

## Office of The Mayor

23 October 2015

Mr. Josh Adams  
National Manager Petroleum  
New Zealand Petroleum and Minerals  
Ministry of Business, Innovation and Employment  
PO Box 1473  
Wellington 6140

BlockOffer2016@mbie.govt.nz

Dear Mr. Adams

### **RE: Proposed Block Offer 2016**

#### **1.0 Introduction**

- 1.1 Christchurch City Council (the Council) thanks New Zealand Petroleum and Minerals for the opportunity to comment on proposed Block Offer 2016. We appreciate that while the Crown Minerals Act 1991 (the Act) only requires that the Government consult with iwi and hapu, local governments are also being consulted on the current proposal.
- 1.2 The Council has several concerns with the proposed Block Offer and what it may mean for Christchurch. In brief these are:
- need for public engagement;
  - proximity of the Offshore Great South and Canterbury Basins 16GSC-R1 (16GSC-R1) to Schedule 4 lands and the Banks Peninsula Marine Mammal Sanctuary;
  - risks to the marine and coastal environment of Banks Peninsula;
  - risks to the marine environment from deep-sea petroleum exploration and production;
  - potential adverse economic impacts on the local community from oil spills;
  - climate change considerations.
- 1.3 Given these concerns, the Council opposes Block Offer 2016 as proposed.

#### **2.0 Background**

- 2.1 The Local Government Act 2002 states that

*In performing its role, a local authority must act in accordance with the following principles: ... in taking a sustainable development approach, a local authority should take into account—*

*(i) the social, economic, and cultural interests of people and communities; and*

- (ii) *the need to maintain and enhance the quality of the environment; and*  
(iii) *the reasonably foreseeable needs of future generations.*<sup>1</sup>

The Council's submission has this principle in mind.

- 2.2 The Christchurch and Canterbury area is rebuilding after a series of major earthquakes in 2010 and 2011. This has caused us all to be highly vigilant about natural hazards and about risk mitigation. The Council considers that the risks of deep-water offshore petroleum exploration and production in these areas are too great for the reasons described in our submission.

### **3.0 Specific Comments**

#### ***Public engagement***

- 3.1 The Council is deeply concerned that offshore areas, in which high-risk petroleum exploration activities could occur, are being proposed for Block Offer 2016 in the absence of public consultation. Even if the probability of an accident from such activities is not high, the consequence of an accident can be catastrophic.
- 3.2 In addition to consulting with councils, we continue to strongly urge New Zealand Petroleum and Minerals to undertake a broader consultation with the public. There is nothing in the Crown Minerals Act that would preclude this. The Council is aware that the European Union, member states are required to undertake 'early and effective public consultation' prior to the onset of oil and gas exploration activities (Directive 2013/30/EU).
- 3.3 The Council submits that block offer proposals that include offshore areas, in which high-risk petroleum exploration activities could occur, should be subject to greater public consultation. The Council strongly recommends that future block offers are conducted with full and formal public consultation.
- 3.4 The Council further recommends that tenderers' safety plans are publicly available so that the community has the opportunity to consider the risks with all information before permits are granted for exploration.
- 3.5 The Council received deputations concerning proposed Block Offer 2016 at the 8 October 2015 meeting of the Infrastructure Transport and Environment Committee. The deputations expressed support for the Council's submission and argued against the release of areas offshore from Christchurch for the purpose of petroleum exploration and production. The Council acknowledged the deputations and committed to including written versions of the deputations with its submission. The written deputations are provided in Attachment 3.

#### ***Schedule 4 lands***

- 3.6 Lands described under Schedule 4 of the Act are those for which access arrangements are limited and for which Department of Conservation permission must be obtained.
- 3.7 Schedule 4 of the Act applies to several reserves located in, or immediately adjacent to, Christchurch's territorial boundaries. There are six Schedule 4 reserves Christchurch:
- '2 Any reserve classified as a nature reserve under section 20 of the Reserves Act 1977': Dan Rogers Nature Reserve;
  - '3 Any reserve classified as a scientific reserve under section 21 of the Reserves Act 1977': Waihora Scientific Reserve, Kaitorete Spit Scientific Reserve [170.6151ha], and Kaitorete Spit Scientific Reserve [91.422ha]

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<sup>1</sup> Local Government Act 2002, as amended; section 14 (1)(h).

- '7 Any area declared a marine reserve under section 4(1) of the Marine Reserves Act 1971': Akaroa Marine Reserve, Pohatu Marine Reserve.

- 3.8 Maps showing the locations of these six reserves are provided in Attachment 1.
- 3.9 The Council considers that Schedule 4 reserves within and adjacent to Christchurch's territorial boundaries should be protected.
- 3.10 The Council further considers that the proximity of portions of proposed 16GSC-R1 represents an unnecessary risk to the Schedule 4 reserves.
- 3.11 The Council recommends that the northern and eastern boundaries of 16GSC-R1 are modified to increase the distance of the northern and eastern graticular sections from the Schedule 4 reserves and the outer limit of the territorial sea (twelve nautical mile limit).

#### ***Banks Peninsula Marine Mammal Sanctuary***

- 3.12 The Banks Peninsula Marine Mammal Sanctuary (the sanctuary) was established in 1988. The area of the sanctuary was expanded in 2008. The sanctuary includes the territorial sea off the coast of Banks Peninsula, as described in Schedule 1 of the Marine Mammals Protection (Banks Peninsula Sanctuary) Amendment Notice 2008. The sanctuary extends from the mouth of the Waipara River to the north and the Rakaia River to the south, to the outer limit of the territorial sea.
- 3.13 The sanctuary is home to the endangered Hector's Dolphins, as well as an abundance of coastal and marine flora and fauna.
- 3.14 The northern portion of 16GSC-R1 in proposed Block Offer 2016 is offshore from Banks Peninsula, with graticular sections that abut or are near the twelve nautical mile limit. A map showing a portion of the northern area of 16GSC-R1 overlaid with the boundaries of the sanctuary is provided in Attachment 2.
- 3.15 The Council considers that the sanctuary is a valuable natural and community resource that should be protected, particularly in light of its importance to the conservation of the endangered Hector's Dolphins.
- 3.16 The Council recommends that those graticular sections of 16GSC-R1 that abut the sanctuary are removed from the block offer.
- 3.17 The Council also recommends that the northern and eastern boundaries of 16GSC-R1 are further modified to increase the distance of the northern and eastern graticular sections from the sanctuary.

#### ***Value of Banks Peninsula and its coast***

- 3.18 Christchurch is proud of its natural environments and their community value. The coastline of Banks Peninsula is regarded as one of the city's major natural attractions, and its coastal environment and beaches attract many domestic, as well as international, visitors.
- 3.19 The coastal areas of Banks Peninsula include a number of flora and fauna that are identified as species of concern in the Banks Peninsula District Plan, such as
- Black-billed Gull
  - Black-fronted Tern
  - Bush pohuehue
  - *Coprosma acerosa* (sand coprosma)
  - *Craspedia Kaitorete* (Kaitorete Woollyhead), one of the rarest plants in New Zealand found only on Kaitorete Spit
  - *Isolepis basilaris* (Pygmy clubrush)

- *Muehlenbeckia ephedroides* (leafless muehlenbeckia or leafless pohuehue)
- *Raoulia monroi* (fan-leaved mat daisy)
- Salt sedge
- Sooty Shearwater
- Southern Crested Grebe
- White-flipped penguin
- Yellow-eyed Penguin

3.20 A number of species in Banks Peninsula are already under pressure. An oil spill off our coast could have significant adverse consequences on these species.

3.21 The Council submits that the value of Banks Peninsula's outstanding and unique environment would be put at risk from petroleum exploration and production offshore from our coast.

3.22 The Council suggests that an environmental contingency bond be put in place before any drilling takes place. This would be an upfront sum equal to the worst case risk scenario and held as a bond by the relevant government authority until the drilling has been completed.

**Risks from deep-sea petroleum exploration and production**

3.23 Maritime New Zealand has three oil response vessels that are designed to work in sheltered water but not the open ocean.

3.24 It is our understanding that much of proposed 16GSC-R1 is in water exceeding 1000 metres, as shown in the table below.

	Total Area (km <sup>2</sup> )	Area in less than 200 m depth (km <sup>2</sup> )	Area between 200-1499 m depth (km <sup>2</sup> )	Area in greater than 1500 m depth (km <sup>2</sup> )
Offshore Pegasus and East Coast Basins	68,661	1,373	24,718	42,570
Offshore Great-South and Canterbury Basins	208,632	16,691	160,647	31,295

3.25 None of the graticular sections in the Offshore Great South and Canterbury Basins area could be reasonably considered to be in sheltered water, as demonstrated in the table in 3.24 above.

3.26 Recently, in 2014, Anadarko drilled exploration well Caravel-1 offshore from north Otago in a depth of 1100 metres.

3.27 Due to its nature — extraction of volatile substances under extreme pressure in a remote environment — deep-sea petroleum exploration and production carries risks. While the probability of the occurrence of an adverse event may not be high the outcome of such an event can be catastrophic.

3.28 Figures from oil exploration and production in the Gulf of Mexico reveal that in shallow water (depths less than 200 metres) 1 in 272 wells has a spill. The frequency increases to 1 in 35 wells for deep sea drilling (depths between 200 to 1499 metres) and 1 in 19 for ultra-deep sea drilling (depths of 1500 metres and greater).

3.29 The Council understands that operators are responsible for responding to any incident or adverse event, and are required to keep regulators informed of any adverse events or reportable incidents. The Council also understands that petroleum permit applications must clearly demonstrate that operators can undertake the proposed work, and deal with any accidents or incident. It is the Council's view that that this may lead to a perverse outcome in which companies will potentially overstate their safety and response capabilities.



3.30 New Zealand's national oil spill response capability is limited to 5500 tonnes. A spill greater than 5500 tonnes would require equipment and support that is available through international cooperation agreements. The Council understands that it would take weeks for equipment to arrive from overseas to respond to a large oil spill in excess of 5500 tonnes.

3.31 In a review of New Zealand's oil spill response capability completed in 2011<sup>2</sup> the risk to coastal areas was raised.

*'In this area [Taranaki offshore] three companies are operating production wells and associated platforms. ... While the historic oil spill incidence in the area is low, the potential is high. ...*

*The New Zealand requirements to respond are covered under the Part 130B Tier 1 response plans. The operators have in place a small amount of equipment to respond and some trained personnel. However the general outcome was no different to elsewhere in New Zealand; each spill would become a Tier 2 spill and be the responsibility of the Regional Council (or MNZ [Maritime New Zealand] if outside the 12 mile limit). ...*

*In the offshore situation it is unlikely that the "contain and recover" option (booms and skimmers) would be practical for weather reasons, leaving a dispersant attack as the most practical option. The products being handled are apparently amenable to dispersants; however the window of opportunity is tight, at around four hours from start of spill. Due to the reliance on the Regional Council/MNZ to mount a response, it is doubtful if a reasonable first strike dispersant attack could be mounted within the window of opportunity. This would almost certainly lead to a coastal clean-up operation.'*

3.32 The Council is concerned with the risk posed by offshore petroleum exploration and production in deep open water to Christchurch's coastal environment. The Council is also concerned about the time it would take for Maritime New Zealand to respond to an oil spill from a deep-water petroleum exploration or production facility.

3.33 The heavy fuel oil spill from the grounding of the MV Rena on the Astrolabe Reef on 5 October 2011 required a 'Tier3' (national) response over approximately 7 months until the response was downgraded to a 'Tier 2' (regional) response on 4 May 2012. This was a relatively small spill of around 350 tonnes, yet at the height of the response around 800 people were involved in the response, including members of the Incident Command Centre and beach clean-up and oil spill response teams. In addition approximately 8000 volunteers contributed more than 19,000 hours to the clean-up. Maritime New Zealand's Marine Oil Spill Response Strategy 2015-2019 acknowledges the impact of the Rena spill:

*'Although this incident had a relatively small oil spill (about 350 tonnes), it had a significant impact on the local environment and community. The Rena response involved agencies and individuals from throughout New Zealand and the rest of the world. It was complex, was lengthy, and demonstrated the challenges of responding to an offshore event.'*

3.34 Given that New Zealand's national response capability is limited to 5500 tonnes, it is the Council's view that the well-being, income and environmental protection of the country is such core business for the government that it cannot be delegated to offshore oil companies who may share none of those concerns. The Council strongly recommends that further consideration is given to the risks of offshore petroleum exploration and production before any additional areas are released for tender.

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<sup>2</sup> Review of New Zealand's Oil Pollution Preparedness & Response Capability, February 2011, Maritime New Zealand.

### ***Economic impacts from offshore oil spills***

- 3.35 There have been significant impacts to local communities, economies, and environments from offshore oil spills. The 2010 Deepwater Horizon disaster in the Gulf of Mexico resulted in eleven crew deaths and released an estimated 4.9 million barrels (more than 600,000 tonnes) over a three-month period. Civil and criminal fines have cost the main parties Transocean and British Petroleum over US\$1.4 billion and US\$4.5 billion respectively. Economic losses in the fishing and tourism industries due to the 2010 oil spill were estimated to have been several US billion dollars.
- 3.36 The Council is concerned that offshore petroleum exploration and production could put Christchurch's economy at risk in the event of an oil spill off our coast. Our two biggest export earners, agriculture and tourism, with their brand promise of being 100 percent pure, rely in part on New Zealand as being seen as a world leader in environmental stewardship
- 3.37 It is the Council's view that our horticulture and agricultural exports could be disadvantaged, at least in the short term, as a consequence of damage to the brand promise of '100 percent pure'.
- 3.38 Christchurch's tourism industry continues to play an important role in the City's economy. Christchurch International Airport expects to have had over 1.43 million international visitors in 2015. That number is expected to increase to around 1.6 million international visitors by 2018.
- 3.39 Over the 2015/16 cruise season 71 cruise ships are scheduled to visit Christchurch ports of Akaroa and Lyttelton, with 137,900 passengers expected. The number of cruise ships is expected to increase to 80 in the 2016/17 cruise season, with an anticipated 154,400 passengers. Value-added from cruise ship visits are estimated to be \$54.1 million in the 2015/16 cruise season and \$59.9 million in the 2016/17
- 3.40 The local economies of some of Banks Peninsula towns and settlements are based at least to some extent on the visitor industry. Some of our most successful Peninsula businesses focus specifically on offering visitors the opportunity to experience the Peninsula's unique fauna and natural environment. In addition to the effect of any oil spill on international tourism numbers, the impact on domestic and local visitor numbers to Banks Peninsula, drawn largely by its pristine coastal environment, would be significant.

### ***Other economic considerations***

- 3.41 One of the arguments put forward to promote offshore oil exploration is employment growth. It is the Council's view that, in the near term, for Christchurch and the surrounding areas this argument is weak as there is a strong demand for skilled workers in the region due at least in part to earthquake recovery.
- 3.42 The Council understands that oil that may be prospected off the coast of New Zealand is not a grade of oil that can be refined in New Zealand. The oil taken from wells in New Zealand would therefore have to be shipped overseas to be refined.
- 3.43 The Council is also concerned that reductions in the global price of crude oil, such as that currently being experienced, may result in abandonment or otherwise dereliction of care of offshore assets that could pose a risk to the area's economy. Recent long-term forecasts for crude oil for the next 15 years is around US\$50 a barrel, which may not be a sustainable level for deep or ultra-deep sea exploration or production activities.
- 3.44 The Council is also concerned over the risk of petroleum exploration and production assets becoming 'stranded assets'<sup>3</sup>. Even in the event that a petroleum company plugs and

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<sup>3</sup> Stranded assets are defined as 'those investments which have already been made but which, at some prior to the end of their economic life (as assumed at the investment decision point), are no longer able to earn an economic return.' From *Redrawing the energy-climate map - World Energy Outlook Special Report*. International Energy Agency, 10 June 2013.  
[http://www.iea.org/publications/freepublications/publication/weo\\_special\\_report\\_2013\\_redrawing\\_the\\_energy\\_climate\\_map.pdf](http://www.iea.org/publications/freepublications/publication/weo_special_report_2013_redrawing_the_energy_climate_map.pdf)

abandons wells that had been drilled in accordance with industry practice, there may be on-going risk. The National Petroleum Council, an advisory committee to the U.S. Secretary of Energy, noted in a 2011 report that the 'plugging and abandonment of oil and gas wells has not changed significantly over the past 100 years' and 'there has not been a specific change that has elevated the technology of plugging wells'.<sup>4</sup>

- 3.45 The Council understands that according New Zealand Petroleum and Mineral's 'Guide to Government Management of Petroleum' offshore operators would have unlimited liability for costs incurred by the Crown for cleaning up oil spills, and any damages to third parties as a result of oil pollution from the their installations. The Council requests that its status as a 'third party' is confirmed for the purpose of this provision, and further seeks clarification of the nature and extent of damages that could be claimed.

### ***Climate change considerations***

- 3.46 The Council questions the necessity and appropriateness of continued exploitation of remaining petroleum reserves in light of the contribution of its impacts on climate change.
- 3.47 Lord Stern recently noted that if all the current fossil fuel reserves were to be burned, 'we will emit enough CO<sub>2</sub> to create a prehistoric climate, with Earth's temperature elevated to levels not experienced for millions of years'.<sup>5</sup>
- 3.48 In the 2014 report on oil and gas drilling in New Zealand, the Parliamentary Commissioner for the Environment stated:

*'The great environmental issue associated with any development of fossil fuels is, of course, climate change. When they are burned, oil, natural gas, and coal all increase the concentration of carbon dioxide in the atmosphere. Both fracking and deep sea drilling provide access to what is sometimes called 'unconventional' oil and gas, and so raise questions about whether and how New Zealand can pursue fossil fuel extraction while still responding to climate change and the need to move to a low-carbon future.'*<sup>6</sup>

- 3.49 The Council's Climate Smart Strategy 2010-2025 vision is that:

*'People and communities actively work towards a climate smart Christchurch that reduces its greenhouse gas emissions and is resilient to the social, cultural, economic and environmental effects of climate change.'*

- 3.50 The Climate Smart Strategy built on the Council's Climate Change Policy 1995 that

*'the Council acknowledge[s] that climate change is occurring and adopt[s] a precautionary approach when planning for future activities and works.'*

- 3.51 The Council strongly urges that much greater consideration is given to the impacts of petroleum exploration and production on climate change before releasing onshore and offshore areas for further petroleum exploration, and before granting consent for further petroleum production.

## **4.0 Concluding Remarks**

- 4.1 In summary, the Council makes the following submission.

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<sup>4</sup> Paper #2-15 - Plugging and abandonment of oil and gas wells. Prepared by the Technology Subgroup of the Operations & Environment Task Group. National Petroleum Council, 15 September 2011. [http://www.npc.org/Prudent\\_Development-Topic\\_Papers/2-25\\_Well\\_Plugging\\_and\\_Abandonment\\_Paper.pdf](http://www.npc.org/Prudent_Development-Topic_Papers/2-25_Well_Plugging_and_Abandonment_Paper.pdf)

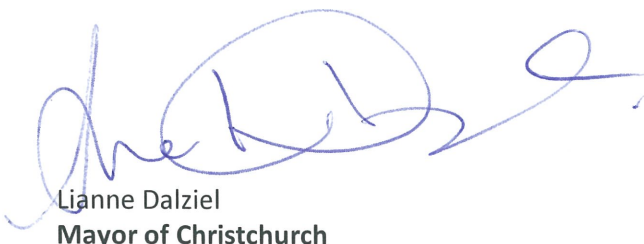
<sup>5</sup> Professor Lord Stern of Brentford, London School of Economics and Political Science; 2013. *Unburnable Carbon 2013: Wasted capital and stranded assets*. <http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2014/02/PB-unburnable-carbon-2013-wasted-capital-stranded-assets.pdf>

<sup>6</sup> Parliamentary Commissioner for the Environment; 2014. Drilling for oil and gas in New Zealand: Environmental oversight and regulation. <http://www.pce.parliament.nz/assets/Uploads/PCE-OilGas-web.pdf>

- The Council is opposed to the proposed Block Offer.
- The Council strongly recommends that future block offers are conducted with full and formal public consultation.
- The Council further recommends that tenderers' safety plans are publicly available so that the community has the opportunity to consider the risks with all information before permits are granted for exploration.
- The Council recommends that the northern and eastern boundaries of 16GSC-R1 are modified to increase the distance of the northern and eastern graticular sections from the Schedule 4 reserves and the outer limit of the territorial sea (twelve nautical mile limit).
- The Council recommends that those graticular sections of 16GSC-R1 that abut the sanctuary are removed from the block offer.
- The Council also recommends that the northern and eastern boundaries of 16GSC-R1 are further modified to increase the distance of the northern and eastern graticular sections from the sanctuary.
- The Council submits that the value of Banks Peninsula's outstanding and unique environment would be put at risk from petroleum exploration and production offshore from our coast.
- The Council suggests that an environmental contingency bond be put in place before any drilling takes place. This would be an upfront sum equal to the worst case risk scenario and held as a bond by the relevant government authority until the drilling has been completed.
- The Council strongly recommends that further consideration is given to the risks of offshore petroleum exploration and production before any additional areas are released for tender.
- The Council strongly urges that much greater consideration is given to the impacts of petroleum exploration and production on climate change before releasing onshore and offshore areas for further petroleum exploration, and before granting consent for further petroleum production.

4.2 If you require clarification of the points raised in this submission, or additional information, please contact Helen Beaumont, Natural Environment and Heritage Unit Manager, phone 03 941 8812, email [helen.beaumont@ccc.govt.nz](mailto:helen.beaumont@ccc.govt.nz).

Yours sincerely



Lianne Dalziel  
**Mayor of Christchurch**

**On behalf of CHRISTCHURCH CITY COUNCIL**



Attachment 1  
Schedule 4 Reserve Maps







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Department of Conservation  
Te Papa Ataturu

DOC Maps:  
Discover the Outdoors

Waihora Scientific Reserve

Map

75

75

Waihora Scientific Reserve Reserve

Lake Ellesmere (Te Waihora)

Lake Ellesmere (Te Waihora)

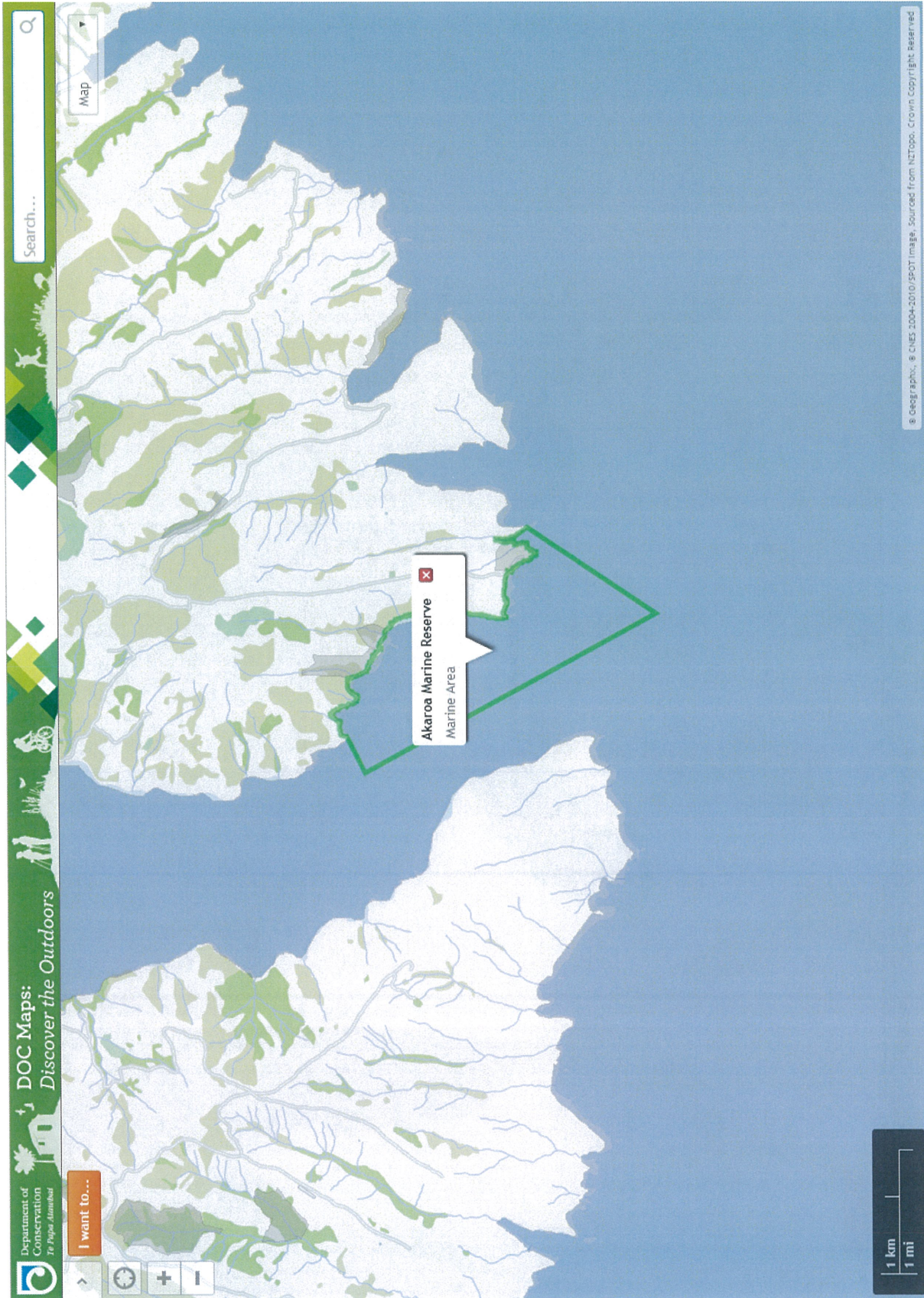
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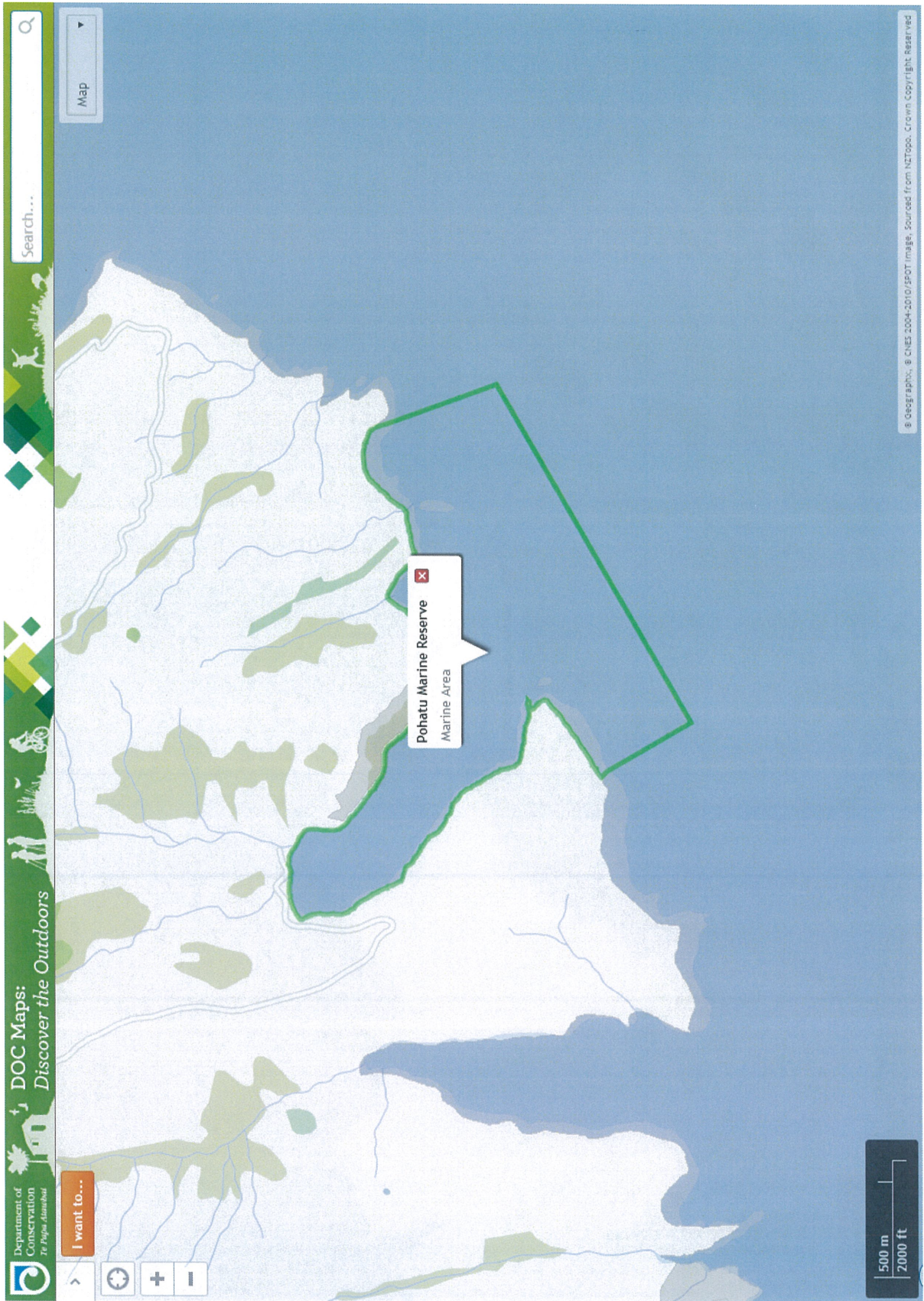






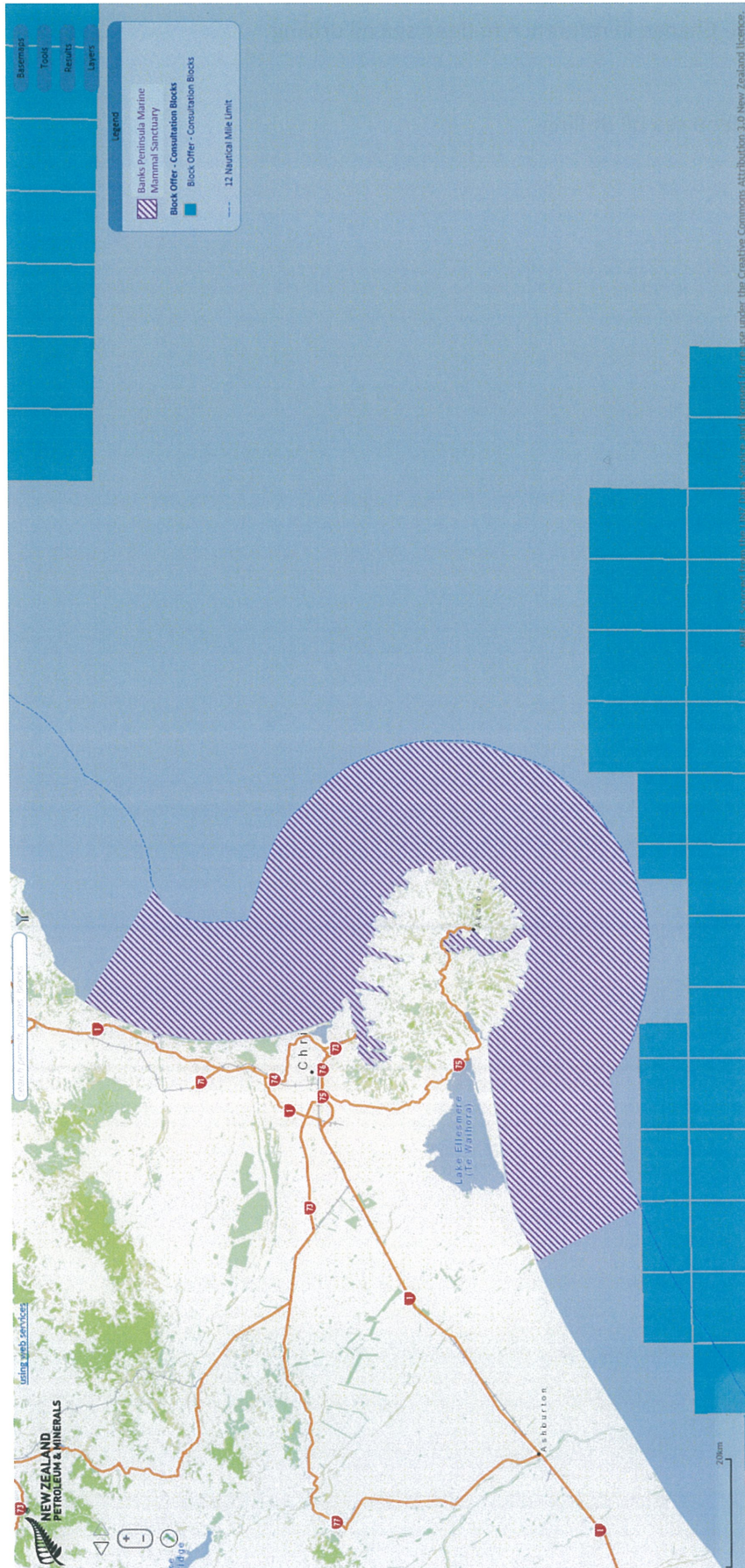








Attachment 2  
Detail of Offshore Great South-Canterbury 16GSC-R1  
with Banks Peninsula Marine Mammal Sanctuary added



**Attachment 3**  
**Deputation from Oil Free Ōtautahi Christchurch -**

A. Risks of Climate Change in reference to deep sea oil drilling

B. Economics of deep sea oil drilling

## Risks of Climate Change in reference to deep sea oil drilling

It has been recognised by the Intergovernmental Panel on Climate Change (IPCC) that to avoid runaway climate change we must keep the planet's average temperature rise below two degrees- and many scientists believe we must keep it even lower<sup>7</sup>.

Research has been done to calculate the amount of carbon dioxide we can release into our atmosphere to stay below two degrees of average warming- 565 gigatons<sup>8</sup>. However, corporations have the ability to release over 2795 gigatons of carbon dioxide through the extraction and burning of fossil fuels- mostly coal, oil and gas that has not yet been extracted.

If we cannot safely burn the fossil fuels that are currently known to us without causing catastrophic impacts on our environment, then what is the point in exploring for more fossil fuels?

Climate change will have some incredibly detrimental consequences, some of which we are already experiencing. An example of effects that we are already experiencing changes in multiple ecosystems (that we rely on for clean water and food) due to weather and temperature changes<sup>9</sup>. Another is tree mortality due to drought<sup>10</sup>, and although studies on the droughts that New Zealand has been recently facing have not been done, climate change could be heavily impacting on these.

The consequences that we are seeing today are nothing compared to the potential consequences in the future. One example of this is lower crop yields<sup>11</sup>, resulting in higher prices of food and higher levels of hunger.

Another is the risk to health- a combination of more extreme temperatures causing stress to vulnerable citizens, risk of infection due to unpredictable weather events, and a possible lack of nutritional food and water<sup>12</sup> would not only be harmful to people throughout the world, but also be extremely costly.

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<sup>7</sup> Victor, David G and Kennel, Charles F. *Climate policy: Ditch the 2 degree warming goal*. Nature. Volume 514, Issue 7520. Published 01/10/2014.

<sup>8</sup> Meinshausen, Malte et al. *Greenhouse-gas emission targets for limiting global warming to 2 degrees*. Nature. Volume 458, pages 1158-1162. Published 25/03/2009.

<sup>9</sup> Walther, Gian-Reto et al. *Ecological responses to recent climate change*. Nature. Volume 416, pages 389-395. Published 28/03/2002.

<sup>10</sup> Allen, Craig D et al. *A global overview of drought and heat-induced tree mortality reveals emerging climate change risks for forests*. ScienceDirect. Volume 259, Issue 4, pages 660-684. Published 5/02/2010.

<sup>11</sup> Parry, ML et al. *Effects of climate change on global food production under SRES emissions and socio-economic scenarios*. ScienceDirect. Volume 15, Issue 1, pages 53-67. Published April 2004.

<sup>12</sup> Haines, Andy and Patz, Jonathan A. *Health Effects of Climate Change*. The Journal of the American Medical Association. Volume 291, Issue 1. Published 07/01/2004.

An article published by the New Zealand Medical Journal calls for New Zealand to take climate action to avoid climate-change related health risks<sup>13</sup>.

Thirdly, the extreme weather events that can be caused by climate change<sup>14</sup> could cause damage to infrastructure and put human lives at risk. Climate change can also put our water supplies at risk<sup>15</sup>, meaning that there is the possibility that we will be forced into drinking unclean water.

Any economic gain from deep sea oil drilling is short term, and will be offset by the costs of infrastructure damage, poor health of citizens and loss of food and water resources that climate change influence.

The role of the government is to protect its current and future citizens, and climate change is currently threatening New Zealand's population. It is the government's obligation to take climate action to offset the threat that we currently face, and one way the government can do that is to no longer put New Zealand up for offer for fossil fuel extraction.

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<sup>13</sup> Bennett, Hayley et al. *Health and equity impacts of climate change in Aotearoa-New Zealand, and health gains from climate action*. New Zealand Medical Journal. Volume 127. Published 28/11/2014.

<sup>14</sup> Meehl, Gerald A et al. *Trends in Extreme Weather and Climate Events: Issues Related to Modeling Extremes in Projections of Future Climate Change*. American Meteorological Society Journals Online. Volume 81, Issue 3, pages 427-436. Published 2000.

<sup>15</sup> Vorosmarty, Charles J et al. *Global Water Resources: Vulnerability from Climate Change and Population Growth*. Science. Volume 289, Issue 5477, pages 284-288. Published 14/07/2000.



## Economic Risks - Oil Drilling

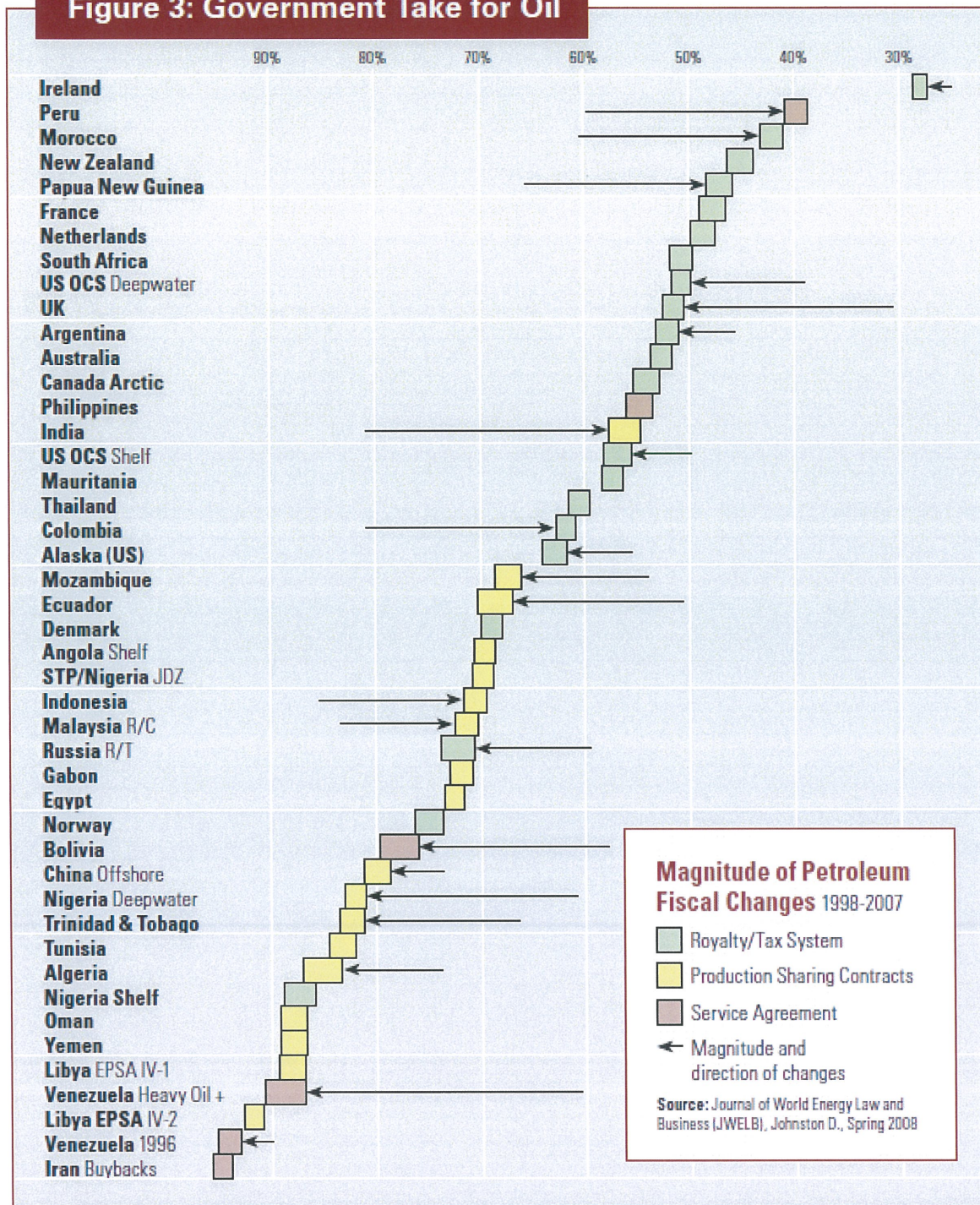
1. Economic benefits to New Zealand: The economic benefits to New Zealand are negligible.
  - a. The government has set the royalty on the oil produced at the fourth lowest level of nations charging oil and gas royalties on production from overseas oil companies. See attachment.
  - b. All the oil is to be owned by overseas companies and taken overseas and processed in their own facilities. No oil will stay in New Zealand which means our Marsden Point refinery will not be able to profit from refining any deep sea oil extracted nor will oil and gas users in New Zealand benefit at all.
  - c. The government argues that there will be significant employment created. They cite the employment of the Taranaki Basin oil production. New Zealand has significant expertise in shallow sea oil production but no expertise in deep sea oil production. Therefore virtually all employment will consist of overseas managers and workers with deep sea oil experience. There will be minor work opportunities related to the supply of food and recreation only.
  - d. A cost/benefit analysis has not been undertaken by the government and is not planned to be undertaken.
  
2. Dealing with oil spills:
  - a. Risks of accidents from deep sea oil drilling is many orders of magnitude greater than shallow water oil drilling. The risks rise exponentially as the depth increases. Some of the depths of the offer blocks off the Canterbury coast are greater even than the depth of the Gulf of Mexico's Deepwater Horizon accident.
  - b. The winds and weather patterns off the Canterbury Coast are often extreme compared to the fairly placid Gulf of Mexico. Therefore oil spills will spread considerably faster.
  - c. Petrobras of Brazil has the greatest deep sea oil expertise of all oil companies. Petrobras relinquished their block offers as the difficulty of drilling offshore New Zealand waters was too great for them.
  - d. There are two possible responses to an oil spill, neither of which ameliorate destruction of beaches and marine life. One is containment requiring specialised boats and equipment whereby booms are deployed around an oil spill in the hope that the oil can then be siphoned up. Containment is particularly difficult in rough seas which are common off Canterbury's coast. The nearest containment equipment and trained personnel are in Singapore and America's west coast. It would take a week or more for this containment equipment and boats to reach New Zealand by which time any chance of containment would be well past. The other response is dispersal. The idea of dispersal is to break down the oil molecules so they will be dispersed into the ocean. Dispersal is only possible using extremely toxic chemicals which are outlawed in many countries. These chemicals are a major threat to marine life. These chemicals are stored in North America.
  
3. Penalties for oil spills or other environmental damage:
  - a. Penalties are legislated under the Exclusive Economic Zone Act.
  - b. The maximum penalty for an oil spill is limited to NZ\$10 million. Consider this in relation to the costs of recovery from the Deepwater Horizon disaster which are over US\$43 billion and rising. Any costs over the \$10 million will need to be met by the government, ie, the taxpayer. With such extremely low royalties the government would never earn in ten or twenty years enough to pay for even one oil spill.

[http://www.legislation.govt.nz/act/public/2012/0072/latest/DLM3956312.html?search=sw\\_096be8ed810e264b\\_%2410+million\\_25\\_se&p=1&sr=9](http://www.legislation.govt.nz/act/public/2012/0072/latest/DLM3956312.html?search=sw_096be8ed810e264b_%2410+million_25_se&p=1&sr=9)

4. Advantages to oil companies of deep sea oil drilling experiments:
  - a. With the penalty to an oil exploration company limited to NZ\$10 million for any disasters in New Zealand, New Zealand offers the best risk free country for experimenting with deep sea oil drilling technology.
  - b. Therefore New Zealand will attract oil exploration experimentation which an oil company would find prohibitively expensive in their own or other countries.
  - c. The only conclusion to be drawn from this is that a disastrous oil spill off the Canterbury coast is almost guaranteed.  
Yet the benefits are insignificant.
  
5. Risks to Christchurch City Council:
  - a. The government has not delineated which disaster recovery costs they will cover with taxpayer money and overseas loans and which costs will be met by the council.
  - b. There has been no environmental or cost / benefit studies done nor any plans developed for disaster recovery.
  - c. Therefore the Council will likely be made responsible for hundreds of millions in recovery costs, especially if the government does not take responsibility which seems to be their current approach.



**Figure 3: Government Take for Oil**



Graph International Petroleum Taxation report, prepared for the Independent Petroleum Association of America, by D Johnston et al.

