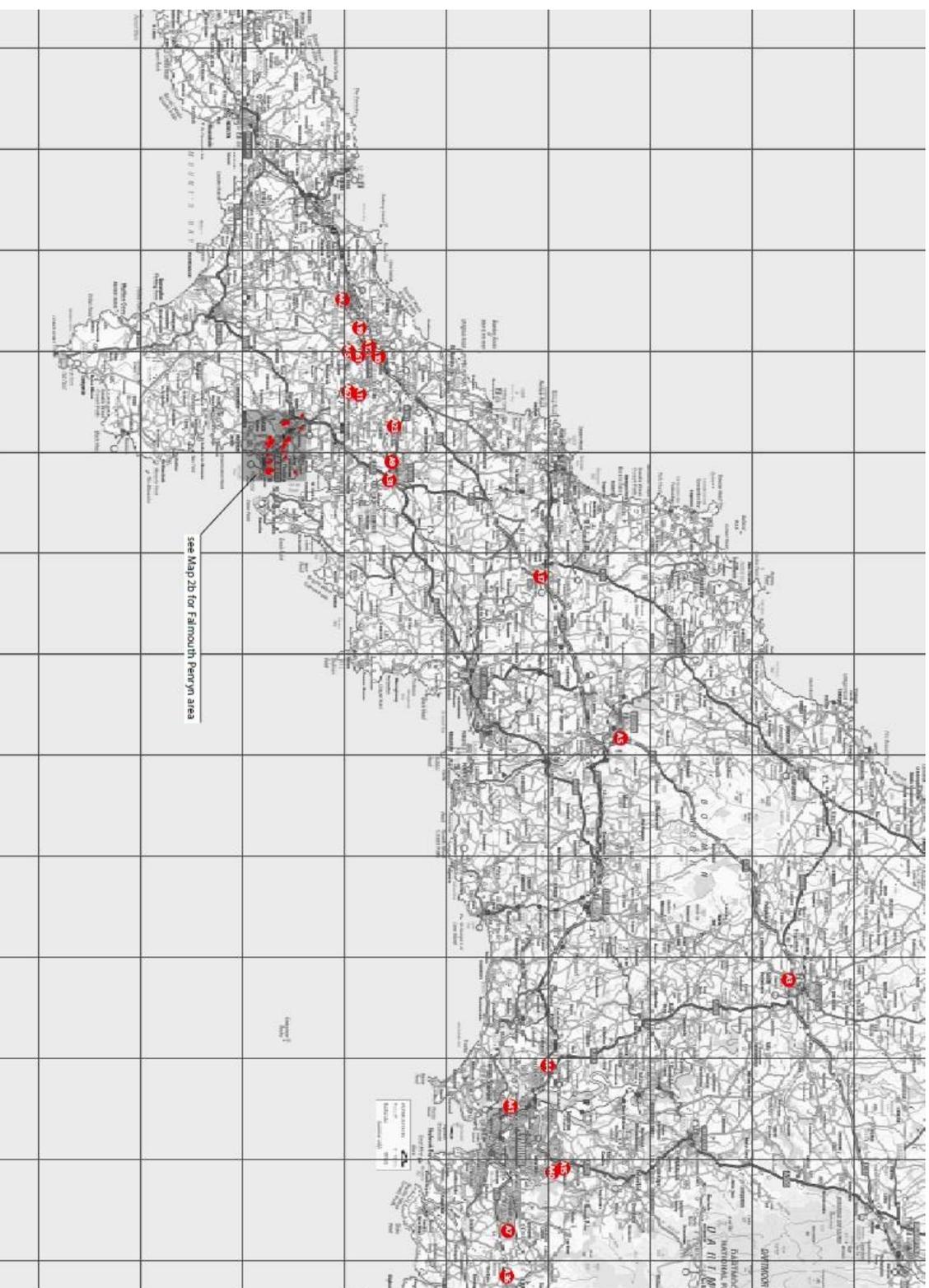
Cornwall Development Company — Port of Falmouth and Penryn River  
Economic, Supply Chain and Demand Assessment

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**Map A3: Falmouth and Penryn Maritime Supply Chain Companies**



Map A4: Cornwall and Plymouth Maritime Supply Chain Companies



## APPENDIX 2: Questionnaire

### Port of Falmouth and Penryn River Maritime Economy Study – Questionnaire

#### 1. Introduction

URS have been commissioned by Cornwall Development Company<sup>33</sup> (CDC) to assess opportunities in the maritime economy and supply chain in the Falmouth and Penryn River area.

Evidence gathered in the study will be critical for securing public funding for initiatives to boost the maritime sector in and around Falmouth. To justify public investment we need robust evidence from firms involved in Falmouth’s maritime economy. The study will help to boost the maritime economy in the Falmouth area and this will ultimately benefit all the firms linked to it. It would therefore be very much appreciated if you could contribute to the study by completing the following questionnaire.

Information received will be treated in the strictest confidence. Information will be presented in an aggregated format and will be untraceable to consultees. For queries please contact the following:

- All technical queries or feedback on the questionnaire - [REDACTED]
- To verify the study - [REDACTED]

#### 2. Study Objectives and Study Area

The key objectives of the study are to:

- Assess the current level of marine industry activity within the study area (hatched areas in map below) and maritime sector supply chain companies linked to the study area.
- Identify the needs, opportunities and constraints for; maritime sector growth; sector clustering; potential for start-up companies and specific waterside and other development projects within the study area that could help to boost Falmouth’s maritime economy.

#### 3. Questionnaire

##### Q1. Company Information

<b>Date:</b>	
<b>Name:</b>	
<b>Company</b>	
<b>Address</b>	
<b>Email:</b>	
<b>Telephone:</b>	

##### Q2. Which sectors does your business work within?

<sup>33</sup> Arms length economic development company of Cornwall Council

<b>Business Partner</b>	<b>Yes/ No</b> (+ if Yes please list activities and/or goods and services)
<b>Cruise:</b>	
<b>Bunkering:</b>	
<b>Ship Repair:</b>	
<b>Superyachts:</b>	
<b>Marina and Leisure Boating:</b>	
<b>Fishing:</b>	
<b>Marine Renewable Energy:</b>	
<b>Other (please specify):</b>	

**Q3. Which of the following businesses do you regularly work with at the Port of Falmouth or Penryn River?**

<b>Business Partner</b>	<b>Yes/ No</b>
<b>A&amp;P Falmouth Ltd:</b>	
<b>Pendennis Superyachts:</b>	
<b>Falmouth Petroleum Ltd:</b>	
<b>Other (Please Name):</b>	

**Q4. How many staff does your business directly employ in activities linked to the Port of Falmouth or Penryn River?** Please indicate hours worked (or average hours for part time) where indicated:

	<b>Number of Directly Employed Staff</b>	<b>Number of Agency / Sub-contracted Staff</b>
<b>Full time Permanent</b>		
<b>Part time permanent (+ average hours worked)</b>		
<b>Full time temporary/seasonal (+ hours worked)</b>		

Part time temporary/seasonal (+ hours worked)		
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**Q5. Where do your employees normally live?**

Area	% Staff Directly Employed by your company	% Agency/Sub-contracted Staff
Falmouth:		
Penryn:		
Truro:		
Elsewhere in the old Carrick district:		
Rest of Cornwall:		
Rest of South West:		
Rest of the UK:		

**Q6. Please give an indication of the total wages and salaries paid per annum to the staff employed directly by your company related to the Falmouth or Penryn River maritime sector (please provide the figure for the last financial year)**

>£50K	£50k - £100k	£100K - £200K	£200K - £500K	£500K - £1m	£1m - £5m	>£5m

**Q7. What was your turnover in the last financial year?**

> £50k	£50-100k	£100-200k	£200-500k	£500k-1 m	£1-5m	£5-10m	£10-20m	£20-50m	£50-100 m	> £100 m

**Q8. What proportion of your turnover is dependent on the Port of Falmouth/Penryn River? (this will allow us to estimate how much of your business you would retain if the Port ceased to exist)**

Up to 10%	Up to 30%	Up to 50%	Up to 70%	Up to 100%	No impact on business

**Q9. Where do your supplies (goods and services) come from and what is their value?**

Area	Value of supplies or percent of turnover %
Falmouth:	
Penryn:	
Truro, former Carrick or Kerrier district (Camborne, Redruth, Helston):	
Rest of Cornwall:	
Rest of South West:	
Rest of the UK:	
Europe	
Worldwide	

**Note:** please provide a separate list of suppliers if it proves difficult to fill in this table.

**Q10. At what rate did your business with Port of Falmouth/Penryn River grow during the past five years?** Please provide an average annual turnover growth rate:

% \_\_\_\_\_

**Q11. Do you have any expansion plans for the next 5 years? (Yes or No)**

**If you answered 'yes' to above question how much are you planning to invest to expand your business?**

	Value £	Location
Investment <i>within Falmouth Dock or Penryn River Study Area</i>		(Falmouth Docks/Penryn River)
Investment in operations <i>outside</i> study area boundary but related to Falmouth /Penryn activities (please state location)		

**Q12. Are you planning to increase or decrease the number of employees working with your business in the next 5 years? (tick relevant box)**

Increase			No change in staff	Decrease		
1-5 extra employees	5-10 extra employees	10 or more extra employees		reduce staff by 1-5 employees	reduce staff by 5-10 employees	reduce staff by more than 10

**Q13. Are there any constraints to maritime business growth in the Falmouth/Penryn area? For example, dock facilities, lack of private/public funding, local or national planning system, business rates etc. Please tick box and provide details and suggestions in comments box.**

	Tick	Comments
<b>Physical Constraints (within Falmouth Dock or Penryn River Study Area)</b>		
Availability of land	<input type="checkbox"/>	
Availability of premises	<input type="checkbox"/>	
Dock facilities	<input type="checkbox"/>	
Use of water	<input type="checkbox"/>	
Access	<input type="checkbox"/>	
<b>Other (s) (please specify)</b>	<input type="checkbox"/>	
<b>Non Physical Constraints (within Falmouth Dock or Penryn River Study Area)</b>		
Availability of labour/skills	<input type="checkbox"/>	
Lack of Private / Public Funding	<input type="checkbox"/>	
Local or National Planning	<input type="checkbox"/>	
Business Rates	<input type="checkbox"/>	
Lack of required workforce	<input type="checkbox"/>	
Lack of required suppliers	<input type="checkbox"/>	
<b>Other(s) (please specify)</b>	<input type="checkbox"/>	

**Q14. What single improvement to the Falmouth /Penryn area that is out of your control would you make to have an immediate impact on improving the function and potential growth opportunities for your own business?**

	Tick box
Road network	<input type="checkbox"/>
Rail frequency	<input type="checkbox"/>
Dredged harbour	<input type="checkbox"/>
Car parking	<input type="checkbox"/>
Added university facilities	<input type="checkbox"/>
Other (s), please specify: _____	<input type="checkbox"/>

**Q15. Does your business require direct access to the waterfront (at Penryn River and/or Port of Falmouth)? Yes or No**

**If yes please describe type of access and ways in which it could be improved.**

**Q16. Does your business require any specific employment skills and training needs?** Please state 'Yes' or 'No' provide details and suggestions if possible.

## **APPENDIX 3: Penryn River Study Maps**

**[To insert A3 higher resolution in final version – using PDF]**

- Map 1: Location Map
- Map 2: Companies to be surveyed (Map 2a and 2b)
- Map 3: Marine Activities
- Map 4: Key Ownerships
- Map 5 : Environmental and Conservation Designations
- Map 6: Designation and Zoning Visualisation
- Map 7: Maritime Activity Zones Visualisation

