

Before Hearing Commissioners

under: the Resource Management Act 1991

in the matter of: the hearing of submissions and further submissions on
the 'Proposed Canterbury Air Regional Plan'

and: **Lyttelton Port Company Limited**
Submitter

Statement of evidence of Andrew Purves

Date: 18 September 2015

STATEMENT OF EVIDENCE OF ANDREW PURVES

INTRODUCTION

- 1 My name is Andrew Mark Purves. I am a planning consultant on my own account.
- 2 I hold the qualification of degree of Master of Science with First Class Honours. I have been employed in the practise of Planning and Resource Management for 23 years. I am a full member of the New Zealand Planning Institute.
- 3 I am presenting evidence on behalf of the Lyttelton Port Company ('LPC').
- 4 I am familiar with Lyttelton Port and the surrounding area.
- 5 I have been providing planning advice to LPC for many years, and this has included planning advice and evidence on the Canterbury Regional Policy Statement, the Canterbury Regional Coastal Environment Plan, the Natural Resources Regional Plan, the Proposed Canterbury Land and Water Regional Plan, the Banks Peninsula District Plan, and recently the proposed Christchurch Replacement District Plan and the Lyttelton Port Recovery Plan.
- 6 I have also provided planning advice and assisted LPC in the preparation of its submission and further submissions on the Proposed Canterbury Air Regional Plan ('pCARP').
- 7 In preparing this evidence I have relied on the evidence of **Mr Jeff Bluett**, an air quality specialist from Golder Associates. **Ms Kim Kelleher**, the Environmental Manager at LPC, will also be providing evidence at a later date on:
 - 7.1 The Port's operation;
 - 7.2 The role of the generators at the Port; and
 - 7.3 The handling of bulk solid materials at the Port.
- 8 Although this is not an Environment Court hearing, I note that in preparing my evidence I have reviewed the code of conduct for expert witnesses contained in Environment Court Practice Note (2014). I have complied with it in preparing my evidence. I confirm that the issues addressed in this statement of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

SCOPE OF EVIDENCE

- 9 To keep my evidence manageable, it necessarily focuses on those provisions that would benefit from amendment, at least in my opinion. Those provisions that are supported by LPC and remain unchanged in the s42A Report are not discussed nor are those amendments sought by LPC and adopted in the s42A report.

- 10 My evidence will discuss the following:
 - 10.1 Regionally Policy Statement ('RPS');
 - 10.2 The Lyttelton Port Recovery Plan ('LPRP');
 - 10.3 The definition of sensitive activity and public amenity area;
 - 10.4 The word 'well-being' as it applies to the proposed Objectives 5.1 and 5.2 and Policy 6.1;
 - 10.5 A new objective on localised air discharges;
 - 10.6 The rewriting of Objective 5.8;
 - 10.7 Amendments to Policy 6.7 on reverse sensitivity matters and the deletion of Policy 6.8 on consent durations;
 - 10.8 The deletion of Policy 6.14 relating to the precautionary approach;
 - 10.9 The introduction of a specific policy on nationally and regionally significant infrastructure;
 - 10.10 The deletion of Rules 7.3, 7.15, 7.16, 7.17, 7.18, 7.28 and 7.29;
 - 10.11 Better definition of Rule 30;
 - 10.12 Reinstatement of the rules in the Air Plan applying to generators and to the handling and storage of bulk materials at Lyttelton port; and
 - 10.13 The deletion or amendments to Condition 5 and 6 of Rules 7.37 and 7.39.
- 11 Mr Bluett is also seeking that Condition 2 of Rule 7.36 be amended.
- 12 I have made recommended changes to some of the relief sought by LPC. I believe these changes are within the scope of the submission: that is, the changes recommended are somewhere between the existing provision in the pCARP and the relief sought by LPC.
- 13 My evidence addresses a provision or group of provisions in the following order:
 - 13.1 The relevant provision(s) is described;
 - 13.2 The relief sought by LPC is described;
 - 13.3 The reasons for the relief sought are summarised;
 - 13.4 The s42A reply is summarised; and
 - 13.5 My assessment of the provision is provided.

REGIONAL POLICY STATEMENT

- 14 The RPS's glossary (page 198) defines regionally significant infrastructure. It does not list the Port of Lyttelton specifically but the Port is captured by Clause 15 which refers to "*Infrastructure defined as 'strategic infrastructure' in this regional policy statement*".
- 15 The definition of "Strategic Infrastructure" (page 204) means:
- " those necessary facilities, services and installations which are of greater than local importance, and can include infrastructure that is nationally significant.
- The following are examples of strategic infrastructure:
-
- Port of Lyttelton"
-"
- 16 The Port also falls within the definitions of "*Strategic Transport Network*" which means:
- " transport networks and operations of national or regional significance. These include the strategic road network including State Highway and major arterial roads as defined in district plans and the rail network, along with the region's core public passenger transport operations and significant regional transport hubs such as Christchurch International Airport and the Port of Lyttelton."
- 17 Finally, the Port falls within the definitions of "essential infrastructure" and "critical infrastructure" but the only direct policy references to essential and critical infrastructure are found in Chapter 10 (Beds of Rivers and Lakes and their Riparian Zones) and Chapter 11 (Natural Hazards) respectively.
- 18 Lyttelton Port is the South Island's major commercial deep water port. Economic evidence on the Port's significance has been well traversed, but for completeness I attach a report on the economic significance of Lyttelton Port prepared for the Lyttelton Port Recovery Plan.¹
- 19 The efficient, use, development and protection of the Port as a significant physical regional infrastructure resource is identified in the RPS, in Chapter 5 (Land use and Infrastructure),² Chapter 6 (Recovery and Rebuilding of Greater Christchurch),³ and Chapter 8 (Coastal Environment).⁴

¹ Lyttelton Port Recovery Plan, Assessment of Economic Effects, Brown Copeland & Co Ltd (12 November 2014).

² Objective 5.2.1 and 5.3.7

³ Objective 6.2.1 and Policy 6.3.5

⁴ Objective 8.2.3 and 8.3.6

Lyttelton Port Recovery Plan

- 20 LPC and the Canterbury Regional Council were jointly directed on 19 June 2014 by the Minister for Canterbury Earthquake Recovery to prepare a Lyttelton Port Recovery Plan (LPRP). The purpose of the LPRP is to provide for the efficient, timely and effective repair, rebuild, restoration and enhancement of Lyttelton Port.
- 21 A hearing on the preliminary draft LPRP was held before an Independent Panel between 2 June 2015 and 12 June 2015. The Panel provided recommendations to the Canterbury Regional Council on the content of the draft LPRP and the draft LPRP was provided to the Minister in August 2015.
- 22 The version of the LPRP approved by the Minister will then amend various statutory documents, including the pCARP. The proposed amendments are set out in Appendix 3 of the s42A Report.
- 23 Page 13-4 of the s42A Report states that LPC's proposed rules on generators and the handling of bulk materials are not necessary for recovery. To be clear, LPC's submission is not arguing that the amendments are justified on the basis of recovery. The discharge of contaminants associated with generators and the handling of bulk materials as part of everyday cargo are activities associated with standard port operations.
- 24 I next discuss the provisions under contention.

DEFINITION OF SENSITIVE ACTIVITY AND PUBLIC AMENITY AREA

- 25 The definition of sensitive activities and respectively currently reads:

"Means an activity undertaken in:

- (a) the area within the notional boundary of an occupied dwelling; or
- (b) a residential area or zone; or
- (c) a public amenity area, including those parts of any building and associated outdoor areas normally available for use by the general public, excluding any areas used for services or access areas; or
- (d) a place of public assembly for recreation, education, worship, culture or deliberation purposes."

- 26 The definition of public amenity area currently reads:

"Means those areas to which the public have right of access under

any statute, regulation, law or by-law, and are limited to:

- (a) Crown and Local Authority properties, reserves, gardens, and parks;
- (b) sports grounds;
- (c) forest and bush areas;
- (d) pedestrian walkways, malls and precincts;
- (e) beaches, beach reserves, and adjacent foreshore areas;

but shall exclude roadways."

- 27 LPC's submission firstly seeks that a 'place of assembly' referred to in the definition of sensitive activities be amended to exclude recreational activities carried out in the Coastal Marine Area ('CMA') i.e.

“(d) a place of public assembly for recreation, education, worship, culture or deliberation purposes, **excluding recreational activities carried out in the coastal marine area.**”

28 The reason for the submission is that recreational activities in the CMA are transient activities and the probability of any significant adverse effect from a localised discharge is negligible and would unintentionally capture port operations.

29 LPC’s submission secondly sought that the definition of a place of assembly be amended as follows:

“(d) “Means those areas to which the public have right of access under any statute, regulation, law or by-law, and are limited to:
 (a) Crown and Local Authority properties, reserves, gardens, and parks;
 (b) sports grounds;
 (c) forest and bush areas;
 (d) ~~pedestrian walkways~~, malls and precincts;
 (e) beaches, beach reserves, and adjacent foreshore areas;
 but shall exclude ~~roadways~~ **Road Reserves.**”

30 The submission requests that a definition also be inserted for ‘Road Reserves’ i.e.

“Means a Local Purpose Reserve (Road) within the meaning of the Reserves Act, 1997.”

31 Alternatively LPC sought that the definition of ‘roadways’ to include footpaths.

32 LPC also seeks that the words “malls” and “precinct” be defined so it is clear that these are outdoor areas that have been designed for people to congregate and stay for a period of time.

33 The reason for the submission is again concerned with transient activities being defined as sensitive activities. The probability of any significant adverse effect from a localised discharge on a transient activity is negligible.

34 The s42 report (page 6-6) agrees that recreational activities carried out in the CMA should be excluded although it rewords the phrase as follows:

a place, **outside of the Coastal Marine Area**, of public assembly for recreation, education, worship, culture or deliberation purposes.”

35 I assume it has been reworded this way because the CMA is outside the jurisdiction of the pCARP.

36 The s42A report rejects LPC’s proposed amendments to the definition of a public amenity area for the reason air quality needs to be managed in any area where the public have unfettered access (page 6-4).

ASSESSMENT

- 37 A recent guideline for assessing air quality is a draft guide to assessing air quality impacts from state highway projects.⁵ In that document highly sensitive receivers are defined to include residential houses, hospitals, schools, early childhood education centres, childcare facilities, rest homes, marae, other cultural facilities, and sensitive ecosystems⁶.
- 38 The definition does not extend to any area that the public have unfettered access to. The guide's definition of a receiver is *"a location where a person may be exposed to pollution from the road for 1-hour or more, irrespective of whether or not that person is considered to be sensitive to the effects of air pollution."*
- 39 Therefore, it is in my view difficult to reconcile a transient situation such as a person walking along a footpath as being a sensitive receiver to a discharge such that it would cause an adverse effect which needs to be managed in the Plan.
- 40 In a residential zone the issue it is perhaps moot because there will be sensitive activities on each side of the road. However, in the case of the Port there are public footpaths nearest its boundary along Norwich Quay or Godley Quay for example and so the setback standards (e.g. Rules 7.37 and 7.38) would apply to these footpaths. I assume any assessment of air quality would need to assume that these locations are sensitive to a discharge. In my view from a common sense perspective this seems unreasonable and in any event is inconsistent with the guidelines.
- 41 In terms of malls and precincts, my concern is with the term 'precinct' in particular. It would be open to argument as to what constitutes a precinct. I think the terms could be defined, to at least remove some uncertainty, along the following lines or similar *"for the purpose of this definition malls and precincts mean outdoor areas that have been designed for members of the public to congregate for at least an hour for shopping, eating or for entertainment purposes."*
- 42 Finally, and as an aside, I note the definition of sensitive activity means just that: an activity rather than an area. Furthermore, the definition of a sensitive site means a site where a sensitive activity takes place; it does not refer to areas. These headings could be tidied up in the pCARP.

OBJECTIVE 5.1, 5.2 AND POLICY 6.1 (a)

- 43 Objectives 5.1, 5.2 and Policy 6.1 currently read:

"5.1 Where air quality provides for people's health and wellbeing, it is maintained."

⁵ NZ Transport Agency, Assessing Air Quality Impacts V. 2.0, December 2014.

⁶ The 2008 MfE guideline *'Good Practice Guide for Assessing Discharges to Air'* also states that recreational areas are rated as high sensitivity because they are used for outdoor activities and exercise and people tend to be more aware of the air quality. However, it does not mention footpaths or pedestrian walkways and simply rates roads as low sensitivity.

- 5.2 Where air quality does not provide for people's health and wellbeing, it is improved over time.
- 6.1 Discharges of contaminants into air, either individually or in combination with other discharges do not cause:
- a Adverse effects on human health and wellbeing; or
 - b Significantly diminished visibility; or
 - c Corrosion or significant soiling of structures or property;
 - d Adverse effects on the mauri/life supporting capacity of ecosystems, plants or animals."
- 44 LPC seeks that the word 'well-being' be deleted from Objectives 5.1, 5.2 and Policy 6.1. The reasons for LPC's submission is that it is unclear why the word 'well-being' is being used when the objectives appear to be addressing health effects. The submission notes that the word 'well-being' is only referred to in Section 5 of the Act. With respect to Policy 6.1 (a) the reason for the deletion is that the word well-being is too vague and too high a bar for a policy to state that there should be no adverse effects on well-being.
- 45 The s42A report (page 9.2) states in response to submission on the objectives the following:
- "Wellbeing is an important outcome for the Air Plan. Inclusion of the word recognises that while the health benefits of clean air are important, it is also important that peoples' social, cultural and economic needs are met through the provision of jobs and infrastructure."
- 46 In response to Policy 6.1 (page 10.2) it states:
- "Wellbeing" has been used to indicate that effects on people that are not necessarily health related need to be managed too. This includes managing effects on people's safety, avoiding damage to property and ensuring the reasonable use and enjoyment of property is provided for."

ASSESSMENT

- 47 Well-being in the ordinary sense means a state of being comfortable, healthy, or happy. The word is used in the RMA but only in section 5 (2) i.e.
- "(2) In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while—

- (a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and
- (b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and
- (c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.”

- 48 From my experience, the provision of social, economic or cultural well-being is typically considered (or weighed) against those matters set out in 5(2)(a) – (c) when forming an overall judgement about whether a proposal is the most appropriate way to achieve the purpose of the RMA. Therefore the Reporting Officer’s first interpretation of what the word ‘well-being’ means under the objectives is the typically the context it is used under RMA.⁷
- 49 However, I accept that limiting the meaning of well-being to the provision of jobs and infrastructure does not make sense in the context of Objective 5.2 in particular which seeks to improve air quality in degraded air-sheds.⁸ The issue then is whether Objective 5.4 adequately addresses people’s well-being through its reference to maintaining amenity values⁹. If this is the case Objectives 5.1 and 5.2 can be narrowed to the issue of health.
- 50 If it is considered that polluted air-sheds are not providing for people’s amenity and need to be improved then I accept the word ‘well-being’ would need to remain in Objectives 5.1 and 5.2 even though as noted earlier the ordinary sense of what constitutes ‘well-being’ is highly subjective because it refers to a person’s comfort or happiness.
- 51 However, I am much more concerned about the implications of its usage in Policy 6.1 (a). The wording is unequivocal; no discharge can cause an adverse effect on well-being, and yet the term well-being as noted above is highly subjective. In the context of the Port which for historical reasons is located in part adjacent to the township, and must handle and store a range of bulk materials – some of which are inherently dusty – this is an unreasonably high bar.
- 52 Furthermore, it is unclear how Clauses 6.1 (b) and (c) interplay with Clause 6.1 (a) given issues of visibility and soiling of structures are also related to well-being.

⁷ That said, the Courts have stated that there is a deliberate openness about the language in s5, and its meanings and connotations in section 5 to allow the application of policy in a general, broad way and integrated manner.

⁸ I also note the objectives only refer to ‘peoples well-being’ whereas section 5 (2) refers to ‘people and communities’.

⁹ Defined in the RMA as meaning “those natural or physical qualities and characteristics of an area that contribute to people’s appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes”

- 53 In my opinion the word well-being should be deleted from clause (a) or at least it is amended to state "*Adverse effects on health and **significant adverse effects on well-being***".

NEW OBJECTIVE ON LOCALISED AIR DISCHARGES

- 54 Fonterra sought the following new objective be added to the pCARP:

"Manage localised air quality effects of individual discharges while recognising that individual discharges may have effects on ambient air quality."

- 55 Fonterra sets out in some detail the reasons for the objective. It notes its factories are located in rural areas, often away from sensitive activities, and as a consequence why its discharges may have a localised effect but no influence on ambient air quality.
- 56 LPC supported the submission noting there is a benefit in distinguishing between effects of a localised nature and those on ambient air generally, in accordance with the RPS.
- 57 The s42A report discuss the matter on pages 16.1 and 16.2. The report in summary suggests making policy distinction between localised and ambient air quality will potentially enable a discharger to claim a localised effect when in fact the discharge will also cause a cumulative effect on ambient air quality. The concern seems to be principally around PM₁₀.

ASSESSMENT

- 58 Mr Bluett has addressed this issue and why it is possible and appropriate to distinguish between the effects on the local receiving environment and on ambient air. I have additional comments to make:
- 58.1 First, LPC landholding covers a significant area, extending from Magazine Bay in the west to Gollans Bay in the east. Some activities occur in close proximity to the township while other areas, particularly to the eastern end of the port have a significant buffer. This is one of the identified benefits in the Lyttelton Port Recovery Plan, where a progressive phased movement to the east of those port activities that can generate complaint will occur. LPC should be able to rely on a buffer when a resource consent and associated conditions are being considered and not leave it to the discretion of Council staff on a case-by-case basis, noting Lyttelton is outside the Christchurch Air-Shed.
- 58.2 Second, the objective proposed by Fonterra makes it clear that an application needs to assess the effects of an individual discharge on both ambient air quality and on the localised receiving environment and so it would not enable an applicant to circumvent any assessment of cumulative effects as suggested in the s42A Report;
- 58.3 Third, the methods to achieve Policy 14.3.1 (Maintain and improve ambient air quality) and Policy 14.3.3 (Avoid, remedy or mitigate localised adverse

effects on air quality) are clear: that is the Canterbury Regional Council will set out objectives and policies in regional plans on both ambient air and localised effects on air quality.

- 59 Therefore my opinion is that the objective as proposed by Fonterra should be introduced.

OBJECTIVE 5.8

- 60 Objective 5.8 currently reads:

“5.8 It is recognised that air quality expectations throughout the Region differ depending on the location and the characteristics of the receiving environment. ”

- 61 Horticulture New Zealand seeks the that wording shift focus from recognising the different air quality expectations for different receiving environments, to managing air quality to reflect the different receiving environments i.e.

“5.8 Manage air quality to reflect the different receiving environments across the region, taking into account the location and characteristics of the background receiving environment.”

- 62 The s42A report (page 9-6) accepts that the proposed objective does read as a statement and recommended the following change:

“It is recognised that air quality expectations throughout the Region differ depending on the location and the characteristics of the receiving environment, including the underlying landuse patterns or zoning, and discharging activities are located appropriately within the receiving environment.”

ASSESSMENT

- 63 One of the changes in the pCARP compared with the operative air plan is the absence of explanation or reasons. The advantage is of course it keeps the Plan to a manageable size and stops unnecessary repetition that sometimes occurred in explanations. However, it means the objectives and policies need to be able to be interpreted without aid of an explanation. As discussed earlier, I am concerned about what the term ‘well-being’ means in Objectives 5.1 and 5.2.

- 64 With respect to Objective 5.8, it is unclear to me what is meant by air quality ‘expectations’ and how they differ throughout the region. From a pragmatic point of view one imagines, for example, that rural people are more tolerant of odour being emitted from farming activities and perhaps urban people more tolerant of winter smog because of the need for people to warm. However, this cannot be conveyed in the objective. Therefore, I am still unclear on the outcome the objective is seeking to achieve.

- 65 The last phrase contained amended version contained in the s42A provides no advance on the other objectives, and in particular Objective 5.9. I consider the

objective proposed by Horticulture NZ is better constructed although would benefit from some minor changes, including a reference to land use patterns:

"Manage air quality to reflect the different receiving environments across the region, taking into account the characteristics of the background receiving environment, including the patterns of land use."

POLICIES 6.7 AND 6.8

66 Policies 6.7 and 6.8 currently read:

"6.7 Where, as a result of authorised land use change, land use activities within the neighbourhood of a discharge into air are significantly adversely affected by that discharge, it is anticipated that within a defined time frame the activity giving rise to the discharge will reduce effects or relocate.

6.8 Where activities that discharge into air locate appropriately to avoid the potential for reverse sensitivity effects, then longer consent duration may be available to provide ongoing operational certainty."

67 LPC's seeks that these policies be deleted. The reasons for the submission are that the policies are overriding the best practicable option which, by definition, takes into account the sensitivity of the receiving environment. LPC's reasons also state that the words "authorised land use change" in Policy 6.7 is open to any manner of interpretation and the implications of Policy 6.8 are those activities that cannot relocate will be penalised by having consents of limited duration consents.

68 The s42A report states that Policy 6.7 provides a tool for managing legacy reverse sensitivity issues. The reason given is that everyone legitimately located in the area has a right to access air of a quality that can provide for their health, safety and well-being (page 10.7).

ASSESSMENT

69 Clause (2) of Policy 14.3.5 of the RPS is unequivocal. It states that when an existing activity requires resource consent to discharge contaminants into air, particularly where reverse sensitivity is an issue, then the BPO should apply. There is no suggestion of the need to relocate.

70 Although LPC proposes a progressive, phased movement of some port activities as part of Port Recovery, it cannot relocate out of its existing location. There are no obvious alternatives in Banks Peninsula, which involves both the Port and its transportation links.

71 Policy 6.7 in my opinion should be deleted or alternatively the policy take into account the circumstances of the Port i.e.

"New activities which require resource consents to discharge contaminants into air are to locate away from sensitive land uses and receiving environments unless adverse

effects of the discharge can be avoided or mitigated, **while also recognising that some activities such as nationally or regionally significant infrastructure cannot functionally relocate.** ”

72 This is consistent with Objective 6 of the New Zealand Coastal Policy Statement and Policy 8.3.6 of the RPS which recognises some activities such as ports functionally or operationally need to be located in the coastal environment.

73 Policy 6.8 should be deleted in my opinion and decisions on consent duration be made on a case-by-case basis having regard to the circumstances of the activity in question.

POLICY 6.14

74 Policy 6.14 currently reads:

“6.14 Adopt the precautionary when assessing the effects are not predictable because of uncertainty or absence of information.”

75 LPC’s seeks the policy be amended as follows:

“6.14 Adopt the precautionary when assessing the effects are not predictable because of uncertainty or absence of information **but are potentially significant.**”

76 LPC notes that the Commissioners hearing and deciding on the operative Plan inserted this wording after hearing submissions on that Plan.

77 Fonterra sought the policy be deleted and LPC also lodged a further submission in support.

78 The s42A report recommends that Policy 6.14 remain unchanged because it is vital to ensuring effects are managed in a way that achieve the objectives of the pCARP. It rejects LPC’s amendment because the intent of the policy is to ensure that decision makers may take a precautionary approach where the potential significance of effects is unknown.

ASSESSMENT

79 There is no such thing as the precautionary approach recognised by the RMA. The precautionary approach in my view is really common sense. When a consent authority does not know what adverse effects an activity may have, it pays to be cautious in regard to the same.

80 The precautionary approach or principle flows from a decision by the Environment Court.¹⁰ That case concerned the risks of exposure to radio frequency radiation. There was detailed and conflicting scientific evidence. The Court distinguished between the RMA and a general precautionary principle of environmental law:

¹⁰ *Macintyre v Christchurch City*, 1996 , NZRMA 289.

"The influence of the general precautionary principle on the evaluation and ultimate judgment is a matter of discretion. None of the cases supports the application of a formal threshold. Like all elements which contribute to the ultimate judgment, the weight to be given to the precautionary principle would depend on the circumstances. The circumstances would include the extent of present scientific knowledge and the impact on otherwise permitted activities. However we think that in an appropriate case they would also include the gravity of the effects, if despite present uncertainty, they do occur."

81 It is notable that the precautionary approach in the operative Plan only applied to specific list of hazardous substances being emitted, where the effects were said to be uncertain but potentially significant.

82 I consider Policy 6.14 should be deleted or at the very least the words "*but are potentially significant*" are added.

POLICY 6.19

83 Policy 6.19 currently reads:

"6.19 Enable discharges of contaminants into air associated with large scale, industrial and trade activities and nationally and regionally significant infrastructure, in locations where the discharge is compatible with the surrounding land use pattern and while ensuring that adverse effects on air quality are minimised."

84 LPC seeks that reference to nationally and regionally significant infrastructure be removed from Policy 6.19 and a new policy be introduced that specifically addresses this infrastructure:

"6.19 Enable discharges of contaminants into air associated with nationally and regionally significant infrastructure, while ensuring that adverse effects on air quality are managed."

85 The reasons for the submission in summary are three-fold:

85.1 First, it has been long recognised that infrastructure, particularly nationally significant infrastructure, has social and economic benefits accruing to the wider community beyond that of a typical business and is therefore distinguished in policy;

85.2 To only enable discharges in locations where the discharge is compatible with the surrounding landuse pattern is nonsensical in-so-far as the Port is concerned given its proximity Lyttelton township; and

85.3 The word minimised is unduly restrictive given the port's size and proximity to Lyttelton Township.

86 The s42A report recommends that Policy 6.19 remain unchanged because when read in conjunction with Policy 6.11, it provides appropriate guidance to ensure

significant infrastructure is appropriately enabled such that Objective 5.7 is achieved (page 13-6).

ASSESSMENT

- 87 I make two further points in addition to LPC's reasons for its submission which are self-explanatory (but not evaluated by the Reporting Officers):
- 87.1 Policy 6.19 in its current form is in my opinion inconsistent with Policy 6.11 and does not achieve Objective 6.11; and
- 87.2 During consideration of any resource consent application an evaluation of all objectives and policies is completed and weighed accordingly. Therefore, an application from LPC is not only subject to this policy and the potential restrictions that flow it in its current form, but also from Policies 6-12 which in the main are about controlling discharges and managing effects.
- 88 My opinion is that LPC's submission should be accepted.

RULES 7.3, 7.15, 7.16, 7.17, 7.18, 7.28, 7.29

- 89 Rules 7.3, 7.15, 7.16, 7.17 and 7.18 currently read:
- 7.3 The discharge of odour, dust or smoke into air that is offensive or objectionable beyond the boundary of the property of origin when assessed in accordance with Schedule 2 is a non-complying activity.
- 7.15 Within a Clean Air Zone the discharge into air of PM₁₀ at a rate exceeding 250mg/m air, when tested in accordance with schedule 6 and adjusted to 0° Celsius, dry gas basis, 101.3 kilopascals, and 8% oxygen or 12% carbon dioxide is a non-complying activity.
- 7.16 Outside a Clean Air Zone, the discharge into air of PM₁₀ a rate exceeding 250mg/m air, when tested in accordance with schedule 6 and adjusted to 0° Celsius, dry gas basis, 101.3 kilopascals, and 8% oxygen or 12% carbon dioxide is a discretionary activity.
- 7.17 The discharge of contaminants into air from a large scale solid fuel burning device or from an industrial or trade premise established prior to 28 February 2015, outside a Clean Air Zone, that will likely result in guideline values, set out in the Ambient Air Quality Guidelines 2002 Update, being exceeded is a non-complying activity.
- 7.18 The discharge of contaminants into air from a large scale fuel burning device or from an industrial or trade premise established either: inside a Clean Air Zone; or outside a Clean Air Zone after 28 February 2015, that will likely result in guideline values, set out in the Ambient Air Quality Guidelines 2002 Update, being exceeded is a prohibited activity.

90 LPC seeks the deletion of the rules because they are *ultra vires* RMA for reasons of a lack of certainty. It states notes the standards contained in Rules 7.15-7.18 should be addressed as matters of discretion in the others rules as required.

91 LPC also supported the submission from Bathhurst Resources Ltd that sought deletion of Rules 7.28 and 7.29 for similar reasons. These rules currently read:

7.28 The discharge of odour, beyond the boundary of the property of origin, from an industrial or trade premise is a restricted discretionary activity, except where otherwise permitted or prohibited by rules 7.29 to 7.59 below.

“The exercise of discretion is restricted to the following matters:

1. The contents of the odour management plan to be implemented; and
2. The frequency of the discharge; and
3. The intensity of the discharge; and
4. The duration of the discharge; and
5. The offensiveness of the discharge; and
6. The location of the discharge; and
7. The matters set out in Rule 7.2.

7.29 Except where otherwise permitted or prohibited by rules 7.30 to 7.59 below, the discharge of dust, beyond the boundary of the property of origin, including from unsealed or unconsolidated surfaces, from an industrial or trade premise, including a construction, subdivision or development property is a restricted discretionary activity.

The exercise of discretion is restricted to the following matters:

1. The contents of the dust management plan to be implemented; and
2. The frequency of the discharge; and
3. The intensity of the discharge; and
4. The duration of the discharge; and
5. The offensiveness of the discharge; and
6. The location of the discharge; and
7. The matters set out in Rule 7.2.”

92 The s42A report recommends that Rules 7.3, 7.15, 7.16, 7.28 and 7.29 be retained. The s42A report does not respond to the issues raised in Bathhurst Resources’ submission nor LPC’s submission.

93 The s42A however recommends that Rules 7.17 and 7.18 be replaced with a BPO rule although no replacement rules are recommended in the report. Mr Bluett discusses this further.

ASSESSMENT

94 The operative Plan provides a comprehensive list of rules on the discharges of contaminants to air associated with activities commonly carried out within industrial and trade premises.¹¹ Any discharges to air associated with industrial and trade premises not explicitly identified in the rules or do not comply with the

¹¹ Lyttelton Port falls within the definition of an industrial and trade premise.

conditions attached to the rules were classified as full discretionary activity (Rule AQL 57).

- 95 Likewise, Rules 7.14-7.58 of the pCARP provides a full list of rules on discharges of contaminants to air associated with activities commonly carried out within industrial and trade premises. Rule 7.59 is a similar 'sweeper' rule to that of the operative Plan, which classifies the discharge to air of contaminants associated with a range of industries not otherwise addressed in the rules as full discretionary, and classifies the discharge to air of contaminants full discretionary where an activity cannot comply with a specific condition attached to the other rules.
- 96 However, the pCARP also introduces Rules 7.15, 7.16, 7.28 and 7.29 that relate to specific characteristics of a discharge rather than with an activity and so overlap with the other rules in terms of PM₁₀, dust¹² and odour. Rule 7.3 applies to any discharge of contaminant and applies across the board regardless of the other rules.
- 97 Introducing rules that are a subset of other rules or overlap with other rules is in my view likely to create problems of interpretation.
- 98 Mr Bluett for example considers that the standards attached to Rules 7.15 and 7.16 are concerned with large-scale solid fuel burning devices and would be incorrect if applied to process emissions. In my view, it would be clearer if the standards attached to these rules were, if necessary, inserted into the relevant activity-based rules although it is likely they could simply be addressed by way of conditions to a consent which I suspect would be the case now.
- 99 Rule 7.3 is a catch all rule. The words "offensive or objectionable" contained in the rule stem from section 17 of the RMA. Section 17 sets out a general duty on all persons to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity. This is a general duty irrespective of whether the activity carried out by a person is permitted or the person holds resource consent for the activity.
- 100 Although this general duty is not enforceable, an enforcement order or abatement notice may be made or served to require a person to cease, or prohibit a person from commencing, anything that, in the opinion of the Environment Court or an enforcement officer, is or is likely to be noxious, dangerous, offensive, or objectionable to such an extent that it has or is likely to have an adverse effect on the environment.
- 101 Therefore, I do not understand why Rule 7.3 is needed when a discharge to air deemed offensive or objectionable must cease under section 17, noting that the activity must already be occurring if it is to be assessed under Schedule 2.
- 102 The other issue with Rule 7.3 is that readers of a Plan should be able to determine the status of a proposed discharge by reading the rule and if necessary

¹²¹² Noting a general rule on PM₁₀ overlaps with a general rule on dust.

obtaining expert advice to determine whether any standards attached to a rule can be complied with. However, some of the Schedule 2 (FIDOL) criteria are subjective; relying on complaints, surveys and other evidence. Therefore an Environment Canterbury officer would presumably be, in effect, charged with determining the status of a discharge.

- 103 In my opinion Rule 7.3 should be deleted.
- 104 Rules 7.28 and 7.29 apply to any discharge of odour or dust beyond the boundary of the emitting industrial and trade premise except where permitted or prohibited by the other rules. However, apart from the requirement for a management plan, the assessment matters relate to FIDOL characteristics, which like Schedule 2, are used to determine whether a discharge is offensive. The use of the FIDOL characteristics, as discussed above, can only apply to activities already occurring. Yet the Rules 7.28 and 7.29 expressly state that they do not apply to activities permitted by the other rules.
- 105 It is unclear to me why there is a need for Rules 7.28 and 7.29 given the pCARP already contain a comprehensive set of rules addressing activities seeking to discharge contaminants. For example, there are specific rules on the emissions of dust associated with the handling and storage of bulk materials and the presence of unconsolidated surfaces on a site and it is therefore I see no reason for Rule 29.
- 106 If the Panel are persuaded that Rules 7.28 and 7.29 are necessary then Rule 7.30 will in my opinion need to be amended for the reasons discussed by Bathurst Resources Ltd. I had assumed that Rule 7.30 included industrial and trade premises because it refers to "development property" generally and is contained under the grouping of "other industrial and trade discharges of contaminants to air."
- 107 However, as pointed out by Bathurst Resources, it could be interpreted that any dust emitted from an unconsolidated surface (no matter the extent of it) within an industrial and trade premise would require consent under Rule 7.29 if it is observed beyond the boundary of the premise. In other words, subdivision and other development only require consent when the 4ha threshold is exceeded provided a management plan is in place, whereas an industrial and trade premise requires consent irrespective of the area involved. Therefore Rule 7.30 should include reference to "industrial and trade premises" to remove ambiguity.

RULES 7.30

- 108 Rule 7.30 currently reads:

"The discharge beyond the boundary of the property of origin of dust from a subdivision or development property where less than 4ha of land is unsealed or unconsolidated at any one time is a permitted activity provided the following conditions are met:

1. A dust management plan prepared in accordance with Schedule 2 must be held and implemented by the persons responsible for the discharge into air; and

2. The dust management plan is supplied to the CRC on request."

109 LPC does not oppose the rule outright but seeks the rule define the words "unsealed" and "unconsolidated." It recommends the following definitions:

"unsealed/consolidated

means land that has been disturbed from Earthworks during site construction and has not been stabilised by vegetation, geotextile, mulch, sealing or by any other means which results in fugitive dust emissions beyond the boundary of the property"

"Earthworks:

Means the disturbance of land surfaces by blast, blading contouring, ripping, moving, removing, placing soil and earth, or by excavation, or by cutting and filling operations but excludes any cultivating of paddocks in a rural area"

110 The reason for the definitions was to remove any ambiguity between this rule and the rules associated with the handling and storage of bulk materials.

111 The s42A report recommends Rule 7.30 be retained and again there was no response to LPC's submission.

ASSESSMENT

112 LPC's coal stockyard, which is approximately 7.5 hectares in size, consists mostly of unconsolidated coal stockpiles ready for export. Additionally, the Port contains other unconsolidated areas, such areas being routinely repaired, unsealed roads to the quarry, and other pockets of unconsolidated areas. It is therefore important that the coal stockyard is not counted as an unconsolidated surface, and therefore is added to any area threshold calculated under Rule 30. The definitions proposed also provide better certainty on how the rule is to be applied.

113 In my view the words should be defined in the manner proposed by LPC or similar.

NEW RULES 7.25A AND 7.38A

114 LPC seeks that the existing rule on port generators contained in the operative Air Plan be reinstated in the pCARP. The rule is as follows:

"Rule 7.25A

The discharge of contaminants into air, for the purposes of emergency electricity generation, maintenance and peak electricity network load management, from combustion of diesel, petrol, liquefied petroleum gas or compressed natural gas in any stationary large scale internal combustion device within the Lyttelton Port Zone shown as "LP" on Maps S1, S2 and S3 in Schedule XX with a new energy output not exceeding 5MW:

Is a controlled activity provided the following conditions are met:

1. for internal combustion equipment legally established and existing as of 1 May 2015 be:
 - (a) more than 120 metres from any sensitive activity located on a different property (excluding the Coastal Marine Area or any road reserve); or
 - (b). more than 120 metres from any part of another site (excluding the Coastal Marine Area or any road reserve) outside the Lyttelton Port Zone where any individual is likely to be exposed to the contaminant for a period of one hour or more per day); or
2. for internal combustion equipment legally established and existing after 1 May 2015 be:
 - (a) more than 100 metres from any sensitive activity located on a different property (excluding the Coastal Marine Area or any road reserve); or
 - (b) more than 100 metres from any part of another site (excluding the Coastal Marine Area or any road reserve) outside the Lyttelton Port Zone where any individual is likely to be exposed to the contaminant for a period of one hour or more per day); and
 - (c) occur via a chimney stack at a height of at least 3 metres above immediate ground level; and
 - (d) be directed vertically into the air and shall not be impeded by any obstruction above the stack which decreases the vertical efflux velocity, below that which would occur in the absence of such obstruction.
3. Shall otherwise comply with Conditions 3, 4, 5, 6 and 7 of Rule 7.25 except that no time limit shall apply for generator use during power outage.

The CRC reserves control over the following matters:

1. Any measures necessary to prevent or minimise adverse effects on air quality; and
2. The emission rate of contaminants;
3. The ability of the equipment to disperse contaminants and including emission stack height and design, and emission velocity; and
4. Maintenance of the internal combustion equipment; and
5. The matters set out in Rule 7.2."

115 The reasons to reinstate the rule on the generators in summary are as follows:

- The rules in the operative Plan relating to network loading were agreed to with Environment Canterbury after Environment Court mediation; and
- There would need to be a clear rationale as to why the rules have been changed i.e. air quality monitoring justifying it.

- 116 The submission from LPC also observes that Rule 7.25 in the pCARP appears to only apply to only a single device. If that is the case then LPC's proposed rule taken from the operative Plan would be unnecessary provided condition 1 is deleted and instead stack heights are considered on a case-by-case basis.
- 117 LPC also seeks that the existing rule on the handling and storage of bulk materials contained operative Air Plan be reinstated in the pCARP. The rule is as follows:

"Rule 7.38A

"Except as provided for in Rules 7.37 and 7.38, the discharge of contaminants into air on industrial or trade premises or involving, or as part of, industrial or trade processes from the extraction, handling, conveying, or storage of bulk materials:

(a) on land shown as 'LP' on the Maps S1, S2 and S3 in Schedule 10, and;

(b) on land (excluding the Coastal Marine Area) within the Boundary of the Operational Area of the Port of Lyttelton as shown on Map 5.1 in Schedule 10, is a restricted discretionary activity.

Environment Canterbury has restricted its discretion to the following matters:

1. Avoiding, remedying or mitigating the effects from the discharge of dust on the landward side of the CMA and beyond the boundary of the Lyttelton Port Zone;
2. Available measurements, samples, analyses, surveys, investigations, or inspection.
3. The matters set
4. The matters set out in Rule 7.2

and

Insert those maps attached in Chapter 3, Schedule AQL 7 of the NNRP or equivalent"

- 118 The reasons for the reinstatement of this rule in summary are as follows:
- The rules in the operative Plan relating bulk handling of material were agreed to with Environment Canterbury after Environment Court mediation;
 - Port operations involve the handling of material much greater than the volumetric standards attached to the proposed rules; and
 - The setback standards cannot be met and in any event those setbacks relating to wāhi tapu, wāhi taonga or site of significance to Ngāi Tahu are not identified and therefore void for uncertainty.

- 119 The s42A report rejects LPC's proposed rules (page 13-4). It states it is not clear why a less stringent consent path is required for these activities than any other regionally or nationally significant infrastructure. It is considered that the needs of the Port are appropriately addressed through discretionary activity status, given the policy support proposed for strategic infrastructure.

ASSESSMENT

- 120 With respect to the response s42A, I firstly comment that LPC is simply seeking the rules that are already in the operative Plan be reinstated. It would have been more informative if the Reporting Officers had addressed why the rule was amended from that contained in the operative Plan. For example, an obvious reason would be if monitoring of the discharges or the ambient air at Lyttelton. However, Mr Bluett is unaware of any PM₁₀ being carried out at Lyttelton since the existing plan was made operative.
- 121 The evidence of Mr Bluett sets out why controlled activity status for the LPC generators is appropriate.¹³
- 122 The reasons for the separate rule on the handling of bulk solid materials at the Port is recognised in the operative Plan (page 3-249) where it states:

"As the major export and import gateway for the Canterbury Region's bulk materials, the ability of Lyttelton Port to handle large-quantities of bulk material is recognised as being important to the well-being of the community. Nevertheless, the actual or potential effects of the discharge of containments associated with the bulk material operations at the Port need to be avoided, remedied or mitigated. The permitted activities set out in Rules AQL42 and 42B are in most instances not applicable for the Port operation, and instead a resource consent process would be triggered by Rule AQL42C.

Rule AQL42C applies on the landward side of the Coastal Marine Area within the Port of Lyttelton's operational area. The rule applies to existing and any new land within this operational area. The operational area is the area shown as the 'LP' (Lyttelton Port) on Maps S1, S2 and S3, or land outside of the coastal marine area which is within the 'Boundary of the Operational Area of the Port of Lyttelton' shown on Map 5.1, contained within Schedule AQL7. Maps S1, S2 and S3 are derived from the Proposed Banks Peninsula District Plan and Map 5.1 is from the Canterbury Regional Coastal Environment Plan (both as of May 2009)."

- 123 The restricted discretionary rule in the operative Plan is not less stringent as suggested in the s42A report. The matters of discretion include the general need to avoid, remedy or mitigate the effects from the discharge of dust on the landward side of the CMA in addition to the requirement for monitoring to be carried out. The decision-maker most importantly still has the ability to decline any application.

¹³ The evidence of Kim Kelleher will also discuss the importance of the generators to the Port's operation.

- 124 However, the volumes of bulk cargo handled by the Port for import or export are significant¹⁴ and collectively are of importance to the region, and hence why the operative Plan has a port specific rule. Furthermore, the setback standards to a sensitive activity that are contained in the proposed rule are unduly restrictive for the Port, which has a shortage of flat land, exacerbated by earthquake damage.
- 125 The rule in the operative Plan is also confined to an assessment of sensitive receptors on land and so removes the need to assess effects within the port operational area of the CMA, noting any consequential deposition of material discharge to air and depositing on the harbour water is addressed in the coastal plan.
- 126 My opinion is that the rules contained in the operative Air Plan relating to the Port are appropriate.

CONDITION 6 OF RULE 7.37 AND CONDITION 5 OF 7.38

- 127 Conditions of Rule 7.37 and 7.38 respectively read:
- “6. The discharge does not occur within 200m of a sensitive activity, wāhi tapu, wāhi taonga or site of significance to Ngāi Tahu.
5. The discharge does not occur within 100m of a sensitive activity, wāhi tapu, wāhi taonga or site of significance to Ngāi Tahu”
- 128 LPC seeks those parts of the condition referring wāhi tapu, wāhi taonga or site of significance to Ngāi Tahu be deleted. The reason for the submission is that the conditions are void for uncertainty. This is because none of the sites or areas are identified on any Planning Maps.
- 129 Again I could not find any evaluation in the s42A report on LPC’s submission.

ASSESSMENT

- 130 As discussed previously any reader of a Plan needs to know whether an activity is permitted or regulated by the Plan. The lack of identification of sites of wāhi tapu, wāhi taonga or sites of significance to Ngāi Tahu on the Planning Maps means a person could invest and embark on an activity which is then subsequently considered not to be permitted.
- 131 Given the Banks Peninsula CMA (Te Tai O Mahaanui) is a Statutory Acknowledgement Area, and this includes Lyttelton Harbour, then an interpretation could be that the boundary between land and the CMA is deemed to be a boundary of a site of significance to Ngāi Tahu. The other interpretation is


¹⁴ Over 2,500 million tones this last year with a significant portion being potentially dusty

that it does not apply given the CMA is outside the jurisdiction of the pCARP.¹⁵
The application of the boundary at the Port would make no sense in my view.

132 If the Panel is of a mind to keep these conditions then I recommend they be amended as follows:

- “6. The discharge does not occur within 200m of a sensitive activity, wāhi tapu, wāhi taonga or site of significance to Ngāi Tahu, **including Te Tai O Mahaanui shown on Figure 8.10.1 but excluding the Operational Area of Lyttelton Port shown on Map 5.1, Schedule 10.**
5. The discharge does not occur within 100m of a sensitive activity, wāhi tapu, wāhi taonga or site of significance to Ngāi Tahu, **including Te Tai O Mahaanui shown on Figure 8.10.1 but excluding the Operational Area of Lyttelton Port shown on Map 5.1, Schedule 10.**”

Dated: 18 September 2015



Andrew Mark Purves

¹⁵ Noting the issue is slightly blurred because the coastal marine area is defined by the mean high water springs but not the highest tides.

**ATTACHMENT A: LYTTELTON PORT RECOVERY PLAN, ASSESSMENT OF
ECONOMIC EFFECTS, BROWN COPELAND & CO LTD, 12 NOVEMBER 2014.**

APPENDIX 6

ECONOMIC EFFECTS

**LYTTELTON PORT RECOVERY PLAN
ASSESSMENT OF ECONOMIC EFFECTS**

**Prepared for
Lyttelton Port Company Limited**

Brown, Copeland & Co Ltd

12 November 2014

INTRODUCTION

Background

1. As a consequence of the 2010 and 2011 Canterbury earthquakes, Lyttelton Port (the Port) sustained significant damage to its wharves and other facilities restricting its ability to meet the current requirements of its customers and large areas of the Port remain in a highly fragile state. This exposes the Port and the Lyttelton Port Company Limited (LPC) both operationally and financially. It also constrains the Port's contribution to the greater Christchurch rebuild process.
2. Trade through the Port has grown considerably across both containerised and general cargo over the last 20 years and LPC expects this growth to continue into the foreseeable future. Prior to the earthquakes LPC had a development strategy in place to meet the required capability to accommodate larger ships and the expected future growth in trade. This strategy has needed to be reviewed in the light of the recovery and restoration work required.
3. As part of its long term recovery, LPC wishes to undertake a package of investment projects which incorporate both:
 - a. The repair or reinstatement of damaged or destroyed assets; and
 - b. The development of new capacity to meet current demand and expected future growth.

The sequencing of these investment projects needs to ensure that the highest priority works are completed first (taking into account repairs and replacement must be carried out for insurance purposes with reasonable despatch), and that the Port can continue operating to meet customer requirements throughout the period of reconstruction.

4. The proposed programme of works would require a significant number of resource consents to be obtained for the large number of individual projects involving the repair, replacement or installation of numerous individual assets. Therefore LPC elected, in conjunction with the Canterbury Regional Council (CRC), to approach the Minister for Earthquake Recovery for a specific Port Recovery Plan under the Canterbury Earthquake Recovery Act (CER Act). On the 19 June 2014, the Minister directed LPC and Environment Canterbury to develop a Lyttelton Port Recovery Plan (Port Recovery Plan).¹
5. Without the Port Recovery Plan, it would be necessary for LPC to seek over 110 individual consents, resulting in significant costs in terms of money, time and flexibility such that the future operations of the Port would be substantially compromised. It has been estimated that it would cost millions of dollars and take 5 to 10 years to gain these consents.²
6. The CER Act guides the preparation of, and assessments undertaken for, the Lyttelton Port Recovery Plan. The Recovery Plan, and any actions or activities authorised by the Recovery Plan, must be in accordance with the purpose of the CER Act (section 10(1)) and the Minister can only approve the Recovery Plan if it is considered to be "reasonably necessary" (section 10(2)), that is, reasonably necessary for recovery and achieving the purpose of the CER Act.

¹ See New Zealand Gazette, No 65 19 June 2014, pages 1,861-1864.

² See Lyttelton Port Company Limited Reinstatement and Development Projects Resource Consents Scoping Report (page 54); M Bonis, Planz Consultants; December 2012.

7. For the purpose of this assessment, the relevant purposes from section 3 of the CER Act are:
 - (a) *to provide appropriate measures to ensure that greater Christchurch and the councils and their communities respond to, and recover from, the impacts of the Canterbury earthquakes:*
 - (b) *to enable community participation in the planning of the recovery of affected communities without impeding a focused, timely and expedited recovery:*
 - (d) *to enable a focused, timely, and expedited recovery:*
 - (f) *to facilitate, co-ordinate, and direct the planning, rebuilding, and recovery of affected communities, including the repair and rebuilding of land, infrastructure, and other property:*
 - (g) *to restore the social, economic, cultural, and environmental well-being of greater Christchurch communities:*
8. The CER Act and its purposes therefore guide the preparation of a Recovery Plan. Critically, the Recovery Plan does not have to be developed or considered to meet the purpose of the Resource Management Act. Further, section 19(4) of the CER Act states that nothing in section 32 or Schedule 1 of the Resource Management Act 1991 applies to the development or consideration of a Recovery Plan.
9. Under section 16(1) of the CER Act, the Minister for Canterbury Earthquake Recovery has directed LPC and the CRC to develop a Lyttelton Port Recovery Plan.
10. This report is produced as part of the “necessary information” that LPC must provide CRC to enable the preparation of a preliminary draft Lyttelton Port Recovery Plan under clause 6.5 of the Direction. This report also provides guidance on the following matters from clause 5.1 of the Direction that must be addressed in this “necessary information” provided to CRC:
 - 5.1 *The matters to be addressed by the Lyttelton Port Recovery Plan must include, but are not limited to:*
 - 5.1.1 *The recovery of the damaged port, including the repair, rebuild and reconfiguration needs of the port, and its restoration and enhancement, to ensure the safe, efficient and effective operation of Lyttelton Port and supporting transport networks;*
 - 5.1.2 *The social, economic, cultural and environmental well-being of surrounding communities and greater Christchurch, and any potential effects with regard to health, safety, noise, amenity, traffic, the coastal marine area, economic sustainability of Lyttelton town centre and the resilience and well-being of people and communities including the facilitation of a focused, timely and expedited recovery;*
 - 5.1.3 *Implications for transport, supporting infrastructure and connectivity to the Lyttelton town centre, including, but not limited to, freight access to the port, public access to*

the inner harbour and the location of passenger ferry terminals and public transport stops;

5.1.4 *The needs of users of Lyttelton Port and its environs, including, but not limited to, iwi, importers and exporters, cruise ship passengers and crew, tourism operators and customers, commercial fishers, recreational users and public enjoyment of the harbour and well-being of communities.*

11. The Direction also requires the preparation of this Recovery Plan to include:

6.5.6 *An assessment of the proposal against the Canterbury Earthquake Recovery Act 2011, relevant considerations of the Resource Management Act 1991, the New Zealand Coastal Policy Statement 2010, the Mahaanui Iwi Management Plan and other relevant statutory and non-statutory plans.*

12. Among these matters to be addressed within the Port Recovery Plan are economic considerations.

Report Purpose

13. The purpose of this report is to undertake an assessment of the economic effects supporting the preparation of the Recovery Plan.

14. The assessment framework in this Report will therefore be guided by the Direction and the purpose of the CER Act, in particular, how the LPC's long-term vision for the efficient, timely and effective repair, rebuild and restoration and enhancement of Lyttelton Port can be provided in the Recovery Plan in a way that enables an expedited recovery that restores social, economic, cultural, and environmental well-being.

15. The report focuses on:

- a. The economic significance of the Port to Christchurch and the wider Canterbury region;
- b. The role of the Port Recovery Plan in the continuation and enhancement of the Port's contribution to the economic well-being of the city, and the region; and
- c. The economic effects of the Port Recovery Plan on the Lyttelton commercial centre and the Lyttelton community generally.

Report Format

16. The remainder of this report is in seven parts and covers:

- a. The relevant purposes and provisions of the CER Act;
- b. The Canterbury Earthquake Recovery Strategy (CER Strategy);
- c. The economic significance of Lyttelton Port;
- d. LPC's proposed Port Recovery Plan;

- e. The Port Recovery Plan and the economic well-being of Christchurch City, the Canterbury region and other regions in the South Island;
- f. The economic effects of the Port Recovery Plan on Lyttelton; and
- g. The report's conclusions.

THE CER ACT

Purposes of the Act

- 17. The purposes of the CER Act are set out in clause 3 of the Act and the previous section of this report has identified those that are relevant to the proposed Port Recovery Plan's role in the continuation and enhancement of the Port's contribution to the economic well-being of Christchurch City and the Canterbury region.
- 18. The purposes of the Act are important in the context of the Port Recovery Plan since the Minister of Earthquake Recovery in exercising his powers under the Act, including the approval of Recovery Plans, must do so in accordance with the purposes of the Act (see clause 10(1)).
- 19. The proposed Port Recovery Plan is directed at a "focussed, timely and expedited" recovery of infrastructure, which will make a significant contribution to restoring the "social (and) economic wellbeing of greater Christchurch" as well as the wider Canterbury region and to a more limited extent other regions of the South Island. As is discussed later in this report, the economic well-being of greater Christchurch is closely linked to that for the wider Canterbury region and therefore the Port's role in supporting the agriculture and agricultural product processing industries in the City's hinterland, also contribute to the economic prosperity of greater Christchurch.
- 20. The approval of the Port Recovery Plan provides the opportunity for "community participation" and therefore the process is consistent with the purpose set out at clause 3(b) of the Act.

Recovery Plans

- 21. The development, approval and changes to Recovery Plans are covered in sections 16-22 of the CER Act.
- 22. Recovery Plans are required to be consistent with the Recovery Strategy, which has been developed by the Canterbury Earthquake Recovery Authority (CERA). Some of the key components of this Recovery Strategy, which are relevant to the proposed Port Recovery Plan, are covered later in this report.

Definitions

- 23. In the context of the proposed Port Recovery Plan there are two key definitions of terms included in section 4 of the CER Act. These relate to:
 - a. "**recovery**", which includes "restoration and enhancement"; and
 - b. "**rebuilding**", which includes
 - i. "extending, repairing, improving, ... infrastructure ...;" and
 - ii. "rebuilding communities."

24. The Court of Appeal has previously considered these CER Act definitions.³ The Court confirmed that:

- a. “recovery”, within the scope of the CER Act, is not limited to restoring infrastructure (and other assets) damaged by the earthquakes to their previous state, but extends to enhancing it or improving it in all respects; and
- b. “rebuilding” is to be given a broad meaning well beyond merely restoring physical structures, to cover not only improving infrastructure and other assets, but also rebuilding “communities”. This confirms that the scope of the CER Act is intended to reach beyond physical restoration and to include measures directed at improving the economic well-being of residents and businesses within greater Christchurch.

25. The Court of Appeal also addressed the meaning of “necessary” in section 10 of the Act where actions taken by the Minister must be considered “necessary”. The Court found that “necessary” means the exercise of power is needed or required in the circumstances, rather than merely desirable or expedient, for the purposes of the Act. In the case of LPC’s proposed Port Recovery Plan the alternative orthodox approach of seeking numerous individual resource consents would cost millions of dollars, take between 5 and 10 years to achieve and would impede a “focussed, timely, and expedited recovery” of the Port and greater Christchurch. It would prevent the Port from meeting the current and future needs of Christchurch City and the Canterbury region. In the circumstances, it is considered from an economic perspective that the adoption of a Port Recovery Plan is “necessary” and consistent with the purposes of the CER Act.

THE CERA RECOVERY STRATEGY⁴

26. Both the Recovery Strategy and the proposed Port Recovery Plan are products under the CER Act. The Port Recovery Plan will sit underneath CERA’s Recovery Strategy, with the CER Act directing that the Port Recovery Plan must be consistent with the Recovery Strategy (section 18(1) of the Act).

27. Consistent with the CER Act definitions of “recovery” and “rebuilding”, the CERA Recovery Strategy states under the heading “What is Recovery?” (page 7):

*“Recovery is inherently **future focussed** and there will be **opportunities to “build back better” when repairing damage** caused by the earthquakes.*

*Opportunities for **enhancement should be considered**, including where:*

- *they **lead to resilience and/or functionality**; or*
- *(they) are **cost-effective according to life-cycle analysis***

provided that they do not come at the expense of the repair or replacement of essential infrastructure and services elsewhere.

*For the purposes of this Strategy, **“recovery” does not mean returning greater Christchurch to how it was on 3 September 2010.**”*

³ Canterbury Regional Council v Independent Fisheries [2012] NZCA 601.

⁴ See: Recovery Strategy for Greater Christchurch; Canterbury Earthquake Recovery Authority; May, 2012.

(Emphasis added)

28. Under the “Leadership and Integration” component, the Strategy states:

*“CERA, the public and private sector and communities coordinate with each other to contribute to **the recovery and future growth of Greater Christchurch**- by:*

1.1 *facilitating a **timely and efficient recovery, including intervening where necessary to remove impediments, resolve issues and provide certainty;***

1.2 *considering **the effects of ongoing seismic activity;***

...

1.7 *identifying opportunities **to leverage the significant investment needed for new and upgraded infrastructure;***

(Emphasis added)

29. Under the “Economic Recovery” component, the Strategy states:

“Revitalise greater Christchurch as the heart of a prosperous region for business, work, education, and increased investment in new activities – by:

2.3 ***restoring the confidence of the business sector and the insurance and finance markets to enable economic recovery and growth;***

2.4 *reviewing **the region’s brand and reputation** as a safe, desirable and attractive place to live, study and **invest;***

...

2.7 *collaborating with the private sector and government agencies **to address obstacles to economic recovery** and to match supply with demand for resources;”*

(Emphasis added)

21. Under the “Built Environment Recovery” component the Strategy states:

*“Develop **resilient, cost effective, accessible and integrated infrastructure, buildings, housing and transport networks** – by:*

5.1 ***coordinating and prioritising infrastructure investment that effectively contributes to the economy and community during recovery and into the future;***

...

5.3 ***rebuilding infrastructure and buildings in a resilient, cost-effective and energy efficient manner;***

5.4 developing a transport system that meets the changed needs of people and businesses and enables accessible, sustainable, affordable and safe travel choices;"

(Emphasis added)

30. These various references contained within the CERA Recovery Strategy align very closely with the objectives and components of the proposed Port Recovery Plan, especially in relation to those parts of the Recovery Strategy that have been highlighted above. In particular the proposed Port Recovery Plan is designed to remove obstacles and unnecessary regulations which might constrain efficient and expedited economic recovery, provide greater certainty, co-ordinate and prioritise infrastructure investment, leverage restoration investment to also provide new facilities required for changing circumstances and future growth, provide resilience against future seismic activity, help restore the brand and reputation of greater Christchurch as a place to invest and do business, and to enhance the overall level of economic well-being for the City and wider Canterbury region. These linkages between the Port Recovery Plan and the CERA Recovery Strategy are further developed later in this report.
31. Finally it is noted that the implementation of the Port Recovery Plan will be largely self-funded – i.e. from insurance proceeds (for insured repairs and reinstatement), debt capital and LPC's own resources. The Port Recovery Plan will not compete for the available public sector resources required for infrastructure restoration and enhancement elsewhere in the City. The implementation of the Port Recovery Plan will therefore largely complement public sector infrastructure investment and at the same time provide an economic stimulus to encourage sustainable growth in the local economy. This is consistent with the following statements contained on page 28 of the Recovery Strategy:
- "Reconstruction and private sector investment will stimulate the economy. A stronger economy will enable local businesses to grow and develop, attract new businesses, create new jobs and add value to the local economy.*
- Local and central governments have important roles in economic recovery and are making significant investments. However, the bulk of the financial investment will come from the private sector."*
32. LPC are currently anticipating that the Port Recovery Plan programme of works will cover a period of approximately 15 years (2014-2028 inclusive) involve expenditure of \$900 million, or an average of \$60 million per annum for the 15 year period. Much of this will be spent in Christchurch City. Directly associated with this programme of works will be an estimated 70 to 80 jobs and the payment of \$5 million per annum in wages and salaries. These are the direct economic impacts of the Port Recovery Plan programme of works.
33. In addition to these direct economic impacts are the indirect (or "multiplier") economic impacts arising from the demand for goods and services by the suppliers to the programme of works and those employed by it. Adopting a multiplier of 2.0⁵, implies

⁵ Butcher (see Appendix 8 of evidence in chief of Geoffrey Vernon Butcher for Christchurch City Council and Canterbury Regional Council in relation to the former Proposed Change 1 to the Canterbury Regional Policy Statement) estimates Canterbury regional multipliers for the construction industry of 3.11 for value added, 2.54 for employment and 2.63 for household income. Given most of the multiplier effects will be for Christchurch City rather than the rest of the region the adoption of a multiplier of 2.0 is conservative.

the programme of works will generate around 150 jobs and \$10 million per annum in household income for Christchurch City residents.

34. Without the Port Recovery Plan there will still be a programme of works to rebuild the Port's facilities and therefore these economic impacts overstate the net additional expenditure, employment and incomes as a consequence of the Port Recovery Plan itself. However, without the Plan the economic impacts are likely to be delayed particularly due to the current planning framework and the need for a large number of resource consents to enable recovery. More importantly the Port Recovery Plan provides greater planning certainty and flexibility, enabling LPC to undertake its programme of works more efficiently and this in turn enhances the economic prosperity of Christchurch City and the Canterbury region given the City and region's key economic drivers' reliance on Lyttelton Port (see next section of this report).

THE ECONOMIC SIGNIFICANCE OF LYTTELTON PORT

Canterbury Regional Economy

35. Statistics New Zealand estimate total employment in the Canterbury region in February 2014 at 275,210, which represents 13.8% of the total persons employed in New Zealand. The agriculture, forestry and fishing industry group employed 15,300 persons, of which 14,380 were engaged in agriculture (including 93% of agriculture and fishing support industry employees based on the proportionate shares in agriculture and fishing). Other significant sectors are manufacturing employing 34,140 (of which the most significant subsectors are food products manufacturing (11,600)⁶, machinery and equipment manufacturing (5,390), fabricated metal products manufacturing (3,170) and transport equipment manufacturing (2,350)), health care and social assistance (30,350), retail trade (28,090), construction (29,830), education and training (20,640), professional, scientific and technical services (19,120) and accommodation and food services (17,490).
36. Employment in tourism is difficult to identify from official statistics since the relevant sectors for which data is collected service domestic and international visitors, business travellers and local residents and businesses. However tourism is an important economic driver for the Canterbury regional economy as it is for the national economy.
37. Apart from the tourism related aspects of sectors such as retail trade, education and training and accommodation and food services, the key drivers of the Canterbury economy remain largely agriculture and manufacturing. Employment in other sectors is to a large extent driven by the demand for goods and services by these industries and their employees with the so called "multiplier" effects creating additional jobs for the region's economy.
38. Multipliers for a region such as Canterbury are typically in excess of 2.0⁷ – in other words for each job created in an industry such as tourism, agriculture or manufacturing there is at least one additional job created in other industries providing goods and services required by that industry or the personal requirements of that industry's employees and dependants. Conservatively assuming a Canterbury regional multiplier of only 2.0, the agriculture, forestry and fishing and manufacturing industry groups alone generate 98,880 jobs or 36% percentage of the total employment in the Canterbury region. These two industry groups are highly dependent upon Lyttelton Port

⁶ Including meat and meat products (4,800), seafood (1,080) and dairy products (1,690).

⁷ See for example, Appendix 8 of evidence in chief of Geoffrey Vernon Butcher for Christchurch City Council and Canterbury Regional Council in relation to the former Proposed Change 1 to the Canterbury Regional Policy Statement.

and the supporting rail, state highway and arterial road networks for exporting their finished products and importing goods required as inputs to their production activities.

39. To a lesser extent tourism, the third key driver of the Canterbury regional economy is also dependent for some inputs upon the Port of Lyttelton, whilst the cruise ship trade is a small but growing segment of the tourism industry in Canterbury.
40. Future employment growth and associated economic well being for the Canterbury region is also likely to be largely associated with the three key economic drivers of agriculture, manufacturing and tourism, although disruptions due to the 2010 and particularly 2011 earthquakes have impeded tourism activity and is likely to do so for a number of years to come.
41. By way of example of future growth in agriculture and associated agricultural product processing, Fonterra has constructed a new milk powder plant at Darfield. The initial development had a capacity to process 2.2 million litres of milk per day. Fonterra has subsequently constructed a second milk powder drier on the site with an additional capacity of 5 million litres of milk per day, giving a total processing capacity on the site of 7.2 million litres of milk per day.
42. Whereas milk production in the North Island has ceased growing, milk production in the South Island continues to grow, especially in the Canterbury region. Canterbury is the fastest growing dairying region in New Zealand with milk production in Canterbury growing at 5% per annum. Part of Fonterra's rationale behind the selection of Darfield for its new milk powder plant (and its proposed expansion) was the site's proximity to Port of Lyttelton (in terms of both distance and the availability of nearby direct rail access) for finished product exports and inputs to the production process.⁸

Christchurch City Economy

43. Employment data highlight the dependence of the Christchurch City economy on manufacturing and the services sector. In 2014, 22,790 jobs (11.6%) of the City's 197,260 jobs were in the manufacturing sector with the main sub-sectors being food product manufacturing (4,550 jobs including 1,490 in bakery products and 990 in meat and meat products manufacturing), machinery and equipment manufacturing (4,310 jobs), fabricated metal products manufacturing (2,830) and transport equipment manufacturing (2,140 jobs). Other important sectors are health care and social assistance (24,580 jobs), construction (22,240 jobs), retail trade (20,370 jobs), professional, scientific and technical services (16,230 jobs), education and training (14,680 jobs) and accommodation and food services (11,940 jobs).
44. There are important linkages between the performance of the Canterbury regional economy (which is heavily dependent upon the agriculture and agricultural product processing) and the Christchurch City economy. Apart from construction activities associated with the Christchurch rebuild, and tourism which accounts for some but not all⁹ of the jobs created in the retail trade and accommodation and food services sectors, the key economic drivers for Christchurch City are manufacturing and services provided to the agriculture and agricultural product processing activity within the wider Canterbury region. Employment in other sectors within the City is to a large extent

⁸ See evidence of Michael Campbell Copeland (dated November 2011) in the matter of applications by Fonterra Co-operative Group Limited to Selwyn District Council and Canterbury Regional Council for consents relating to the construction and operation of the Stage 2 Milk Powder Plant at Darfield.

⁹ Employment in tourism is difficult to identify from official statistics since the relevant sectors such as retail trade and accommodation and food services for which data is collected meet the needs of domestic and international visitors, business travellers and local residents and businesses.

driven by the demand for goods and services by these industries and their employees with the so called “multiplier” effects creating additional jobs for the City’s economy. For example, a Lincoln University Agribusiness and Economic Research Unit (AERU) study¹⁰ has estimated farms and rural businesses in the Selwyn and Waimakariri Districts generate around 10% of Christchurch City’s gross domestic product (GDP). Farms and rural businesses in other districts of the Canterbury region (Hurunui, Ashburton, Timaru, Waimate, Mackenzie and Waimate Districts) will also contribute to the level of economic activity within Christchurch City.

45. Lyttelton Port in its role of facilitating the economic prosperity of the rural hinterland of the Canterbury region and other regions in the South Island also helps to underpin the economic prosperity of metropolitan Christchurch.

West Coast Regional Economy

46. For the West Coast region, employment growth since 2000 has resulted from increased activity in the agricultural¹¹, mining and tourism sectors. Between 2000 and 2006, the agricultural and tourism sectors were the dominant growth sectors, but more recently (i.e. between 2006 and 2014), increased mining activity has been the main source of economic growth, even with the Pike River and Spring Creek mine closures.
47. Future economic growth for the West Coast economy is likely to depend on these three key economic drivers. Future growth in agriculture on the West Coast is likely to be limited by reduced scope for dairy farm conversions, whilst growth in tourism will be affected by a number of factors including economic conditions in overseas and local markets, exchange rates, changes in tourist destination preferences and local and national tourism promotional initiatives.
48. Mining operations on the West Coast are almost totally reliant¹² on the Midland railway line and the coal export facility at Port Lyttelton. The West Coast is also reliant on Port Lyttelton and the complementary rail and road networks for imports including machinery, equipment, fuel and fertilizers.

The Importance of Merchandise Trade to New Zealand

49. Merchandise trade is extremely important to the economic wellbeing of New Zealanders because the relatively small size of our population, labour force and economy limits the range of commodities that can be efficiently produced in New Zealand. In addition we are reliant on imports of commodities which can be produced more efficiently overseas. Lower cost imports help maintain the competitiveness of New Zealand producers as well as providing cost savings to consumers.
50. Merchandise trade enables New Zealand to specialise in the production of certain products in which New Zealand has a comparative advantage enabling production surplus to domestic consumption to be exported. These exports in turn provide the foreign exchange to enable New Zealand to finance the purchase of competitively priced imported goods and services.

¹⁰ See AERU: The Wheel of Water; Agricultural Expenditure Flows for Selwyn and Waimakariri Districts into Christchurch. Report prepared for Aqualink. September, 2013.

¹¹ Including milk processing, which for the West Coast is all done at Westland Milk Products dairy factory at Hokitika in the Westland District.

¹² Oceana Gold’s Reefion mine’s production of gold ore is railed or trucked to Macraes Flat in Otago for further processing. From time to time small shipments of coal are shipped out of the port at Westport.

51. The alternative model of “fortress New Zealand” would see higher priced goods and services, reduced choice in the range of goods and services available in New Zealand and a less efficient use of our physical and natural resources. This would result in lower incomes and a lower standard of living for New Zealanders.
52. New Zealand’s reliance on overseas trade and sea transport is highlighted by the total volume of containers handled across all New Zealand ports representing almost 1% of annual global container throughput.¹³ New Zealand’s population of 4.5 million people is only 0.06% of the world’s population.
53. Although the New Zealand economy has diversified with growth in non-agricultural industries, it remains heavily dependent upon the agricultural sector and the export of agricultural commodities. In the year ending 30 June 2014, dairy products, meat, fruit, wool and raw hides, skins and leather made up 47% of the value of New Zealand’s commodity¹⁴ export trade. Petroleum and petroleum products, mechanical machinery and equipment, vehicles, parts and accessories and electrical machinery and equipment are the most important import commodities making up 49% of the value of New Zealand’s commodity import trade in the year ending 30 June 2014.
54. In 2012/13, 99.6%¹⁵ of New Zealand’s exports and imports of goods by volume and 85.6% by value was transported by sea. This highlights the significant role played by New Zealand sea ports at a national level.

Lyttelton Port Company Activities¹⁶

55. Lyttelton Port is recognised as a “lifeline utility”¹⁷ and “significant infrastructure” at the local and national level.¹⁸ It plays a significant role in the current and future economic (and social) well-being of Greater Christchurch and the Canterbury region in that:
- a. It is a key contributor to the economic drivers of the Canterbury (and South Island) regional economy, which in turn underpins much of the economic activity within Greater Christchurch; and
 - b. It contributes to the Christchurch rebuild process.
56. As at 30 June 2014, the Lyttelton Port Company had \$248.9 million dollars worth of property, plant and equipment. During the year ended 30 June 2014, the company collected \$115.8 million in revenue, provided 525 jobs and paid \$42.3 million in salaries and wages. It spent \$49.0 million on goods and services, much of this going to local Canterbury suppliers.

Lyttelton Port Trade Volumes

57. In terms of total tonnage, Lyttelton Port is the largest port in the South Island and the fourth largest in New Zealand. It is New Zealand’s second largest export port (behind

¹³ Source: The Question of Bigger Ships. Securing New Zealand’s International Supply Chain. New Zealand Shippers’ Council; August 2010.

¹⁴ A distinction is made between “commodity trade” (or “merchandise trade”) and total trade. Commodity trade relates to the exporting and importing of goods only, whereas total trade includes the exporting and importing of both goods and services. For the year ending 30 June 2014 New Zealand’s export of services made up 25% of the total export of goods and services. Most of these relate to earnings from services related to tourism.

¹⁵ Source: Ministry of transport website: www.transport.govt.nz/ourwork/tmif/freighttransportindustry/ft100

¹⁶ Source: Data in this section from Lyttelton Port Company 2014 Annual Report and Statistics New Zealand.

¹⁷ See Schedule 1 of Civil Defence Emergency Management Act 2002.

¹⁸ See New Zealand Government’s 2011 National Infrastructure Plan and Christchurch City Council’s Christchurch Transport Plan 2012-42.

Tauranga). In the year ended 30 June 2014, a total of 6,569,236 tonnes of overseas cargo was loaded or unloaded through Port Lyttelton, accounting for 11.1% of all New Zealand seaports¹⁹ trade – 11.3% of exports and 10.7% of imports. Port Lyttelton accounted for 47.4% of South Island seaports' overseas trade – 46.3% of exports and 49.5% of imports. Total overseas trade through Port Chalmers (Otago) was 1,952,110 tonnes, only 30% of the trade through Lyttelton Port, with 2,323,849 tonnes through Southport (Bluff), 1,221,841 tonnes through Port Nelson, 1,151,082 through PrimePort (Timaru) and 654,710 tonnes through Picton Port (Marlborough).

58. By volume, containers make up the largest share of trade through the Port followed by coal, bulk fuels, dry bulk products, logs, cars and other trades. For the year ending 30 June 2014, 376,567 twenty-foot container equivalent units (TEUs) were moved through the port, an increase of 7.2% on the previous year and an increase of 50.2% over the last six years. In the containers moving through Port Lyttelton were manufactured goods, including processed agricultural commodities from the Canterbury region and other South Island regions.
59. By way of comparison containers moving through other South Island ports in 2012/13 were – Port Chalmers (195,000 TEUs), Port Nelson (83,380 TEUs), PrimePort (Timaru) (22,000 TEUs) and SouthPort (Bluff) (34,800 TEUs). In 2012/13 Lyttelton Port handled 51% of the South Island's container movements, the same as in 2011/12 and up from 43% in 2010/11.²⁰
60. Exports of coal in 2013/14 through the Lyttelton Port increased by 2.7% on the previous year's volumes to 2,069,432 tonnes, log exports rose 62.7% to 601,485 tonnes, bulk fuel volumes were down 6.0% to 1,044,189 tonnes and dry bulk imports were up 18.4% on the previous year to 769,019 tonnes, largely driven by significant increases in cement imports up 21.7% to 200,327 tonnes. In the past 3 years cement imports have increased by 156%. The dramatic rise in cement imports is symptomatic of the role the Port is playing, and will continue to play, in the Christchurch City rebuild programme. In 2013/14 motor vehicle imports were up 18.4% to 40,778 and fertilizer imports were up 9.0% to 355,230 tonnes.
61. Growth forecasts²¹ for trade through the Port have containers growing at a rate of between 2.7% and 5.3% per annum from 376,567 TEUs in 2014 to between 782,000 TEUs and 1,500,000 TEUs in 2041. If Lyttelton Port becomes big ship capable then the higher end of the forecast range is more likely. Log exports through the Port are forecast to grow at a rate of 0.8% per annum from 601,485 tonnes in 2014 to 739,000 tonnes in 2041. Dry bulk imports are forecast to grow at an annual rate of 1.7% per annum from 769,019 tonnes in 2014 to 1,200,000 tonnes in 2041. Coal exports are forecast to grow at an annual rate of 1.4% per annum from 2,069,432 tonnes in 2014 to 3,000,000 tonnes by 2041. Fuel imports are expected to grow at an annual rate of 1.0% per annum from 1,044,189 tonnes in 2014 to 1,371,000 tonnes in 2041.

Lyttelton Port Trade Values - Exports

¹⁹ Because of the relatively small volumes of cargo passing through airports the percentages of total New Zealand trade volumes (i.e. including seaports and airports) are very similar – i.e. within one decimal point.

²⁰ Based on data derived from port company annual reports. Data for 2013/14 is not available for all South Island ports.

²¹ Source: Freight Infrastructure Statement Draft Report. Aurecon, Version B. February, 2014. LPC's own forecasts for 2041 adopt the higher end of the range for containers (1,500,000 TEUs), higher forecasts for coal (3,600,000 tonnes), dry bulk including fertilisers (1,500,000 tonnes) and fuel (3,100,000 tonnes) and a lower forecast for logs (500,000 tonnes) – see Transport Report.

62. In calendar year 2013, exports through Port Lyttelton totalled \$6,255 million in value, or 12.6% of New Zealand's total merchandise exports.²²This is up from \$2,386 million in 2005 and which represented 7.6% of New Zealand's exports in 2005. By way of comparison exports in 2013 from Port Otago were valued at \$4,154 million (8.4% of New Zealand's total merchandise exports, down from 9.9% in 2005); exports through SouthPort were valued at \$1,099 million (2.2% of New Zealand's total merchandise exports, down from 2.7% in 2005); exports through Port Nelson were valued at \$692 million (1.4% of New Zealand's total merchandise exports, down from 2.2% in 2005); exports through PrimePort (Timaru) were valued at \$386 million (0.8% of New Zealand's total merchandise exports, down from 3.5% in 2005); exports through Port Marlborough were valued at \$76 million (0.2% of New Zealand's total merchandise exports, the same as in 2005); and exports through Christchurch airport were valued at \$1,913 million (3.9% of New Zealand's total merchandise exports, up from 3.1% in 2005).
63. In 2013 the value of exports through Lyttelton Port were 49% of the South Island's value of exports from sea ports, up from 29% in 2005. Due to the exclusion of coal export values these percentages are understated.
64. The main export trades by value through Lyttelton Port in 2013 were dairy products (\$3,255 million and 23.9% of the total for New Zealand); meat (\$579 million and 11.0% of the total for New Zealand); coal (estimated at around \$520 million); wool (\$330 million and 43.7% of the total for New Zealand); machinery and mechanical appliances (\$193 million and 7.0% of the total for New Zealand), wood and wood products (\$185 million and 4.8% of the total for New Zealand); and fish (\$155 million and 11.7% of the total for New Zealand).

Lyttelton Port Trade Values - Imports

65. In calendar year 2013, imports through Lyttelton Port totalled \$4,012 million in value, or 8.3% of New Zealand's total merchandise imports. This is up from \$2,296 million in 2005 and which represented 6.3% of New Zealand's imports in 2005. By way of comparison in 2013 imports through Port Otago were valued at \$396 million (0.8% of New Zealand's total merchandise imports, down from 1.0% in 2005); imports through SouthPort were valued at \$555 million (1.2% of New Zealand's total merchandise imports, up from 1.1% in 2005); imports through Port Nelson were valued at \$258 million (0.5% of New Zealand's total merchandise imports, down from 0.6% in 2005); imports through PrimePort were valued at \$249 million (0.5% of New Zealand's total merchandise imports, down from 0.9% in 2005); and imports through Christchurch airport of \$631 million (1.3% of New Zealand's total merchandise imports, the same as in 2005).²³
66. In 2013 the value of imports arriving at Lyttelton Port were 73% of the South Island's value of imports arriving via sea ports, up from 64% in 2005.

²² This excludes coal export values, which are excluded from official statistics for confidentiality reasons. In 2010 Solid Energy's coal exports totalled 2 million tonnes and had an approximate value of \$516 million (source: Solid Energy Limited). Using the same average price per tonne for shipments in 2012/13, implies a value of around \$520 million. Also Statistics New Zealand data on export and import values by port is compromised by the problems that arise with trans-shipment – i.e. the shipment of goods or containers to an intermediate port and then to another port. To avoid double counting in national statistics, Statistics New Zealand compile port statistics on the basis of first port of unloading and last port of loading. This results in the first and last ports' data being higher than it should be and other ports' data being lower than it should be. Because of the calling patterns for vessels serving New Zealand ports import values for Auckland and export values for Tauranga are likely to be overstated and the export and import values for other ports, including Port Lyttelton are likely to be understated. This problem is most evident in relation to containerized cargo.

²³ No imports were recorded through Port Marlborough in 2005.

67. The main import trades by value through Lyttelton Port in 2013 were fuels (\$1,080 million and 13.2% of the total for New Zealand); vehicles (\$469 million and 8.0% of the total for New Zealand); plastics and plastic articles (\$197 million and 10.9% of the total for New Zealand); iron and steel and iron and steel articles (\$153 million and 11.9% of the total for New Zealand), fertilizers (\$127 million and 19.9% of the total for New Zealand); rubber and rubber products (\$102 million and 17.2% of the total for New Zealand); and electrical machinery (\$118 million and 3.1% of the total for New Zealand).

Coastal Trade

68. About 15% of New Zealand's inter-regional domestic trade is transported by sea by dedicated coastal vessels (85%) and international vessels (15%).²⁴The main coastal trades at Lyttelton Port are cement, fuel and containerised cargo on the Pacifica service and international services.

The Implications of the Introduction of Bigger Container Ships on New Zealand's Trade Routes

69. At present the average sized container ship calling at New Zealand ports has a capacity of approximately 2,700 TEU. The largest sized ship calling at New Zealand ports regularly has a capacity of approximately 4,100 TEU. It is expected in future more ships with capacities in the range of 5,000 to 7,000 TEU will be used on New Zealand trade routes as even larger vessels are used on the more significant international trade routes to reduce international shipping costs. Also bigger ships are more fuel efficient and therefore have a reduced carbon footprint. On a per TEU basis, a 6,500 TEU vessel gives a 31% reduction in CO₂ emissions compared to a 2,600 TEU vessel.²⁵

70. The New Zealand Shippers' Council²⁶ has undertaken a study²⁷ on the economic benefits of introducing bigger container ships (5,000 – 7,000 TEU) on New Zealand trade routes and the economic costs of not introducing them. Among the conclusions of this study were:

- a. If New Zealand ports are not bigger ships capable within five years (of 2010), there is a risk only relatively small and old vessels with a higher operating cost per container will visit New Zealand ports;
- b. New Zealand could realise up to \$144 million per annum net supply chain benefits from 2015/16, with bigger ships operating on the South East Asia route only and with infrastructure developments at two ports to become 7,000 TEU capable;
- c. In addition two New Zealand ports being bigger ship capable would protect New Zealand against the risk of shipping companies' hubbing through Australian ports such as Melbourne, Sydney and Brisbane, all of which are undertaking development to become bigger ship capable. This is estimated to cost New Zealand importers and exporters additional net supply chain

²⁴ Source: Sea Change. Transforming Coastal Shipping in New Zealand. Ministry of Transport; November 2007.

²⁵ See 'The Question of Bigger Ships; Securing New Zealand's International Supply Chain'; Update – April, 2012; New Zealand Shippers' Council.

²⁶ The New Zealand Shippers' Council is an association of major New Zealand-based cargo owners – both importers and exporters. It includes companies and organisations with major interests in industries such as forest products, fruit, steel, dairy, meat, coal and cement. Collectively the Council accounts for more than 50% of New Zealand's total annual volume of exports.

²⁷ The Question of Bigger Ships. Securing New Zealand's International Supply Chain. New Zealand Shippers' Council; August 2010.

costs of up to \$194 million per annum by 2015/16 if only South East Asia services were affected and increasing transit times to market;

- d. The total benefit to New Zealand of having two ports bigger ship capable are therefore estimated at \$338 million per annum from 2015/16 increasing up to \$381 million per annum by 2020. These estimates exclude multiplier effects for the broader economy;
- e. Although all four major container ports in New Zealand (Auckland, Tauranga, Lyttelton and Otago) will be required over time to increase their capability to support cargo growth, not all four will need to make the investment initially, to become bigger ships capable;
- f. A bigger ship service would be required to call at a North Island port, due to the large export and import volumes, and a South island port, for growing export volumes, including refrigerated export cargo. Based on the Council's research and analysis Tauranga and Lyttelton are the two New Zealand ports recommended to become bigger ships capable first;
- g. Lyttelton Port is the logical first South Island port to become bigger ship capable because (a) it is the largest container port in the South Island in terms of both import and export volumes; and (b) development cost estimates to accommodate 7,000 TEU ships at Port Lyttelton are lower than at Port Otago;
- h. Tauranga and Lyttelton are also the largest bulk ports in New Zealand and there is an opportunity for bulk cargo owners to leverage off investment in bigger ship capable facilities at these ports.

71. As part of general Port Recovery, LPC propose a capital dredging programme to deepen Lyttelton Port's navigation channel so that international ships of a 14.5 metre draught can access the port during all tides. This would involve both deepening and extending the existing channel. Although part of Port recovery (and the Recovery Plan generally) LPC are separately preparing a resource consent application for this capital dredging programme. Also there are a number of other enhancements to port facilities necessary to enable Lyttelton Port to become big ship capable and these are incorporated within the proposed Port Recovery Plan. Without the efficient and expedited rebuild of the Port made possible by the Plan, the on-shore capacity of the Port may be insufficient to enable the benefits of capital dredging works to be realised.

72. The trend towards larger vessels servicing New Zealand trade means that economic activity throughout the South Island will become increasingly dependent upon Lyttelton Port and its supporting rail and road networks. Tasman, Nelson, Marlborough, Otago and Southland regions will join the Canterbury and West Coast regions in having significant reliance on Lyttelton Port for their export and import trades.

Cruise Ship Visits²⁸

73. As a consequence of damage to cruise ship berthing and other facilities at Lyttelton Port, all but small cruise ship visits since the earthquakes have been diverted to Akaroa harbour. Whilst in 2012/13 expenditure in Christchurch City by passengers, crew and ships was estimated at \$32.7 million, Christchurch and Canterbury Tourism (CCT) believe that the limitation of day light hours, the need for tendering of

²⁸ Information in this section taken from Access to Cruise Berthing Facilities in Christchurch and Banks Peninsula; presentation from Christchurch and Canterbury Tourism; 15 July, 2014.

passengers and crew to and from the vessels and operational difficulties at Akaroa in bad weather mean that the economic benefits from cruise ship visits are lower than would be the case if cruise ship berthing facilities were again available at Lyttelton Port for all cruise ship visits.

74. Adequate facilities at Lyttelton Port would result in higher numbers of cruise ship visits, more passengers and crew disembarking, more passengers and crew undertaking day long excursions and greater economic benefits for Christchurch and Lyttelton retail, hospitality and entertainment businesses. Over the next 10 years CCT have estimated that the availability of adequate cruise ship facilities at Lyttelton Port would result in 10% more cruise ship visits, 24% more passengers disembarking, 52% more crew disembarking, an increase in the average spend per passenger of 11% and an increase in total spend in Christchurch City by 36% (equivalent to an average additional spend of \$9 million per annum). The cruise ship industry is a small but growing component of tourism in Canterbury. Also cruise ship visits provide an opportunity to attract return visitors. For example 33% of Australian visitors to Christchurch City arrive by cruise ship – 51% arrive directly by air and 16% arrive via another New Zealand airport. The “cruise ship experience” is therefore an important influence on the number of return visits by all modes and, in the case of return visits by air, for longer return visits involving increased expenditure per visit.

Summary

75. Lyttelton Port is by far and away the most significant port in the South Island in terms of total tonnages of cargo and containers handled, the value of exports and the value of imports. Lyttelton Port has been growing in relative importance and is expected to continue to do so in the future. LPC forecast ongoing growth for its container terminal to average 7-10% per annum for the next three years and container volumes to double over the next 10 years. In addition to base volume growth, the advent of larger container ships using the Port as a hub for South Island trade may see container volumes increase up to eightfold over the next 30 years. Non-containerised volumes of export and import trades are expected to continue growing but not as fast as containerised cargo.²⁹
76. The Port is a significant piece of infrastructure underpinning two of the three economic drivers of the Canterbury regional economy – i.e. agriculture and manufacturing (including agricultural product processing). The Port also plays a less significant role in relation to the third economic driver, tourism. The economic (and social) well-being of greater Christchurch is linked to the economic activity generated by the wider Canterbury region. Therefore Greater Christchurch’s earthquake recovery and future economic prosperity is also significantly influenced by the current and future performance of Lyttelton Port.
77. The trend towards Lyttelton Port being used as a hub for all regions in the South Island is likely to intensify in the future making the Port an integral part of economic activity throughout the South Island. The Port is already responsible for exporting 24% of New Zealand’s dairy product exports (by value) and importing 20% of fertilizers used on New Zealand farms (by value), highlighting the Port’s national economic significance.

LPC’S PROPOSED PORT RECOVERY PLAN

Introduction

²⁹ Source: Lyttelton Port Company Limited and Subsidiaries Draft Reinstatement and Development Overview; Lyttelton Port Company Limited; August 2012.

78. The purpose of the Lyttelton Port Recovery Plan is to address the recovery of the Port. This includes the repair, rebuild and reconfiguration needs of the Port, and its restoration and enhancement, to ensure the safe, efficient and effective operation of Lyttelton Port and supporting transport networks.
79. By nature the recovery will be highly complex, involving a multitude of individual yet interrelated projects many of which will need to be carefully coordinated with each other as well as the ongoing operational activities at the Port. The ultimate outcome of this repair, rebuilding and reconfiguration work is the moving east of port operations in a timely manner, which results in:
- a. The container terminal being established on up to 37hectares of reclaimed land in Te Awaparahi Bay;
 - b. The shifting of some types of general cargo from the Inner Harbour to Cashin Quay; and
 - c. The development of public access to the Inner Harbour in two stages (Dampier Bay and potentially the Dampier Bay Extension)to provide a commercial marina and associated activities, with public access and connectivity between Lyttelton and other parts of Naval Point.
80. At this stage LPC anticipates that the direct repairs or rebuild of existing wharf structures, seawalls and hard-standing areas and the construction of the reclamation would take in the order of 15 years, being completed in about 2028. However, the complete migration of the Port's operation to the east could well take up to 30 years.
81. Some of the repaired or rebuilt berths at Cashin Quay, Naval Point and the new berths at Te Awaparahi Bay will be designed to handle larger vessels with a deeper draft. The deepening and widening of the current navigation channel to enable access of these larger vessels is therefore inextricably linked to and forms an important part of the Port's Recovery.
82. The Figures contained in Chapter 2 of the cover report to support the preparation of the Lyttelton Port Recovery Plan provide an outline of the proposed Recovery. The Recovery description below is discussed under four headings:
- a. Reclamation, Container Terminal and Quarry;
 - b. Cashin Quay;
 - c. Inner Harbour;
 - d. Cruise Berth Options.
83. It must be emphasised that the descriptions below are based on the current understanding of the economic and commercial drivers which shape the Port's infrastructure needs. It is possible that the infrastructure needs of LPC's customers and the freight mix could change over the next 15 years, in response to worldwide economic factors and industry changes. More detailed descriptions, including the project codes, of each individual project are included in Chapter 2 of thecover report.

Reclamation, Container Terminal and Quarry

84. The additional reclamation will be developed using a range of different methodologies, which will be influenced by the type and quantity of available fill. It will initially move in a southern direction to enable the construction of a new berth line, which facilitates the development of the first stage of a terminal in behind this. It is anticipated that this part will comprise approximately 8 hectares directly south of the currently consented 10 hectare area and would be constructed from quarry sourced hardfill (Gollans Bay quarry and/or Sumner Road reopening works), end tipped in a similar way to the current 10 hectares.
85. Land creation would then focus on moving in an easterly direction, and it is likely that a combination of hard and marine fill will be utilized. This area could be as much as 19 hectares, and may require the construction of a containment bund if marine fill is to be utilised. Aggregate would need to be imported to form the foundation of the pavement layers. This then enables the extension to the east of the adjacent new berth line, and subsequent development of a container terminal in behind this.
86. This staged methodology will provide for the creation of critical additional container terminal capacity at the earliest opportunity.

Container Terminal

87. The new terminal will include a container-handling yard connected to two modern berths designed to handle larger vessels. These are typically 6,000 TEU vessels that are approximately 300m long and have a draught of up to 14.5m. The berths will be constructed in two stages and at full completion up to eight cranes could be used to serve two vessels. The container terminal would be designed to utilize straddle carries to move containers.

Quarry

88. The existing quarry will provide rock for the proposed reclamation in Te Awaparahi Bay, not only for fill material but also for large rocks needed to 'armour' the reclaimed land from the sea. The rock will also be needed to armour the rebuilt seawalls elsewhere in the Port e.g. in the Inner Harbour. The rate of take and the extent of the quarry will be no more than what is currently consented for the 10 hectare reclamation.
89. Previous investigation work suggested bench widths of up to 7.5m at the quarry although double-benching may be used in parts of the quarry. Double-benching involves approximately 10m wide benches, stepped out every 30m vertical. The existing haul road connecting the quarry to Te Awaparahi Bay will need to be widened, and in places realigned to ensure gradient is suitable for haul trucks.

Cashin Quay

90. Cashin Quay berth No.2 is currently subject to a major rebuild. This includes the removal and reconstruction of the wharf, seawall and associated hard standing areas. The other three berths at Cashin Quay will also require significant repair or replacement.
91. Cashin Quay will continue to handle containers in the medium term, however, after the container handling facilities are established in Te Awaparahi Bay, Cashin Quay's focus will change to one of general, bulk and break bulk cargos such as logs, fertiliser, and scrap metal. Coal will continue to use Cashin Quay berth No.1.

92. New buildings will be developed to support the expanding Port including maintenance and administration facilities.

Inner Harbour

Eastern Port Operations

93. The eastern part of the Inner Harbour (from Wharf No.3 eastwards) will continue to be part of the Port operational area. However, the cargo handling operations will shift towards those which are less noisy and dusty (these will be moved to Cashin Quay). Cement ships, some break bulk cargo, car vessels and the larger fishing vessels are likely to use this area as would the tugs and other support vessels used by LPC.
94. Number 2 and 3 wharves will need to be replaced or substantially repaired as will the No.1 breastwork.

Dampier Bay

95. The development of Dampier Bay with mixed use development and marina is anticipated to commence early on in the Recovery. This will allow for community access to the waterfront with an emphasis on activities that have wide appeal.
96. Dampier Bay will result in improved public access and connectivity between Lyttelton Township and the western Inner Harbour. The proposed waterfront promenade will also facilitate better connectivity between Lyttelton Township and the recreational areas at Naval Point.
97. The first phase of the Dampier Bay development involves the construction of a modern floating pontoon marina catering for up to 200 berths. Phase 1 will also include developing the landside adjacent to the marina, and this will include carparking, marina facilities, walkways and some commercial development. This is expected to be completed in 2016/2017.
98. The remainder of the Dampier Bay development is expected to take a further 4-7 years. This will include:
- a. Development of the landside with mixed used development (up to a total of 15,000m² of floor space); possible uses include marine related industries and services, retail, hospitality and office/studio accommodation;
 - b. Retiring the use of Sutton Quay for heavy vehicle port access and shifting the security fence to the eastern side of No.7 Wharf;
 - c. Extension of the walkway along the waterfront and linking this with pedestrian access to Norwich Quay (via or adjacent to Sutton Quay);
 - d. Relocation of the Diamond Harbour ferry terminal, to a new location and facilities, most likely adjacent to Wharf No. 7 which will link with public transport and walkways to the township.; and
 - e. Creation of some open space areas.
99. The design of the buildings, promenade and other public spaces will be undertaken in a way which respects both the character of the Port and Lyttelton Township.

100. Dampier Bay may continue to serve the inshore fishing fleet although the exact location for them has yet to be decided.

Dampier Bay Extension

101. The Dampier Bay Extension project comprises the LPC owned land between No.7 Wharf and the western side of No 3 Wharf. It also includes the block of LPC owned land to the south of Norwich Quay and provision of public access to No.7 Wharf. It does not include the railway lines and siding which are owned by Kiwirail.

102. The ability to develop this area is dependent on the migration of the Port to the east and can only happen once a new container terminal is operating in Te Awaparahi Bay and the majority of trades have moved to Cashin Quay. Consequently timing for starting works in this area is approximately 15-25 years.

103. As this project is not to commence for some time, planning has yet to commence on what could be done in this area. However the following are potential options:

- a. The demolition of Wharf's No. 4, 5 and 6 creating the potential for an extension to the recreational marina area to the east of No. 7 Wharf, and enabling the construction of further marina berths;
- b. Continuation of the Dampier Bay waterfront walkway;
- c. Limited on-land development to provide support services for the marina and walkway; and
- d. Potential for some type of business development.

104. In the meantime port land is at a premium and this area will continue to be used for cargo handling and other port-related operations.

Naval Point (Port Owned Land)

105. The bulk fuel berth is to remain at its existing location at Naval Point although this facility will be rebuilt, and will be constructed in a way that can be extended to accommodate larger vessels in future if required. The Dry Dock will continue to operate in the same location, as will those activities that rely on the dock. It is possible the old Cattle Jetty, located between the Oil Berth and the Dry Dock, could be replaced with a new wharf.

Options for Cruise Ships

106. Inner Harbour and Outer Harbour development options for cruise ships are being investigated. These include an option to locate the berth facilities on the harbour side of the Naval Point Tank Farm or alternatively to locate the berth at Gladstone Quay in the Inner Harbour. The new berth will be of a size to handle large cruise ships which are up to 350m in length and have draught of approximately 8.5m.

107. Both options would require dredging to establish the berth pocket and the Z-berth mole would need to be removed for the Inner Harbour option. As both options would involve considerable outlay and only limited financial returns to LPC, some external funding may be necessary to make significant new cruise ship facilities at the Port financially viable.

Port Wide Repairs and Reconstruction

108. In addition to the specific assets that need repairing or replacement (i.e. wharves) there is also port wide infrastructure that needs repairing or rebuilding. This is principally the pavements, roads and underground services.

109. This work will be programmed around the need to continue operations at the Port and will occur throughout the recovery program.

Pavements and Roadways

110. Much of the Port's pavement areas have suffered significant earthquake damage. Many of the roads and sealed surfaces in the Port will either need to be replaced or have significant repairs. This will involve removal of the existing pavement, re-compacting the underlying material (including re-levelling) and then re-surfacing.

Services

111. Like other parts of the City, the Port's services, i.e. stormwater, wastewater, power and data have been damaged and need repair or replacement. Some parts will also need upgrading to provide for the reconfiguration of the Port. Services work will also focus on providing resilient internal networks for the Port's 24/7 operations.

112. This work will involve the excavation and repair of the underground services, including provision of relocated discharge points into the harbour if needed. Some above ground structures, such as substations, pumpstations etc., will also need to be repaired and in some cases relocated.

THE LPC PROPOSED PORT RECOVERY PLAN AND THE ECONOMIC WELL-BEING OF CHRISTCHURCH CITY

113. Lyttelton Port is recognised as a "lifeline utility"³⁰ and "significant infrastructure" at the local and national level.³¹ It plays a significant role in the current and future economic (and social) well-being of Greater Christchurch in that:

- a. It makes a significant contribution to the key economic drivers of the Canterbury (and South Island) regional economy, which in turn underpins the level of economic activity within Greater Christchurch; and
- b. It contributes to the Christchurch rebuild process.

114. However the Port has sustained significant damage from the 2010 and 2011 Canterbury earthquakes. Although temporary repair work has been undertaken, many of the Port's facilities are in a fragile state. In addition cargo through the Port has grown rapidly in recent years and is predicted to continue to do. To restore the Port's previous capabilities, to increase the Port's resilience to future seismic activity and to meet its customers' existing and growing future requirements, a number of investments are needed to be implemented. The proposed Port Recovery Plan is in response to these challenges.

115. The Port Recovery Plan establishes an "envelope" of planning parameters which provide the required scope for a package of construction projects to be undertaken

³⁰ See Civil Defence Emergency Management Act 2002, s 60.

³¹ See New Zealand Government's 2011 National Infrastructure Plan and Christchurch City Council's Christchurch Transport Plan 2012-42.

over the Plan period. The proscribed envelope is “necessary” to the extent it provides the scope and flexibility to enable LPC to meet the needs of existing and future customers in as an as efficient manner as possible. Not only are many of the Port’s facilities in disrepair as a consequence of the Christchurch earthquakes, but rapid growth in trade volumes at the Port have many of its facility operating at full capacity. As explained earlier in this report both LPC and independent³² projections have trade volumes continue to grow in the future, especially in relation to container volumes. In particular the need for expanded container handling space and facilities is the trigger for the “eastward movement” of the Port in the proposed Plan and the extension of land reclamation sought at Te Awaparahi Bay. Also this facilitates a reconfiguration of other port activities such that greater public access and utilisation of the inner harbour is possible.

116. Without the efficient provision for expansion and new facilities, Lyttelton Port will not be in a position to meet the ongoing needs of its customers, who underpin the economic vibrancy of Christchurch City, the Canterbury region and the West Coast region. Further if Lyttelton Port becomes the only South Island port capable of handling large container vessels much of the wider South Island economy will become increasingly dependent upon the Port. Suboptimal reinstatement and expansion of Lyttelton Port facilities will increase costs for businesses and residents, reducing their economic well-being.

117. The package of projects needs to be implemented quickly – LPC envisage approximately an initial 15 year schedule³³ to:

- a. Repair and reinstate the damaged and destroyed assets with reasonable despatch;
- b. Restore the capability of the Port’s infrastructure to meet its customers’ current requirements;
- c. Expedite the Christchurch rebuild process and the recovery of the Greater Christchurch economy; and
- d. Meet the growing demands that will be placed on the Port as a consequence of projected growth in cargo volumes through the Port.

118. To expedite reinstatement of Port facilities many of the projects are planned to be executed contemporaneously. As already mentioned, the projects in the Plan have “reinstatement” and “enhancement” components, where reinstatement covers the repair or replacement of damaged and destroyed assets and enhancement relates to better matching the requirements of current demand and future growth. Therefore consistent with the CER Act and the CERA Recovery Strategy the programme of works proposed by LPC does not simply reinstate the Port’s before earthquakes capabilities but incorporates enhancement components to match expected future requirements as efficiently as possible.

³² See for example: Freight Infrastructure Statement Draft Report. Aurecon, Version B. February, 2014. This was one of several reports prepared by Aurecon as part of the Greater Christchurch Freight Study which was carried out for the Canterbury Regional Council, the Christchurch, Selwyn and Waimakariri District Councils, CERA, KiwiRail, the NZ Transport Agency, Christchurch Airport and LPC. See also the Transport Report, which in covering traffic forecasts to and from the Port considers the material available on trade volume forecasts.

³³ The Port Lyttelton Plan sets out LPC’s 30 year vision for the repair, rebuild, enhancement and reconfiguration of the Port. A large number of construction projects are required as part of the vision and these are expected to occur over a period of approximately 12-15 years. These construction projects will enable the Port to continue to reconfigure to meet the growing freight demands for the next 30 years as well as providing community access to the waterfront.

119. LPC's vision is to rebuild the Port with the most efficient layout and design to cater for the projected future growth. Simply repairing the damaged infrastructure and retaining the current layout would not achieve this vision. Therefore these restoration and enhancement projects are necessary to provide this efficient layout. LPC's decision making process for these additional enhancement works will be dealt with differently from reinstatement activities. They will require a supporting business case covering financial and strategic criteria to be considered and decided upon on a case by case basis by the LPC executive and board. Since this detailed work is yet to be undertaken it is not possible to present the business case results for each of the investment package components covered by the Plan. However the envelope of planning parameters established in the Port Recovery Plan provides the necessary scope for the currently envisaged optimal reconfiguration and scale of the reinstated port facilities.
120. In implementing the recovery, the scheduling of the projects under the Port Recovery Plan will take into account available funding; destroyed assets being replaced at optimal locations and not necessarily their original location; the need for continued Port operation to meet customer requirements during the construction of the reinstatement projects; and future seismic activity not hindering or detracting from reinstatement efforts. In sequencing projects to prevent disruption to essential port operations, the reinstatement and enhancement of the Port's assets will not hinder or disrupt the supply of rebuild materials for greater Christchurch.
121. Given the nature of this Recovery Plan, there is still some uncertainty surrounding a number of the individual projects covering their optimal location within the Port; the geotechnical conditions of proposed project locations; the seismic environment of proposed project locations; engineering design and specification of structures; and project cost and financial viability. In addition there are a number of inter project relationships covering shared access routes for vessels to different facilities; shared wharf locations; and the co-location of wharf and landside sites for some activities.
122. Therefore a number of uncertainties and dependencies between different parts of the proposed investment package exist. These will be resolved with further investigation and analysis and some flexibility is required in relation to the scope of the work to be undertaken. Decisions will be taken on the location, scale and timing of various components of the Port Recovery Plan programme of works during its implementation period. However these decisions will be taken within the constraints set by the planning parameter envelope established in the Port Recovery Plan.
123. Without the proposed Recovery Plan approach, it has been estimated more than 100 individual consents would need to be sought. Such an approach would not provide the flexibility required and would create additional uncertainty for LPC and its customers. Moreover the inherent delays, uncertainty and complexity of such an alternative approach would not enable a "focussed, timely and expedited recovery"³⁴ for the Port or Greater Christchurch. It would substantially delay and constrain the Port in fulfilling its contribution to the economic and social well-being of Greater Christchurch and the wider Canterbury (and South Island) region.
124. The proposed Recovery Plan process for the Port provides opportunities for public participation before a Port Recovery Plan is approved and during its implementation.
125. A more limited Port Recovery Plan than the package of projects proposed and which covered only reinstatement and not development of the Port's facilities would be inconsistent with the intent of the CER Act and CERA's Recovery Strategy. It would

³⁴ Clause 3(d) of CER Act.

lead to the inefficient use of resources and would be much less effective in providing for the economic and social well-being of the residents and businesses of greater Christchurch and the wider Canterbury and (South Island) region.

126. By way of example, a key component of the Port Recovery Plan is the construction of a new modern container terminal on reclaimed land at Te Awaparahi Bay. Should this not occur, or be significantly delayed, LPC will be seriously constrained in its ability to provide capacity for expected future growth in container volumes through Lyttelton Port and to become big ship capable. As a consequence containers that would otherwise have been exported or imported on vessels berthing at the Port will instead need to be diverted to an alternative port. This will result in cost penalties for exporters and importers.

127. The significance of these cost penalties can be gauged from a recent report³⁵ which estimated the net additional costs of Port Lyttelton not becoming big ship capable and as a consequence expected growth in container numbers handled by the Port from 2013 being diverted to an alternative New Zealand port. The key assumptions were:

- a. The number of containers that will need to be diverted to an alternative big ship capable port is equal to the growth in container numbers from containers handled at the Port in 2013;
- b. The rate of growth in container numbers handled at the Port is 5.32% per annum based on LPC forecasts. Sensitivity testing using a growth rate of 2.98% per annum based on a more conservative rate of growth in container numbers handled from the Greater Christchurch Freight Study³⁶ is also undertaken;
- c. Container diversion costs are assumed to be \$600 per container for an alternative South Island port and \$1,200 per container if the containers need to be diverted to an alternative North Island port;
- d. The savings in shipping costs if Lyttelton Port became big ship capable are taken to be 10% of container diversion costs;
- e. The capital dredging project capital costs are estimated to be \$120 million and additional ongoing O&M costs are estimated to be 2% of capital costs.³⁷

128. On the basis of these assumptions the net economic benefits were estimated to be \$68 million in 2019 (the first year after the capital dredging project, which is necessary for the Port to become big ship capable, is completed) growing to \$618 million in 2041 (the end of LPC's forecasting period), assuming there exists an alternative big ship capable port in the South Island and LPC's container growth forecasts. The present value of net economic benefits over the period 2014 to 2041, assuming a discount rate of 8%, was \$1,642 million.

129. If containers need to be diverted to an alternative North Island port, the additional costs are \$136 million in 2019 rising to \$1,237 million in 2041 and the present value of net economic benefits increased to \$3,175 million.

³⁵ Assessment of economic benefits of the Lyttelton Port Company's Proposed Capital Dredging Project; Brown, Copeland & Co Ltd; Draft Report; 24 March, 2014.

³⁶ Greater Christchurch Freight Study – Freight Demand Statement; Aurecon; November, 2013.

³⁷ These costs relate to the capital dredging project only. They did not include the on-land costs associated with relocating the container terminal.

130. Sensitivity testing was undertaken assuming the lower growth forecast for container numbers from the Greater Christchurch Freight Study (averaging 2.98% per annum instead of LPC's 5.32% per annum). Under this growth scenario, the additional cost in 2019 was \$34 million, growing to \$240 million in 2041. The present value of net economic benefits was \$644 million assuming an alternative South Island port and \$1,397 million assuming an alternative North Island port.
131. These net economic benefits represent the saving in additional costs for exporters and importers that would otherwise be incurred if containers needed to be diverted to alternative big ship capable ports, less the costs of the capital dredging project and additional ship diversion costs. The significance of the net economic benefits is an indication of the sizable cost penalty that would be imposed on Canterbury businesses if without the Port Recovery Plan the provision of capacity for expected future growth in container volumes through Lyttelton Port and the port's big ship capability does not occur or is delayed. This will impact on Canterbury businesses' profitability and competitiveness.
132. An alternative analysis has been undertaken on the basis that instead of the Recovery Plan enabling Lyttelton Port to become big ship capable, it instead brings this forward by 5 years. In other words without the Recovery Plan the reclamation in Te Awaparahi Bay and the establishment of the new container terminal there is delayed under the orthodox RMA approach. For the sake of analysis, it is assumed that the existing container facilities can continue to be used and absorb growth in container volumes until the start of 2021, when additional growth without the Recovery Plan will need to be diverted to alternative ports until the start 2026 when without the Recovery Plan the new container terminal would have been established. With the Recovery Plan it is assumed the new big ship capable container terminal is established by the start of 2021.
133. Under the high container growth scenario the savings in costs due to the Recovery Plan, increase from \$15 million in 2021 to \$81 million in 2025, assuming South Island ports are used for shipping the containers Port Lyttelton cannot handle. If North Island ports must be used the savings increase from \$29 million in 2021 to \$161 million in 2025.
134. Under the low container growth scenario the number of containers which it is assumed can be handled by the existing container terminal is not reached until 2026. However this involves an extended period during which the container facilities are operating at less than optimal efficiency due to the constraints of inadequate land area. This is likely to lead to the need for containers to be diverted to other ports prior to 2026, imposing additional costs on exporters and importers. Also in terms of planning for future port operations it is appropriate to make provision for the higher container growth scenario on the basis of historic growth rates and the advent of larger container ships on New Zealand's trade routes.
135. This analysis has focussed on the economic benefits from saving container diversion costs. The container trade accounts for around 52% of LPC's revenue. Other activities (including general cargo trades) account for the remaining 48% of LPC's revenues. The handling of general cargoes and the rebuilding of a number of the Port's facilities are, or will be in the future, constrained by space limitations and therefore the Port Recovery Plan by not delaying the new container facilities, which will in turn free up space elsewhere in the Port, will improve the efficiency with which non-containerised cargoes are handled and enable the efficient reinstatement of Port facilities.

136. An earlier section of this report discussed the expenditure, employment and household income economic impacts likely to be generated by the implementation of the Port Recovery Plan. However, of greater significance will be the additional economic activity generated within Lyttelton, Christchurch City and the wider Canterbury region from facilitating increased trade flows through the Port and more efficient handling of freight. Similarly this report has in a previous section discussed the additional expenditure impacts for Christchurch and Lyttelton retail, hospitality and entertainment businesses from adequate facilities being provided at Lyttelton Port for cruise ships.

LYTTELTON TOWNSHIP ECONOMIC EFFECTS

Increased Levels of Economic Activity

137. During and subsequent to the implementation of the Port Recovery Plan there will be increased levels of expenditure with local Lyttelton businesses and increased employment opportunities and incomes for local Lyttelton residents as a consequent of increased levels of construction and freight handling activity at the Port. LPC has estimated up to about \$2.5 million of its annual operating expenditure is with Lyttelton based businesses and 15%³⁸ of its current 525 staff, live locally. In addition there are a number of other Lyttelton based businesses whose turnover and employment are largely linked to the activities of the Port and vessels berthing at the Port or using the dry dock facility. These include marine engineering firms, shipping agents, transport firms and government border control agencies. These businesses provide employment opportunities for local residents and they and their employees purchase goods and services from local businesses.

138. Also additional cruise ship visits to Lyttelton Port will bring increased expenditure and employment for local businesses and residents.

139. As indicators of levels of economic activity, economic impacts in terms of increased expenditure, incomes and employment within the local economy are not in themselves measures of improvements in economic welfare or economic wellbeing. However, there are economic welfare enhancing benefits associated with increased levels of economic activity. These relate to one or more of:

- a. Increased economies of scale: Businesses and public sector agencies are able to provide increased amounts of outputs with lower unit costs, hence increasing profitability or lowering prices;
- b. Increased competition: Increases in the demand for goods and services allow a greater number of providers of goods and services in markets and there are efficiency benefits from increased levels of competition;
- c. Reduced unemployment and underemployment³⁹ of resources: To the extent resources (including labour) would be otherwise unemployed or underemployed, higher levels of economic activity can bring efficiency benefits when there is a reduction in unemployment and underemployment. The extent of such gains is of course a function of the extent of underutilized resources within the local economy at the time and the match of resource requirements and those resources unemployed or underemployed within the local economy; and

³⁸ Source: Social Impact Report; Taylor Baines; October, 2014 – 10% of LPC's employees live in Lyttelton and 5% live in various locations around Lyttelton Harbour from Rapaki to Purau.

³⁹ Underemployment differs from unemployment in that resources are employed but not at their maximum worth; e.g. in the case of labour, it can be employed at a higher skill and/or productivity level, reflected in higher wage rates.

- d. Increased quality of local and central government provided services: Sometimes the quality of services provided by local and central government such as education and health care are a function of population levels and the breadth and quality of such services in a community is higher with higher levels of economic activity, particularly to the extent they lead to or maintain higher levels of population.

140. The additional expenditure, employment and incomes generated during, and subsequent to, the implementation of the Port Recovery Plan will give Lyttelton greater critical mass and as a consequence local residents and businesses will benefit from economies of scale, greater competition, increased resource utilisation and better provision of public services.

Trade Diversion Effects

141. The proposed development of commercial activities at Dampier Bay as part of the Port Recovery Plan activities will provide positive benefits for Lyttelton's town centre to the extent that the new commercial activities are complementary to businesses within the centre. For example, the proposed new marina at Dampier Bay will bring an influx of additional visitors to Lyttelton and a demand for additional goods and services from local businesses.

142. However any new commercial activities at Dampier Bay which compete with businesses within the Lyttelton town centre have the potential to negatively impact on the centre through trade diversion.

143. The proposed land use split for other commercial development at Dampier Bay is as follows:

Use	2026 – 5,500sqm	2041 – 15,000sqm
Industrial	2,500	6,500
Retail	1,500	2,000
Office	-	2,000
Community Services		500
Community	1,000	2,000
Trade	500	2,000

144. LPC has commissioned work by Savills New Zealand to identify the potential interest of developers and business owners for space in Dampier Bay. When this research is completed, LPC will be in a more informed position to identify the likely scale and type of space which it is economic to develop at Dampier Bay. In the meantime the Recovery Plan includes planning parameters, which provide broad flexibility for LPC to meet potential market demand, whilst at the same time being mindful of the need for constraints to ensure such development does not negatively impact on the vibrancy, vitality and viability of Lyttelton's existing town centre.

145. The industrial, office, community services, community and trade⁴⁰ activities are likely to be complementary to, rather than competitive with businesses in the Lyttelton town

⁴⁰ Defined to cover marine servicing activities for boats in the adjacent marina – e.g. retailing of marine supplies such as life jackets, outboard motors, etc.

centre in that rather than diverting trade are likely to generate additional trade for the town centre by attracting employees and visitors to Lyttelton.

146. Industrial activities are not suited to a town centre location and any industrial activity located at Dampier Bay will not detract from the existing town centre. Indeed to the extent additional activity is located at Dampier Bay it will have a positive impact on the demand for goods and services from the Lyttelton town centre.
147. There is currently very limited office activity within the Lyttelton town centre. The offices that are located within the town centre (e.g. Council offices and real estate agents) are engaged in providing services to local business and residential customers and are unlikely to relocate to Dampier Bay, which would be further away from their customer base. Any office development at Dampier Bay is likely to be net additional to Lyttelton and therefore add to the demand for goods and services from businesses within the town centre.
148. Community services would only locate at Dampier Bay to the extent that they had a “maritime connection” – for example, there is no likelihood of the library, the Christchurch City Council office, central government offices, St John’s Ambulance or the Lyttelton Fire Brigade, relocating from (or near to) the town centre to Dampier Bay. The Visitor Centre might relocate to Dampier Bay if other tourist related activities – e.g. hire of water sports equipment and site seeing or fishing launch trips – were established there. Other community activities (e.g. a museum) at Dampier Bay could involve the relocation of existing facilities but presumably this would only occur in conjunction with an enhancement of the facilities which should have a net positive impact on Lyttelton and the town centre.
149. There are currently no trade activities with a “marine flavour” as envisaged for Dampier Bay within Lyttelton’s town centre and should such development occur it too is likely to have a positive impact on the demand for goods and services from the town centre.
150. Therefore from a trade diversion perspective there is no need to impose restrictions on the amount of land set aside for industrial, office, community services, community and trade activities.
151. The 1,500 sq m (by 2026) to 2,000 sq m (by 2041) of retail space has the potential to divert trade away from businesses within the town centre. However there are a number of factors which will limit the competitive impacts of this proposed retail activity at Dampier Bay on the Lyttelton town centre including:
 - a. The existing Lyttelton town centre is larger than the retail space proposed for Dampier Bay;
 - b. The existing Lyttelton town centre, principally centred along London Street, includes a supermarket, a dairy, a pharmacy, a library, Christchurch City Council offices, a visitors’ centre, a delicatessen, an organic vegetable store, a picture framing store, a hairdressing salon, 2 book stores, 2 real estate agents, 2 art galleries, a gift shop, 3 bars, 4 cafes and 5 restaurants and/or takeaway outlets. In terms of retail outlets it is only the dairy, cafes, bars and restaurants/takeaway outlets that are likely to face competition from the retail space proposed for Dampier Bay. As discussed above in relation to office space, it would seem unlikely that activities such as the supermarket, pharmacy and hairdressing salon which principally service the local population and businesses (rather than visitors) would want to relocate to Dampier Bay;

- c. Retail development at Dampier Bay will be staged and will only be developed as and when it is assessed to be viable. Compared to the dairy, cafes, bars and restaurants/takeaway outlets in the town centre such developments at Dampier Bay will be largely directed at employees based at Dampier Bay, marina users and other visitors. The latter two categories may otherwise not use retail outlets within the Lyttelton town centre. At Dampier Bay any such development will face disadvantages with respect to isolation, weather dependency and seasonality and this will limit the extent it will divert trade away from the town centre;
- d. The retail development at Dampier Bay may include one or more tourist activity operators, who might be expected to draw more people to Lyttelton with spin off benefits for businesses within the town centre; and
- e. It is understood that the planner's commissioned by LPC have, prior to receiving a report from Savills New Zealand on the likely business composition, suggested the following District Plan provision to restrict retail development at Dampier Bay:

"Excluding Trade Based Retail Activities, Retail Activities shall not exceed 1,500m² GFA, with no single tenancy exceeding 500m² GFA. The maximum number of Food and Beverage outlets shall not exceed two (2)."

152. It is difficult to be definitive about the overall net effect on the town centre dairy, cafes, bars and restaurants/takeaway outlets from allowing some development of such activities at Dampier Bay. Whilst there is likely to be some competitive tension between such establishments at the two locations, this needs to be seen in the context of the positive effects of other forms of development at Dampier Bay on the town centre and the greater likelihood of such other development if there is an appropriate balance of activities at Dampier Bay. For example, it may not become an appealing location for new office space or tourist related activities if there is no provision for nearby cafe and restaurant development.

153. Once the Savills New Zealand research has been completed a clearer picture will emerge as to what forms and scale of development will potentially be feasible at Dampier Bay. However on the basis of the high level analysis undertaken here it can be concluded:

- a. The Port Recovery Plan will have significant net positive economic impacts for the Lyttelton town centre during the Plan's implementation as a consequence the additional expenditure, employment and incomes generated directly and indirectly by the package of construction projects ;
- b. The Port Recovery Plan will have significant net positive economic impacts for the Lyttelton town centre by the Plan maintaining and enhancing the Port's competitiveness and enabling it to become large ship capable; and
- c. The Port Recovery Plan in will have significant net positive economic impacts for the Lyttelton town centre by enabling industrial, office, community services, community, trade and retail activities to locate at Dampier Bay and which would not otherwise locate in Lyttelton.

154. Whilst there is the potential for some competitive impacts from enabling the development of a limited amount of cafe, restaurant and bar space at Dampier Bay, the

overall net impact on the vibrancy, vitality and viability of Lyttelton's town centre will be positive.

CONCLUSIONS

155. LPC's proposed Port Recovery Plan has been formulated in the context of the aftermath of the Canterbury earthquakes and forecast trends in trade and shipping. It will make a significant and continuing contribution to the economic well-being of Lyttelton, Christchurch City and the Canterbury region. It recognises:

- f. The significant and growing contribution the Port makes to the economic and social well-being of the residents and businesses of Lyttelton, Christchurch City, the Canterbury region and increasingly the wider South Island;
- g. The substantial damage the Port itself suffered from the Canterbury earthquakes of 2010 and 2011, therein diminishing its ability to assist the community's recovery and the ongoing requirements of the Port's customers;
- h. The need to act quickly due to the significant role of the Port in the city and region's recovery;
- i. The need to act quickly to repair and reinstate the damaged and destroyed assets so as to maintain insurance cover over LPC's substantial assets;
- j. The need for the Port to continue operating efficiently during the re-construction period;
- k. The need to protect the Port as best as possible against future seismic activity;
- l. The purposes of the CER Act, in particular "to enable a focussed, timely, and expedited recovery" (clause 3(d)), "to facilitate, co-ordinate, and direct the planning, rebuilding, and recovery of affected communities, including the repair and rebuilding of land, infrastructure, and other property" (clause 3(f)), and "to restore the social, economic, and environmental well-being of greater Christchurch communities" (clause 3(g));
- m. The broad interpretation of "rebuilding" and "recovery" in the CER Act to enable expected growth and the needs of customers to be efficiently met;
- n. The need for consistency with the CERA Recovery Strategy;
- o. The costs and time delays of the alternative orthodox approach that would require more than 100 resource consent applications to be lodged and processed in the unique situation of Christchurch following the earthquakes.

156. In the aftermath of the Canterbury earthquakes, a Port Recovery Plan is necessary to restore the Port's capabilities and to meet the current and future requirements of Lyttelton, Christchurch City and the Canterbury region.