Office of The Mayor



9 November 2016

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

nzpam@mbie.govt.nz

Dear Mr. Adams

RE: Proposed Block Offer 2017

- 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 2017. We acknowledge that while the Crown Minerals Act 1991 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 and New Zealand. In brief these are:
 - proximity of the Offshore Great South and Canterbury Basins to Schedule 4 lands and the Banks Peninsula Marine Mammal Sanctuary;
 - the huge risks to the marine and coastal environment from deep-sea petroleum exploration and production;
 - potential adverse economic impacts on the local community from oil spills;
 - climate change considerations and New Zealand's commitments under the Paris Agreement, which came into force on 4 November 2016; and
 - need for full and formal public engagement.
- 1.3 Given these concerns, the Council submits that all offshore areas in proposed Block Offer 2017 should be withdrawn. This goes beyond the Canterbury area. It is our view that the environmental and economic risks are far too high. We shoulder all the risks and see no benefits.
- 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.¹

Our submission has this principle in mind.

2.2 The Christchurch and Canterbury area continues to rebuild after a series of major earthquakes in 2010 and 2011. This has caused us to be acutely aware of risk mitigation to natural and other hazards. The Council considers that the risks of deep-water offshore petroleum exploration and production are too great for the reasons described in our submission.

3.0 Specific Comments

Schedule 4 lands

- 3.1 Lands described under Schedule 4 of the Crown Minerals Act 1991 (as amended) are those for which access arrangements are limited and for which Department of Conservation permission must be obtained.
- 3.2 Schedule 4 of the Act applies to several reserves located in, or immediately adjacent to, Christchurch's territorial boundaries. These are:
 - Dan Rogers Nature Reserve to which section 2 of Schedule 4 applies: 'Any reserve classified as a nature reserve under section 20 of the Reserves Act 1977'; and
 - Waihora Scientific Reserve, Kaitorete Spit Scientific Reserve (170.6151 hectare parcel), and Kaitorete Spit Scientific Reserve (91.422 hectare parcel) – to which section 3 applies: 'Any reserve classified as a scientific reserve under section 21 of the Reserves Act 1977'; and
 - Akaroa Marine Reserve and Pohatu Marine Reserve to which section 7 applies: 'Any area declared a marine reserve under section 4(1) of the Marine Reserves Act 1971'.
- 3.3 Maps showing the locations of these six reserves are provided in Attachment 1.
- 3.4 The Council considers that Schedule 4 reserves within and adjacent to Christchurch's territorial boundaries must be protected.
- 3.5 We further consider that the proximity of portions of proposed Offshore Great South and Canterbury Basins area (17GSC-R1) represents huge unnecessary risk to these Schedule 4 reserves.
- 3.6 Given the risks to the marine environment described in the Ministry for the Environment's 2016 report², we urge that all offshore areas in proposed Block Offer 2017 are withdrawn due to the risks posed to New Zealand's marine and coastal environment by petroleum exploration and extraction activities.

Banks Peninsula Marine Mammal Sanctuary

3.7 The Banks Peninsula Marine Mammal Sanctuary (the sanctuary) was established in 1988, and expanded in area 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

¹ Local Government Act 2002, as amended; section 14 (1)(h).

² Our marine environment 2016. Ministry for the Environment, October 2016.

- River to the north and the Rakaia River to the south, to the twelve nautical mile limit of the territorial sea.
- 3.8 The sanctuary is home to the endangered Hector's Dolphins, as well as an abundance of coastal and marine flora and fauna.
- 3.9 The northern portion of 17GSC-R1 in proposed Block Offer 2017 is offshore from Banks Peninsula, with graticular sections that abut or are near the twelve nautical mile limit, and therefore the eastern boundary of the sanctuary. A map showing a portion of the northern area of 17GSC-R1 overlaid with the boundaries of the sanctuary is provided in Attachment 2.
- 3.10 The Council considers that the sanctuary is a highly valuable natural and community resource that must be protected, particularly in light of its importance to the conservation of the endangered Hector's Dolphins.
- 3.11 In line with our recommendation concerning Schedule 4 reserves, the Council urges that all offshore areas in proposed Block Offer 2017 are withdrawn.

Value of Banks Peninsula and its coast

- 3.12 Christchurch is proud of its natural environments and their community values. 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.
- 3.13 The coastal areas of Banks Peninsula include a number of flora and fauna that are at risk, such as:
 - Tarapuka / Black-billed Gull (Larus bulleri) Nationally critical
 - Tarapirohe / Black-fronted Tern (Sterna albostriata) Nationally endangered
 - · TiTi / Sooty Shearwater (Puffinus griseus) Declining
 - Puteketeke / Southern Crested Grebe (*Podiceps cristatus*) Nationally vulnerable
 - · White-flippered penguin (Eudyptula albosignata) Acutely threatened
 - Yellow-eyed Penguin (Megadyptes antipodes) Nationally vulnerable
 - · Bush pohuehue (Muehlenbeckia astonii) Nationally endangered
 - Sand coprosma (Coprosma acerosa) Declining
 - Kaitorete Woolyhead (*Craspedia Kaitorete*), one of the rarest plants in New Zealand found only on Kaitorete Spit – Nationally endangered
 - Pygmy clubrush (Isolepis basilaris) Nationally vulnerable
 - Leafless muehlenbeckia or leafless pohuehue (*Muehlenbeckia ephedroides*) At risk/Declining
 - · Fan-leaved mat daisy (Raoulia monroi) At risk/Declining
 - Salt sedge (Carex litorosa) At risk/Declining
- 3.14 A number of species in Banks Peninsula, such as those listed above, are already under pressure. An oil spill off our coast could have significant adverse consequences on these species.
- 3.15 Indeed, the Ministry of the Environment's report *Our marine environment 2016* has identified a number of new Zealand's marine species under threat from human activities, including petroleum exploration and extraction. The report states in part:

'Oil and gas extraction can adversely affect the marine environment, although the effects are localised. Offshore and deep-sea oil and gas extraction and transport always carry the risk (however small) of a major oil spill, which, based on overseas events, can cause devastating and widespread harm to the marine environment.

Potential sites for mineral extraction are being surveyed and explored. Sediment plumes produced by the extraction process can affect an extensive area, as the suspended sediment spreads. The plumes reduce food availability for some species, smother seabed species such as corals, and reduce light availability for photosynthesis. Discharge of tailings (residues from extraction) and effluent can harm plankton and fish species.'

- 3.16 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.
- 3.17 In its Discharge Management Plan prepared for a petroleum exploration well in the Canterbury Basin Anadarko states that although the overall probability 'remains very low' the 'Banks Peninsular shoreline region has the highest potential for beaching' of the areas on the east coast of the South Island in the event of a blow-out in the exploratory well.
- 3.18 It is outrageous that the Government would entertain proposals for petroleum exploration or extraction with no provision for environmental contingency bonds.
- 3.19 Adequate financial resources, however, are only part of the mitigation picture. Availability of specialist equipment is also an issue, as we discuss later in our submission.

Economic impacts from offshore oil spills

- 3.20 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.
- 3.21 Offshore petroleum exploration and production puts Christchurch's economy at risk in the event of an oil spill off our coast. Christchurch's 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.
- 3.22 It is our view that 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'.
- 3.23 Christchurch's tourism industry continues to play an important role in the City's economy. Christchurch International Airport reported 1.56 million international passenger movements in the 12-month period from July 2015 to July 2016. That number is expected to increase to around 1.77 million by 2019.
- 3.24 Over the 2016/17 cruise season 85 cruise ships are scheduled to visit Christchurch ports of Akaroa and Lyttelton, with 149,500 visitors expected.

³ Page 72, Discharge Management Plan - 2013-2014 Canterbury Basin and Deepwater Taranaki Basin Exploration Program. Anadarko New Zealand Company and Anadarki NZ Taranaki Company, October 2013. 'Beaching' is when oil from an offshore spill reaches the shoreline.

- 3.25 Value-added in the Canterbury region from cruise ship visits has been around \$50 million over the last two years and is expected to be \$57 million in the 2016/17 cruise year. 4
- 3.26 The local economies of some of Banks Peninsula towns and settlements are based at least to some extent on the tourism industry. Some of the most successful Peninsula businesses focus specifically on offering visitors the opportunity to experience the Peninsula's unique flora and 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.
- 3.27 In line with previous recommendations in this submission, and to mitigate risks to our local economy, we urge that the Government withdraws all offshore areas in proposed Block Offer 2017.

Other economic considerations

- 3.328 One of the arguments put forward to promote offshore oil exploration is employment growth. It is our 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.
- 3.29 It is our understanding 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, with little resulting economic benefit to New Zealand.
- 3.30 We are 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 ('stranded assets'⁵) that could pose a risk to the area's economy. Recent long-term forecasts for crude oil prices vary widely, but generally project no more than US\$100 (in 2015 US dollars) per barrel by 2030, with some projections considerably lower.⁶
- 3.31 Even in the event that a petroleum company plugs and 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'.⁷
- 3.32 We understand that according to 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. We request that the Council's 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.

Risks from deep-sea petroleum exploration and production

⁴ Summary report - Economic impact of the 2015-2016 cruise sector in New Zealand and forecasts to 2018. Cruise New Zealand, 2016.

⁵ 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.

⁶ Annual Energy Outlook 2016. U.S. Energy Information Administration, August 2016 (DOE/EIA-0383(2016))

⁷ 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

- 3.33 New Zealand's local and national offshore petroleum spill response capabilities are limited. Maritime New Zealand has three small oil response vessels that are designed to work in sheltered water but not the open ocean, so that New Zealand's national oil spill response capability is limited to 5500 tonnes for near-shore incidents. A spill greater than 5500 tonnes and/or a spill in the open ocean would require equipment and support that is only available through international cooperation agreements.
- 3.34 Under a best case scenario under which international assistance was needed, it could take a month or more for a capping stack to be delivered to the site of a blow-out: approximately a week to transport a disassembled capping stack by air from the closest port with a capping stack (Singapore) and another three weeks or more for a vessel to deliver the capping stack to the blow-out site and put it into place. As an example, spill modelling for Anadarko's petroleum exploration well in the Canterbury Basin approximately 65 miles due east of Karitane, based on a worst-case 'loss of well control' scenario, estimated a duration of 35 days as 'the time required to shut-in the well'⁸.
- 3.35 We understand the reasons why specialist equipment needed to respond to a large petroleum spill is limited. Nevertheless, the fact remains that a 'loss of well control' may take weeks to bring under control and longer to clean up.
- 3.36 None of the graticular sections in proposed 17GSC-R1 could be reasonably considered to be in sheltered water, and it is our understanding that much of proposed 17GSC-R1 is in water exceeding 1000 metres, and that the same applies to much if not all of the offshore areas in proposed Block Offer 2017. For example, an exploration well recently drilled by Anadarko offshore from north Otago was at a depth of 1100 metres.
- 3.37 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.
- 3.38 Analysis of spill data from outer continental shelf oil and gas activities in the Gulf of Mexico reported by the US Bureau of Safety and Environmental Enforcement for spills of 50 barrels (8000 litres) and greater from January 1964 to December 2013⁹ shows that as well depth increases so does the frequencies of spills. In shallow water (depths less than 200 metres) an average of 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).
- 3.39 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. We also understand that petroleum permit applications must clearly demonstrate that operators can undertake the proposed work, and deal with any accidents or incident. It is our view that that this may lead to a perverse outcome in which companies will potentially overstate their safety and response capabilities.
- 3.40 In a review of New Zealand's oil spill response capability completed in 2011¹⁰ the risk to coastal areas was raised.

⁸ Page 18, *Annex D Oil Spill Modelling Report* [Canterbury and Taranaki modelling reports], *Discharge Management Plan - 2013-2014 Canterbury Basin and Deepwater Taranaki Basin Exploration Program.* Anadarko New Zealand Company and Anadarko NZ Taranaki Company, October 2013.

⁹ Data available at https://www.bsee.gov/sites/bsee.gov/files/reports/incident-and-investigations/spills-greater-than-50-barrels1964-2012-as-of-august-3-2012.pdf

¹⁰ Review of New Zealand's Oil Pollution Preparedness & Response Capability, February 2011, Maritime New Zealand.

'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.'

3.41 In a June 2013 interview¹¹ Dayne Maxwell, Maritime New Zealand Marine Pollution Response Service officer, said:

'Most of the response equipment that we have is designed for near-shore sheltered conditions and really there isn't available internationally any equipment that is specifically designed to operate in the rough kind of conditions offshore that we do have in New Zealand.'

- 3.42 As a consequence of this and similar information, we are deeply concerned with the risk posed by offshore petroleum exploration and production in deep open water to Christchurch's and New Zealand's coastal and marine environment. The Council is also concerned about the time it would take for Maritime New Zealand, under its international agreements, to respond to an oil spill from a deep-water petroleum exploration or production facility.
- 3.43 The heavy fuel oil spill from the grounding of the MV Rena on the Astrolabe Reef on 5 October 2011 required a 'Tier 3' (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.'

3.44 Given that New Zealand's national response capability is limited to 5500 tonnes, it is our view that the well-being, income and environmental protection of the country is such core business

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¹¹ Taranaki being warned about safety of deepwater oil wells, Morning Report 25 June 2013, Radio New Zealand. Available online http://www.radionz.co.nz/national/programmes/morningreport/audio/2535672/taranaki-being-warned-about-safety-of-deepwater-oil-wells

- for the government that it cannot be delegated to offshore oil companies who may share none of those concerns.
- 3.45 We consider that the long time frames required to respond to and mitigate a major petroleum release represents a risk to New Zealand's social, cultural, environmental and economic well-being that is too large to ignore.
- 3.46 The Council strongly recommends that the Government refrain from releasing any offshore areas for tender and that consideration is given to the risks of offshore petroleum exploration and production.

Climate change considerations

- 3.47 Continued exploitation of remaining petroleum reserves is completely unnecessary and inappropriate in light of the contribution of its impacts on climate change.
- 3.48 New Zealand has signed the Paris Agreement and sufficient countries have ratified this for it to come into force. Countries must now develop long term plans to reduce emissions and adapt to climate change. New Zealand has national targets for the medium and long term:
 - 30% below 2005 emissions by 2030
 - 11% below 1990 by 2030
 - 50% below 1990 by 2050

The Government proposes to meet these targets through a mix of domestic emission reductions, planting forest and participation in international carbon markets (buying credits). The Emissions Trading Scheme puts a price on greenhouse gas emissions to provide an incentive to reduce emissions and plant forest - a review is underway to improve the scheme.

- 3.49 It is our view that the commitment to the Paris Agreement is inconsistent with the continuation of efforts to offer offshore areas for petroleum exploration and extraction.
- 3.50 Lord Stern recently noted that if all the current fossil fuel reserves were to be burned, 'we will emit enough CO₂ to create a prehistoric climate, with Earth's temperature elevated to levels not experienced for millions of years'. ¹²
- 3.51 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.' 13

3.52 The Ministry for the Environment's 2016 report on the marine environment states that 'the burning of fossil fuels is a major cause of anthropogenic (human-induced) global warming and ocean acidification. On a local scale, extraction of fossil fuels such as oil and gas from ocean-based well can have environmental impacts.'

¹² 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

¹³ 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

3.53 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.'

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

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

- 3.55 The Government is completely in conflict with our community's goals and the Council's change strategy and policy.
- 3.56 The Council strongly urges that much greater consideration is given to the impacts of petroleum exploration and production on climate change.

Public engagement

- 3.57 The Council is concerned that offshore areas in which high-risk petroleum exploration activities could occur are being proposed for Block Offer 2017 in the absence of full and formal public consultation. Even if as some claim the probability of an accident from such activities is not high, the consequence of an accident can be catastrophic and last decades.
- 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 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).
- 3.59 We have received input from interested parties in our local community, which is provided in Attachment 3.
- 3.60 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.

4.0 Concluding Remarks

- 4.1 In summary, the Council makes the following submission. We:
 - a) strongly urge that given the risks to new Zealand's marine and coastal environments the Government withdraws all offshore areas in proposed Block Offer 2017;
 - b) submit 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;
 - c) consider that the long time frames required to respond to and mitigate a major petroleum release represents a risk to New Zealand's social, cultural, environmental and economic well-being that is too large to ignore, and that further consideration is given to the risks of offshore petroleum exploration and production;

- d) strongly urge that much greater consideration is given to the impacts of petroleum exploration and production on climate change and recognise that New Zealand's commitment to the Paris Agreement is inconsistent with the continuation of efforts to offer offshore areas for petroleum exploration and extraction; and
- e) strongly recommend that in the event that future block offers are conducted there is full and formal public consultation.
- 4.2 If you require clarification of the points raised in this submission, or additional information, please contact Helen Beaumont, Head of Strategic Policy, phone 03 941 5190, email helen.beaumont@ccc.govt.nz.

Yours sincerely,

Limbella

Lianne Dalziel Mayor of Christchurch

On behalf of CHRISTCHURCH CITY COUNCIL

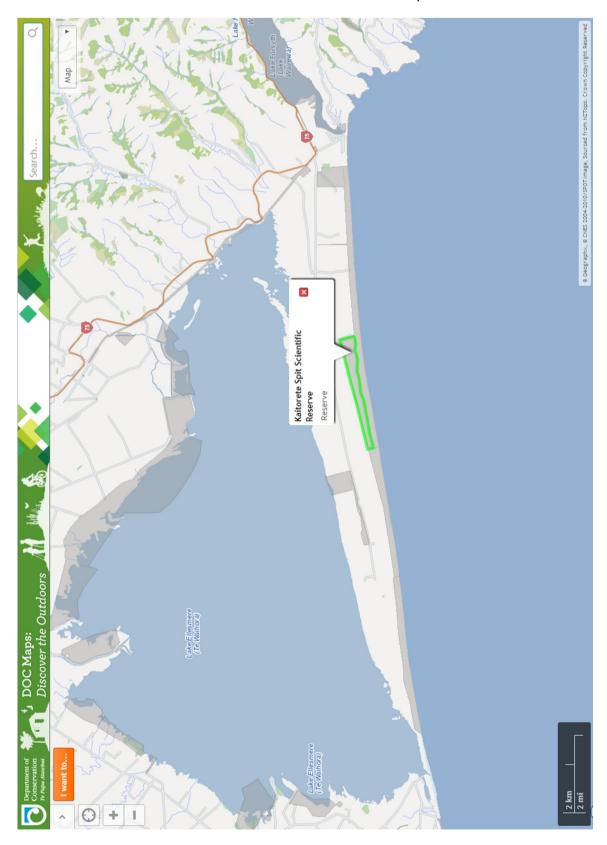
Attachments

Attachment 1 – Schedule 4 Reserve Maps

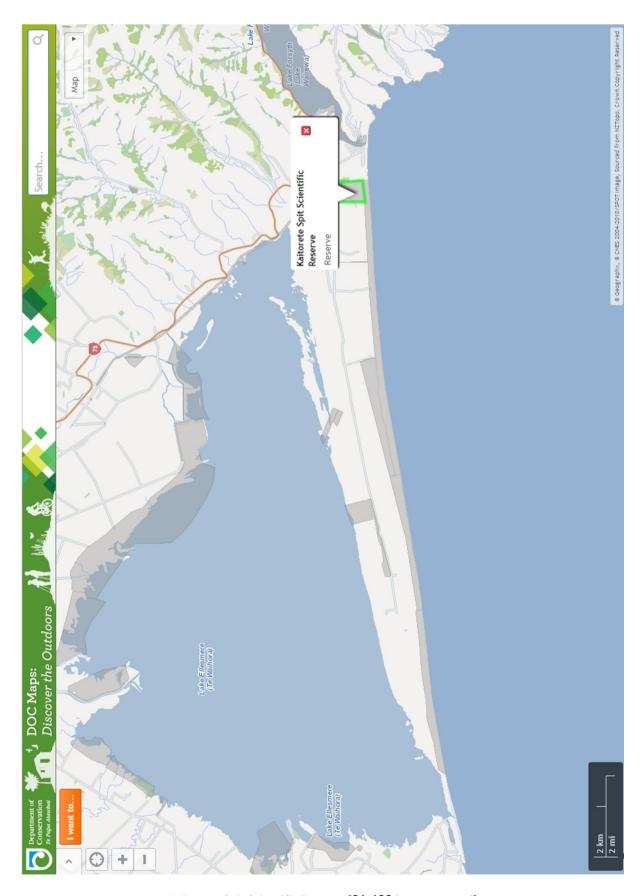
Attachment 2 – Proposed Block Offer 2017 17GSC-R1 Map Detail; Banks Peninsula Marine Mammal Sanctuary added

Attachment 3 – Community Input

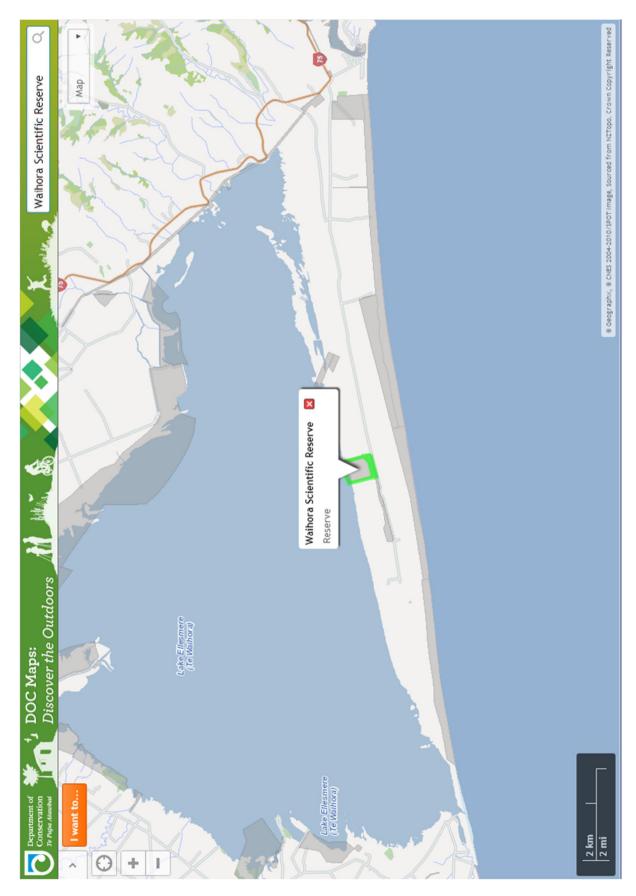
Attachment 1 – Schedule 4 Reserve Maps



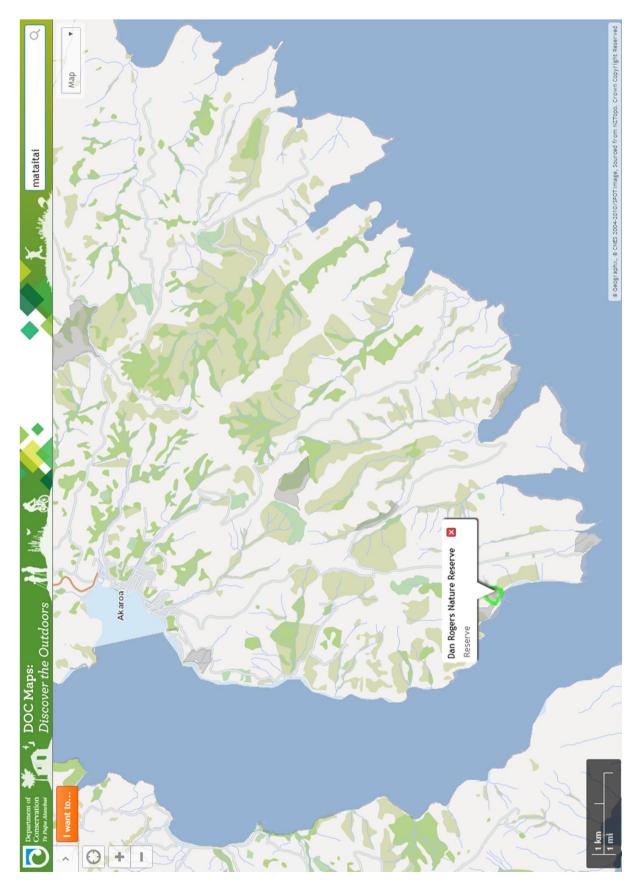
Kaitorete Spit Scientific Reserve [170.6151 hectare parcel]



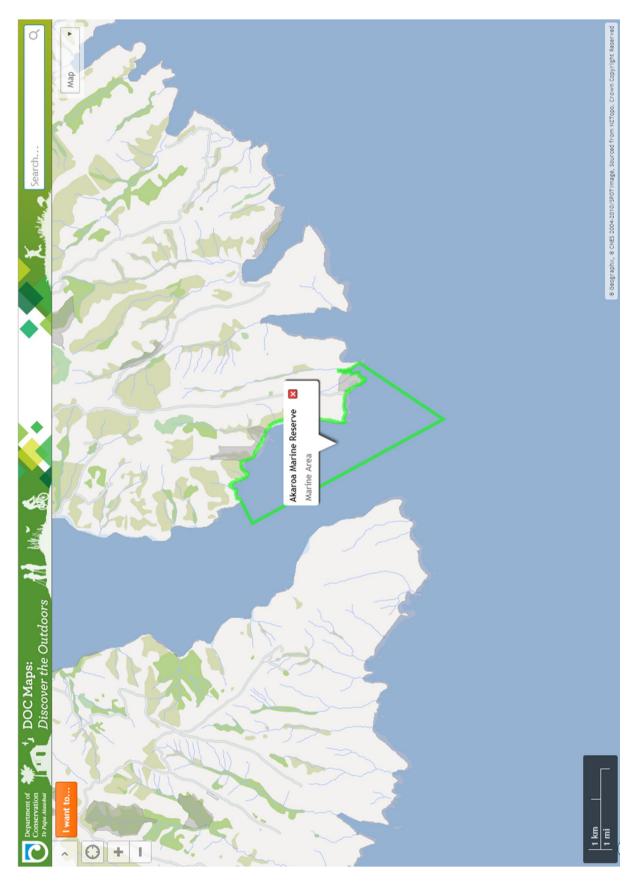
Kaitorete Spit Scientific Reserve [91.422 hectare parcel]



Waihora Scientific Reserve



Dan Rogers Nature Reserve

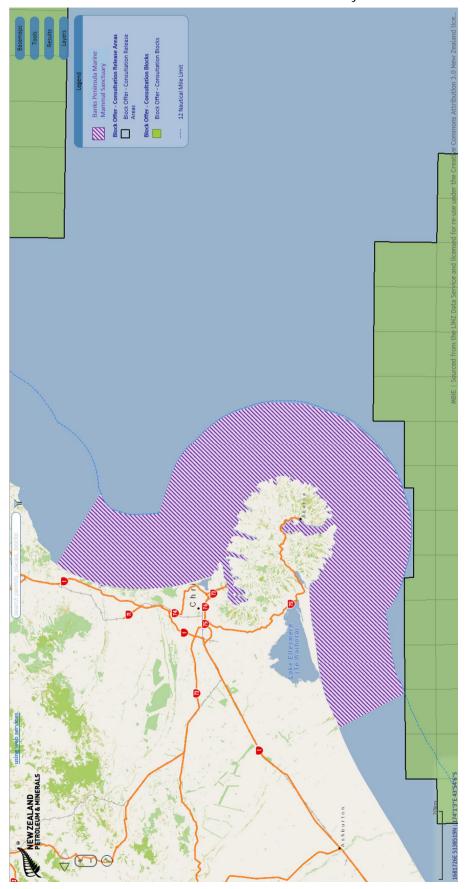


Akaroa Marine Reserve



Pohatu Marine Reserve

Attachment 2 Detail of Offshore Great South-Canterbury 17GSC-R1 with Banks Peninsula Marine Mammal Sanctuary added



Appendix 3 – Community Input

The Council has received the following community input, which is included as part of its submission.

- 1. Chris Fulton
- 2. Sharon Barclay
- 3. Graham Townsend & Christine Leaver
- 4. Pubudu Senanayake on behalf of Generation Zero
- 5. Oil Free Otautahi deputation2 November 2016
- 6. Brian Johnson deputation 2 November 2016

You don't have to look far to see the detriment from oil spills or related wars that accompany oil drilling. There is no way this present government should commence drilling anywhere off the coast of New Zealand. Our rivers have been poisoned enough by their neglect without adding insult to injury and polluting our oceans. A government is elected to protect the citizens and the country they live in. Allowing oil drilling anywhere near New Zealand would be a crime comparable to treason.

Cris Fulton Canterbury 8061

OIL EXPLORATION OFF THE CANTERBURY COAST

from: Sharyn Barclay Flat 2/No. 11 Newnham Tce Upper Riccarton Christchurch 8041 3480740

9.10.2016

Dear Councillors and Staff c/- Vicki Buck

It is our understanding that block offer 2017 is now up for consultation. The NZPAM (Petroleum and Mineral) group sees fit to use consultation with local bodies in lieu of seeking the views of the public. Thank you for providing notice to others.

In accordance with your duty of care as kaitiaki of Canterbury and as representative of the citizens of Canterbury, I urge you to strongly oppose the allocation of any areas off the Canterbury Coast for petroleum exploration permits. Any thinking citizen would support CCC opposition to proposals which risk our coastal land and sea. On the grounds of climate disruption alone, let alone on the grounds of localised environmental risk, support for your opposition to allocate exploration permits is assured.

In considering proposed offers the CCC must ask the fundamental question 'why?'. Why do Government continue to try to entice investment to New Zealand via an industry that has become a fossil in its own right? Why do Government risk our unique, in places pristine, environment (both sentient and inanimate) of which we are so proud?

Dairy is not the 'cash cow' once lauded by the National Government; instead tourism is the top earner for the NZ economy. It is this number one earning industry the Government puts at risk and indeed harms in its bid to attract overseas investors.

Drilling and the possibility of an oil spill is harmful not only to marine wildlife; It harms all coastal dwelling species, especially during breeding season. It harms seabird populations, both directly and indirectly. It harms fish stocks and thus commercial fishing operations. It harms those (human and non-human) who are dependent on coastal margins for their livelihood, be that for food or for tourist operations. Coastal margins are also vital for flood control, an essential consideration in a world of rising seas. Indeed, it is the margins of our coast which are responsible for environmental balance.

The economics of operations allocated by these permits warrants consideration. Petroleum exploration is surely a venture which routinely seeks insurance cover. This then begs the question of putting monetary value on such risky operations. An empirical value is not possible where an indefinable asset is at issue.

Then there is the wider issue of monetary spin-off to the regions in which exploration is permitted. Are there guaranteed economic benefits if Canterbury were to allow exploration to proceed? The likelihood of offshore processing is possible, thus removing financial spin-offs. Mention has not been made regarding the highly subsidised nature of the petroleum industry and the recent conversion of

a public vessel for exploratory purposes. This industry has plundered the public purse enough, and a show of strength is required to stop it forthwith.

Regardless of the economic spin-offs, we are talking about exploring for a resource of no use in a world where fossil fuels are incompatible with COP21 goals.

Revenue collection from such ventures versus filling State coffers via taxation and/or rate increase is a nasty pill to swallow, however, nastier would be the sour taste of environmental degradation and ruin. In the desperate hope of re-election, the Government is gambling with the golden-goose we all love. They seek investment in a dead-duck industry, all in the slim hope of cashing in on what economists now regard as a 'stranded asset'.

Please exercise your power as an officially consulted party on this issue. Your opposition and grounds for concern must be strongly expressed in your submission to Government. Thank you once again for the opportunity to be heard

to.

Christchurch City Council - Transport, Infrastructure and Environment Committee

OIL EXPLORATION OFF THE CANTERBURY COAST

from: Graham Townsend & Christine Leaver 11 Watlings Place Christchurch 8025 3226445 8.10.2016

Dear Councillors and Staff

We understand that the government is seeking submissions from councils and iwi regarding the opening of Block offer 2017 to oil exploration, and that the CCC has invited residents to comment on this proposal.

As Christchurch residents and ratepayers we are totally opposed to such exploration and would support any opposition you may be able to muster to persuade the government to abandon this project.

Our reasons are as follows:

1. A SHIFT TO SUSTAINABLE ENERGY vs THE ADVERSE CONSEQUENCES OF CLIMATE CHANGE

It's time to shift our economy towards sustainable energy sources and away from fossil fuel use. A number of solar energy businesses already exist in the Canterbury region. This will inevitably grow if smart investment supports it. Electric cars are set to increase their market share. Ongoing improvements to our public transport have the potential to reduce car useage.

On the other hand, a number of expert assessments point out the serious consequences of more frequent and extreme adverse weather events on the global economy if we continue to rely on fossil fuels^{1,2,3,4,5}.

Aside from the direct economic consequences of climate change, there are also serious concerns about its impact on global security and its potential to cause unrest and mass migration^{6,7}.

The government has stated that they are fully aware of the science of anthropogenic climate change and are actively seeking ways to minimise its harmful impact on the global economy. Therefore, while the transition to sustainable energy can't happen overnight, it seems inconsistent and perverse to be seeking to exploit potential reserves when we should be funnelling research and development into sustainable energy sources.

2. THE HEALTH OF OUR MARINE ENVIRONMENT vs. THE SERIOUS CONSEQUENCES OF AN OIL SPILL.

A viable, sustainable local fishing industry is in all our interests. So are clean beaches and a thriving marine environment for recreational users.

Oil exploration threatens both. The depth of water in much of the proposed exploration area is 400 - 2000 m deep - considerably greater than in the Maui/Kupe regions of the Taranaki Bight (~100 m)

and so the operation will be more complex. Our understanding is that the nearest vessels capable of managing the containment of a serious oil spill are based in Hong Kong, Singapore and Los Angeles. Given the time it would take for them to reach New Zealand, the risk of a repeat of the Gulf of Mexico 'Deep Water Horizon' incident^{8,9} is unacceptable. Who would insure against such a risk and the potential clean-up costs?

3. THE LACK OF DEMOCRATIC PROCESS

The government has not permitted citizens to make direct submissions on this proposal; yet we will potentially be affected by it, especially if an accident occurred which, apart from the consequences for marine life, would impact on the income of the local fishing industry and pollute our beaches. A genuine democracy would seek to include all New Zealanders in the discussion about our energy future rather than seeking to impose a damaging and out-dated industry on us.

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Dear Diane,

Last week was a monumental one for action on climate change. The Paris Agreement has been ratified by enough countries, including New Zealand, for it to come into force, and it will formally take effect on November 4.

That means more than 55 countries, accounting for more than 55% of total greenhouse gas emissions have agreed, legally, to act on keeping global temperature rise to well below 2° C. This could be a global turning point for action on climate change.

However, in order to *actually* combat climate change **we must act** on our agreement. Simply stating that we will aim to keep global temperature rise to below 2° C will not achieve this.

The first and most important step is to wean ourselves off our dependency on fossil fuels. In order to do so, we must not, and cannot allow any new fossil fuel extraction. A recent study shows that the production by the existing fossil fuel fields will, without a doubt take us over the 2° C safe limit.

Currently the Government is consulting iwi and local councils about its 2017 Block Offer for oil and gas exploration. Given that we must not extract any new fossil fuel resources in order to stay below the 2° C limit, we ask that the Christchurch city council reject the block offer and indicate to central government that we should not open up any new reserves of fossil fuels.

Kind regards,

Pubudu Senanayake on behalf of Generation Zero

¹ https://www.theguardian.com/environment/2016/sep/23/existing-coal-oil-and-gas-fields-will-blow-carbon-budget-study

Oil Free Otautahi Deputation to Council 2 November 2016



The Earth System

Everything interacts in highly complex ways.

Humanity now has a major influence, hence the newly named geological era, The Anthropocene.

We are affecting all the processes shown to a greater or lesser extent.

Our use of fossil fuels, including oil and gas extracted from off-shore sediments, is having profound global effects.

The environmental impacts of extraction and use of off-shore oil and gas

Burning fossil fuels is having global impact

- Atmospheric carbon dioxide concentrations are now above 400 parts per million compared with 280 ppm before the industrial revolution. ^{1, 2, 3}
 - This is the major cause of global warming by about +1°C since 1900. ⁴
 - 2015 was the warmest year on record.

The oceans are warming

- More than 90% of the additional trapped energy enters the ocean. ⁵
 - The average temperature of the ocean surface has warmed by about 0.5°C since 1970.
- Massive loss of Arctic sea-ice; about 3 million square kilometres since 1979. ⁶
- · Changes to wind patterns and currents. The way the ocean mixes is changing.
- There is evidence for global reduction in growth of phytoplankton ⁷
 - Effects of this on food webs
- Sea-level rise due to melting glaciers and ice caps and expansion of ocean water
 - Seaweeds and animals associated with coastal rocks and sediments need to move inland as sea levels rise. They are not always able to do so.

The oceans are becoming more acidic 8

- About one third or all human emissions of CO₂ have been absorbed by the ocean.
- Consequently, since 1910 acidity has increased by about 26% (pH 8.2 to 8.1).
- If we continue to release CO₂ at present rates then acidity will increase by 170% by 2100.
- The growth and reproduction of animals, seaweeds and phytoplankton which have skeletons of calcium carbonate are affected as these skeletons are more difficult to make and maintain,
 - This includes shellfish, lobsters, corals and phytoplankton called coccolithophores ⁹.
 - The shells of pteropods (small, marine snails that live suspended in ocean waters) are already dissolving in parts of the Southern Ocean.

Climate change is contributing to reductions in New Zealand marine life 10, 11,12

- It is likely that warmer oceans are reducing food for seabirds.
 - Red-billed gull populations have been in steep decline, especially at Kaikoura.
 Their reduced breeding success has been linked to warmer coastal currents reducing availability of krill for feeding to chicks.
 - Eastern rockhopper penguins on Auckland and Campbell Islands have decreased by 95%.
 - Sooty shearwater (titi, mutton bird) have halved since the 1970s.
 - Antipodean albatross have declined drastically on Subantarctic islands and this species is now "nationally critically threatened". Deaths occur in breeding colonies probably because birds are less well-nourished.¹³
- The decline of the New Zealand long-finned eel is likely to be partly due to changes in ocean currents and food availability over the 2,000 kilometre migration route of larvae whilst they return to N.Z. rivers.

- The distribution of coastal seaweeds is likely to change.
 - This has happened markedly in Tasmania where the giant kelp is now absent from 250 kilometres of its former range along the eastern coastline. ¹⁴
- Prospecting for gas and oil using seismic surveys uses loud sound pulses 15
 - This has a range of harmful effects on diverse marine animals.
 - It disturbs communication and behaviour amongst whales and dolphins as well as fish and some shrimp-like animals.
- Oil spills are an ever-present danger 16, 17, 18
 - Floating oil coats seabirds and marine mammals which become water-logged and hypothermic.
 - They also ingest oil which contains toxic chemicals.
 - Oil is swept onto shorelines by winds and currents
 - Seaweed beds are smothered and this harms associated animals.
 - The high productivity of estuaries is damaged. Oil affects a huge range of organisms from worms in sediments to wading birds.
 - Oil can remain buried for years and then re-emerge.
 - Facilities for commercial aquaculture of mussels and caged salmon can be contaminated.
 - Heavier fractions of oil sink and harm life at the sea-floor including bottom-feeding fish.
 - Toxic chemicals in oil dissolve in seawater.
 - These are absorbed by zooplankton which are food for fish and squid which are eaten by seabirds, whales and dolphins. The toxins are concentrated along the food chain and can affect physiology and reproduction.
 - Toxins can enter commercially valuable off-shore fish stocks.
 - Attempts to disperse spills using detergent-like chemicals results in smaller globules of oil that are more easily eaten by zooplankton.

Both the evident effects of oil and gas extraction at global, regional and local scales and application of the precautionary principle should persuade us that further expansion of the industry to off-shore Canterbury would be irresponsible.

http://esrl.noaa.gov/gmd/ccgg/trends/ff.html

² http://www.esrl.noaa.gov/gmd/ccgg/carbontracker/

³ http://www.noaa.gov/stories/carbon-dioxide-levels-race-past-troubling-milestone

⁴ http://climate.nasa.gov/vital-signs/global-temperature/

http://www.ncdc.noaa.gov/data-access/marineocean-data/extended-reconstructed-sea-surface-temperature-ersst-v4

⁶ https://nsidc.org/arcticseaicenews/

⁷ Boyce et al. 2010 *Nature* v466 p591-6

⁸ http://www.igbp.net/publications/summariesforpolicymakers/summariesforpolicymakers/oceanacidificationsummaryforpolicymakers2013.5.30566fc6142425d6c9111f4.html

⁹ Beaufort et al. 2011 *Nature* v476 p80-3

¹⁰ https://www.niwa.co.nz/sites/niwa.co.nz/files/import/attachments/CC_report_final_Dec-07.pdf

¹¹ http://www.doc.govt.nz/documents/science-and-technical/sfc312entire.pdf

Meduna V 2015 Towards a warmer world: what climate change will mean for New Zealand's future. BWB Texts. ISBN 9780908321735

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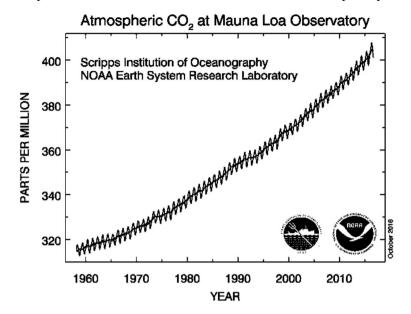
¹⁴ http://www.climatechangenews.com/2016/10/14/ocean-heatwave-destroys-tasmanias-unique-underwater-jungle/

¹⁵ https://www.cbd.int/doc/meetings/mar/mcbem-2014-01/other/mcbem-2014-01-submission-seismic-airgun-en.pdf

¹⁶ http://www.maritimenz.govt.nz/Environmental/Oil-and-oily-waste/Oil-biological-impact.asp

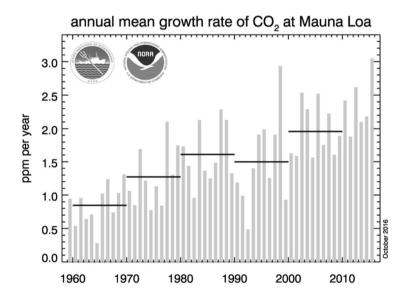
¹⁷ http://www.forestandbird.org.nz/campaigns/save-our-seabirds/report-seabirds-and-oil-spills

18 http://www.sciencemediacentre.co.nz/2011/10/11/rena-oil-spill-experts-on-environmental-impact-clean-up/



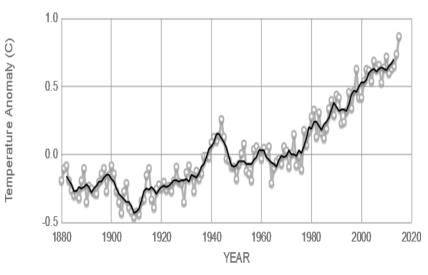
Carbon dioxide concentration in the atmosphere continues to increase rapidly. This graph shows data collected at the top of a Hawaiian mountain up to October 2016. Concentrations are in parts per million by volume. The last 12 months have seen concentrations remain above 400 parts per million for the first time since records began.

http://esrl.noaa.gov/gmd/ccgg/trends/full.html



The vertical bars show the annual increase in carbon dioxide in the atmosphere from 1959 to 2015. The horizontal lines indicate the average for each of the ten year periods shown. Increases have generally been trending higher. 2015 had the greatest increase on record. Data are parts per million by volume.

http://esrl.noaa.gov/gmd/ccgg/trends/gr.html

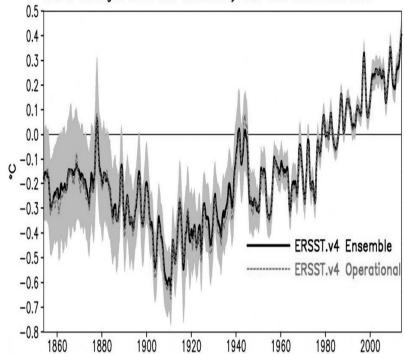


Source: climate.nasa.gov

Change in the Earth's annual average surface temperature up to 2015 relative to the average for 1951-1980. The grey line shows the mean for each year and the black line the five year mean. With the exception of 1998, all the years from 2000 on have been the warmest on record. 2015was the warmest of all. Since records began global temperature has increased by about 1°C. The warming at the Earth's surface due to human action is about equivalent to having a 2 watt heating element in every one square metre. That is equivalent to 2,000 one kilowatt heating elements in each square kilometre.

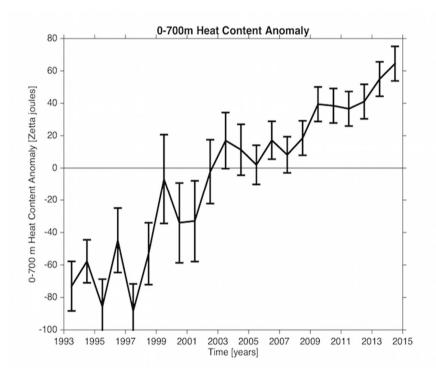
http://climate.nasa.gov/vital-signs/global-

Global averaged SSTA and uncertainty with 95% confidence level



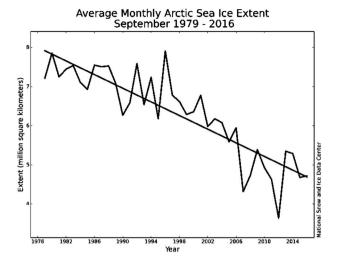
Change in sea surface temperature up to 2014 relative to the average for 1971-2000. Grey shading shows uncertainties which have decreased substantially due to the collection of an increasing amount of data. Warming has been quite consistent over the last century and amounts to about $+1.0^{\circ}$ C.

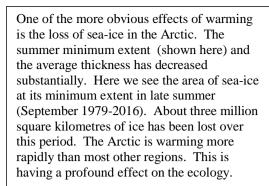
http://www.ncdc.noaa.gov/data-access/marineocean-data/extended-reconstructed-sea-surface-temperature-ersst-v4



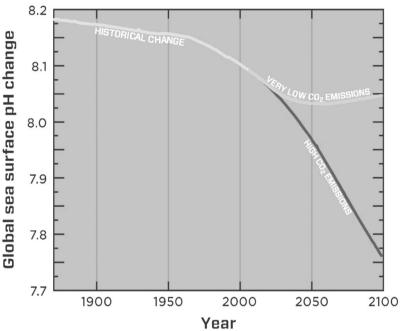
More than 90% of the additional heat trapped by greenhouse gas emissions is absorbed by the oceans. This heat gradually penetrates deeper. Here we see the increase in heat content of the upper 700 metres of the global oceans from 1993 to 2013. The scale is in zetta joules. Joules are a unit of energy and zetta is 10²¹. That is a lot of energy!

http://oceans.pmel.noaa.gov/





http://nsidc.org/arcticseaicenews/files/2016/1 0/monthly ice 09 NH.png



The ocean has absorbed about 30% of all human emissions of CO₂. Presently it absorbs about 24 million tonnes each day. As more CO₂ dissolves into the surface ocean it is becoming more acidic. Since 1870 this acidity increase has been about 26% (a drop in pH from 8.2 to about 8.1). If we continue with high CO₂ emissions then the acidity increase by 2100 could be about 170%. Increasing acidity is affecting the growth and reproduction of marine organisms and especially those with calcium carbonate in their skeletons, coral being the commonly noted example.

http://www.igbp.net/publications/summariesf orpolicymakers/summariesforpolicymakers/o ceanacidificationsummaryforpolicymakers20 13.5.30566fc6142425d6c9111f4.html

The Paris agreement at a glance

This is a brief summary of the international agreement that New Zealand has ratified and that is now in force.

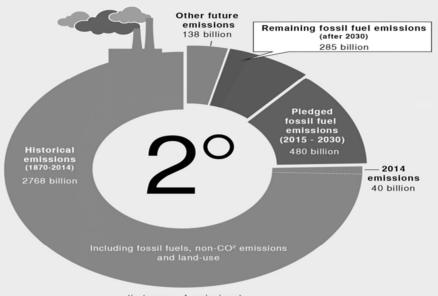
ow 2.0°C

aim for 1.5°C

The agreement commits nations to keep temperatures "well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C".

The carbon budget

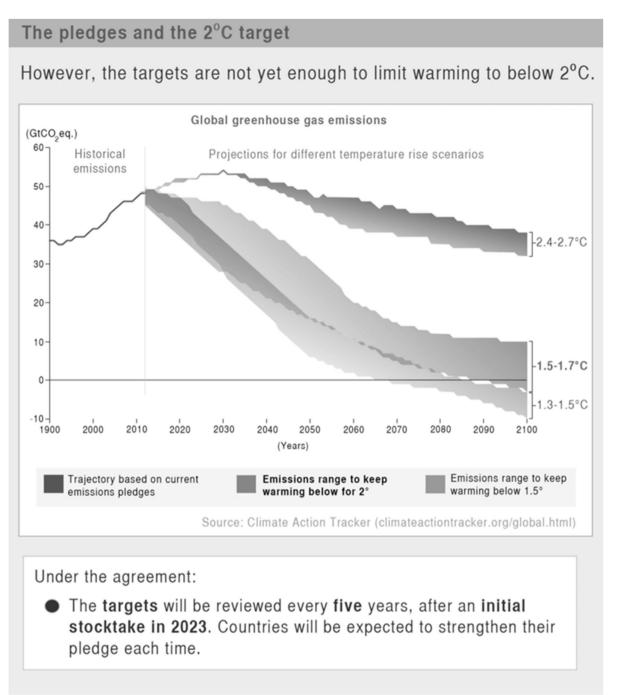
To keep warming below 2°C we can emit a total of around 3.6 trillion tonnes of greenhouse gases. But this only gives us a 66% chance. For a better chance, or for a lower warming limit, we'll have to emit much less.



(in tonnes of emissions)

Source: Peters et al 2015, iopscience.iop.org; and Le Querre et al 2015, www.earth-syst-sci-data.net

The Paris Agreement calls for **global emissions to peak "as soon as possible"**, and for a balance to be achieved between the rate of greenhouse gas emissions and the removal of these gases from the atmosphere by some time between 2050 and 2100.



http://theconversation.com/the-paris-climate-agreement-at-a-glance-50465

Conclusion

All of us in Christchurch, Canterbury and New Zealand must play a responsible role in helping reduce global emissions of greenhouse gases. The establishment of an extractive industry for gas and oil in offshore waters of Canterbury would be irresponsible.

Kia Ora,

My name is Siana Fitzjohn, and this is the third deputation I've made to a local council on the Oil and Gas Block offers. Over the last five years, a massive amount of intellectual energy has been poured into opposing deep sea oil exploration, and yet the insanity prevails.

If deep sea oil drilling goes wrong, it will wreak havoc with our marine ecosystems; if it goes right, it will wreak havoc with our climate.

Oil and gas are fossil fuels, so let's start with climate change. The Intergovernmental Panel on Climate Change (IPCC) report stressed that we must leave 80% of known fuel reserves in the ground if we are to avoid catastrophic climate change. Yet this government is proposing to look for more. The World Health Organisation predicted that from 2030 an extra 250,000 humans a year will lose their lives tomalnutrition, malaria, diarrhoea and heat stress brought about by a changing climate. We can no longer hide behind a screen of scientific uncertainty- climate change is killing people. But we all hear this kind of information all the time, and human lives are fast becoming a statistic. While science can tell us the likely consequences of our actions, it cannot tell us how to feel about them.

So let's look at the economics. The huge economic risks of oil spills are borne by the state, and they increase massively when you include the risks posed to all industries that rely on a functioning marine ecosystem. Our laughably low royalty rates ensure we'd see pitiful rewards for plentiful risks. Even within a neo-liberal economic model, exploring for oil and gas during the climate crisis is like flogging a decaying horse. It is up against all logic to risk the health of our oceans to pursue a fuel that's changing the chemical composition of our atmosphere.

When we make deputations it is tempting to do as I just did-roll out the intellectual reasons that oil and gas exploration is a singularly stupid idea. But this can come at the expense of our emotional understanding. Deep sea oil exploration is not still on our Government's agenda because they do not understand science, it's still on their agenda because they do not understand empathy. For too long we have let people in power dictate what counts as a 'sensible' submission against their senseless proposals. Economic arguments are the veil our leaders hide behind to avoid the moral implications of their decisions. Keeping emotions out of reasoning is a way of keeping ourselves emotionally insulated from the impacts of our behaviour. Western industrialised nations have to stop pretending that our industries and lifestyles aren't causing immense harm to human and non-human beings. Climate change occurs because of the cumulative impacts of decisions made in rooms like these.

Deep sea oil drilling threatens places that we love, and creatures that we know, with a disaster they'd never recover from. If that isn't a good reason to get emotional then I don't know what is. And when we talk about the impacts of climate change, we're talking about the mass suffering of human beings, and an emotional response to that is completely appropriate.

We've let science describe climate change as a story of rising CO2 in the atmosphere, when it is as much a story of capitalism, colonisation and exploitation. We will not be affected equally by this crisis. People's experience of climate change will depend on their race, gender, and privilege- or lack of it. To me, climate change feels like a pleasantly warm winter in Dunedin, but to some people it will feel like starvation. Climate change will sound like forests burning, it will taste like dehydration, and look like dying crops. I don't know what's more shocking, that one species could change the composition of an entire atmosphere, or that we know our habits are killing people and we still can't change them.

We need to start taking responsibility for the effects of our industries and behaviour. We need to recognise that the 2016 Oil and Gas Block Offer is an act of slow violence. This is because fossil fuel extraction exacerbates a crisis bringing displacement, disease and death to a lot of people. So either we have a Government who cannot conceptually link deep sea oil exploration with the human impacts of climate change, or we have a Government that can, and are pushing ahead regardless. Either way it is deeply concerning.

Our coastlines should not be put at risk to prop up a dangerous industry in its death throes. If an oil spill were to happen off Canterbury's coast, we'd be the community dealing with the emotional aftermath. We've experienced the trauma of losing a city, do we want to invite the trauma of losing our marine ecosystems? Because I guarantee you it won't be oil executives or National MP's clearing oil and dead dolphins from the beaches- it will be us.

As you all know the public are not permitted to formally oppose any of the oil and gas exploration process. We are relying on you, our local body representatives, to be a voice of moral reason. Oceans and coastlines are our home, they are precious to us and to all the other lifeforms that live along them. Putting living ecosystems at risk to pursue fuels that jeopardise humanity's very future on this planet is a very unique kind of wrong. The decisions we make in today's world will affect people we'll never meet, or love, or laugh with. But they're still people, and as human beings I think we have a responsibility to look out for one another. I implore you not only to reject the block offers in the Canterbury Basin, but to stand against the Government's entire deep sea oil agenda. Because no amount of black gold in the world is worth risking human lives for.

Brian Johnson

Summary of Deputation presented to Christchurch City Council

2 November 2016

The views of the Council as expressed in the article in The Press on 2 November did not necessarily represent the view of the people. Many councillors stood as independents. The Council was elected by the people to represent an electorate. Before opposing the block offer the Council should have gone to the people of Christchurch to seek their views on the block offer, either through a sophisticated poll or a genuine referendum.

I am not opposed to oil exploration, and do not support the concerns raised about climate change (Google Dr Patrick Moore).

Rather, like Norway New Zealand should move to a system of state-owned oil so we could reap the financial benefits as Norway has. Norway has a fund of \$850 billion from state-owned oil. Brazil offered three tenders for oil several years ago in which the Brazilian Government would own half the company, offering the other half to prospective tenderers. Brazil also stipulated an amount of oil/gas for local use. There were 20 oil companies that competed for these tenders.

We can strike a good deal. New Zealand should fight for our ownership or our share of the profits.