Before the Decision-Making Committee of the Environmental Protection Authority

Application for Marine Consent for Shell Todd Oil Services Limited

IN THE MATTER OF	**the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012**
AND	**An application by Shell Todd Oil Services Limited for a marine consent for existing and planned future activities relating to the extraction, production and transport of natural gas and condensate at Maui Platform A and B, natural gas field.**

Closing Submission of Climate Justice Taranaki Inc

7 May 2015

www.climatejusticetaranaki.info

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Executive Summary

1. On behalf of Climate Justice Taranaki, I thank the Committee for this opportunity to make our Closing Representation. While CJT opposes the continuance of reliance on fossil fuels for energy, in regard to this application CJT takes the following position:
   a. CJT opposes the proposed drilling of 22 side-track wells or any new wells from Maui A and B in full.
   b. CJT asks that the permit be limited to FIVE years which will allow time for winding down STOS' current operations at Maui as the normal petroleum production curve declines, and time to develop an appropriate decommissioning plan.
2. We reiterate the importance of imposing the conditions we proposed previously in our representations, notably the following:
   a. Exclusion of well stimulation technologies.
   b. At the end of the five years, completion of a detailed decommissioning plan of the Maui facilities including environmental and cultural impact assessment, for consideration for a separate five year permit for decommissioning of the Maui site.
   c. Requirement of a bond to ensure the integrity of all Maui structures are maintained until decommissioning and adequate finance for the implementation of decommissioning.
   d. Requirement of public liability insurance to cover costs for detailed environmental and ecological assessment, restoration and monitoring, in the event of a major incident.

3. Our detailed proposed conditions are ~~listed herein~~ [in our opening address]. I will not reread them at this time, but refer the Committee to them[, other than to add one condition: that EPA compliance and environmental monitoring reports be made publically available. We also wish to note that in respect of proposed conditions of EPA and STOS, the recent legal advice to EPA on STOS' earlier legal submissions, is highly relevant and no doubt will be taken into consideration].

4. We base our position on the evidence of clear conflicts of the STOS Application with Sections 10, 11, 59 and 61 of the EEZ Act.

Rationale

The lack of provision of best available information

5. This assessment under the EEZ Act has required the DMC to make at least three significant requests for additional information from STOS. The independent reviewers commissioned by DMC have also highlighted the lack of actual data available, the vexing issues of shifted baselines and lack of monitoring of key aspects of the project, and the reliance by STOS on information from overseas that has questionable relevance, use of modelling based on such information, and to a large extent, the opinion of their hired witnesses.

6. We appreciate that this issue has been discussed at some length, but we do wish to make a couple of final points.

7. Firstly, in responding to this issue, Ms Devine for STOS contended that: *"In many cases, the gain in scientific knowledge resulting from environmental research may be disproportionate to the time, cost and effort involved."*

8. As far as CJT can ascertain, STOS has provided no information on the actual costs that would have been involved to conduct suitable research and monitoring over past decades, or the time required. CJT note that, over the decades-long operating period of the Maui Field, STOS has actually had plenty of time and has made hundreds of millions, if not billions of dollars, in profit. Surely the costs of conducting appropriate research and monitoring would have been an insignificant proportion of these profits. Yesterday Mr McLay for TRC noted that STOS is one of the largest oil and gas companies globally, with plenty of $ at their disposal.

9. Furthermore, this lack of best available information has occurred despite clear recommendations to STOS dating to 1988 in the Parliamentary Commissioner for the Environment's (PCE) Maui Stage II Development Environmental Impact Audit. The PCE specified that detailed monitoring data should be collected to better inform decision-making. Independent reviewer Dr. Engelhardt, in his Maui Stage II Development

Environmental Impact Report, also concluded: *"A dedicated, properly planned Monitoring programme should be implemented".*

10. CJT conclude that the requirement for provision of Best Available Information has not been met by STOS in respect of numerous issues of the Application. The assessment of environmental effects is incomplete and there has also been inadequate assessment of cumulative effects over the consent duration.

Cumulative Effects and International Obligations

11. Section 6(1d) and Section 59(2a(i) of the EEZ Act deal with cumulative effects, specifically *"any cumulative effect that arises over time or in combination with other effects"*. Section 11 deals with international obligations to treaties and conventions, notably UNCLOS, UNCBD, and also the London Convention on Dumping.

12. CJT concludes that these three sections of the Act are particularly relevant in respect of the fate of threatened and endangered species. CJT acknowledge that there has already been substantial discussion on this, but again wish to make a couple of points.

Threatened and endangered species

13. In her analysis of threat to Maui dolphin (Hearing Day 2 Wellington, transcript pages 198-200), STOS witness Dr. McConnell noted (and I quote)
"MS MCCONNELL: … I understand that whales and dolphins are seen from the platforms so there is a possibility that they may be attracted to some extent. However I think they're a little bit more spooky, if you like, than fur seals so they are probably more likely to keep their distance and, if anything, be displaced from that area where the disturbance was occurring, so the support vessels coming and going, etc. I think they're probably likely to keep a sensible distance."

14. CJT notes that if this is the case, then presumably these animals, and indeed the other 20 plus species of cetacean known to inhabit the area, will need to 'keep a sensible distance' from all the other fossil fuel operations as well, effectively altering or restricting their

movements in a significant area of offshore Taranaki. Of course this is speculation on our part, as the relevant information is lacking.

15. As we discussed briefly yesterday, Dr. McConnell also analysed the Maui dolphin mortality statistics in the report by Currey et al. (2012), specifically in respect of the STOS Maui application, finding low mortality rates from habitat degradation and pollution. Dr. McConnell did not conduct an analysis in respect of the cumulative effects of these activities from all offshore oil and gas mining in dolphin habitat. Yet it was precisely these cumulative effects that were of such grave concern to Currey et al. (2012):

16. *"… while 95.5% of Maui dolphin's mortality is caused by fishing, the remaining were ascribed to other causes such as mining, oil exploration, disease, pollution and boat strikes etc."* (Currey et al. 2012). In order to allow the dolphin population to recover from Critically Endangered to Endangered and eventually to non-threatened, the total level of human impact on Maui's dolphin would need to be kept below one dolphin every 10 to 23 years. Alarmingly, marine mining alone was estimated to cause one Maui's dolphin death every 10 years.

17. Currey et al. (2012) also warned specifically that any increase in mining and other causes of mortality will push the population beyond recovery. These are clearly identified cumulative impacts that are explicitly covered in the EEZ Act, and indeed New Zealand's international treaty obligations. Yet Dr. McConnell did not address these cumulative impacts, and neither did Dr. Childerhouse in his underwater noise modelling.

18. Furthermore, Dr. McConnell in her testimony in response to a question from Ms Pomare (Day 2, Wellington transcript pages 198-200) dismissed the risks of heavy metals.

"MS POMARE: … It occurred to me that the platforms have been there now for a significant period of time and potentially the lead in these heavy metals would have been within the marine environment for a significant period of time too. How long does it take for the breakdown of those sorts of heavy metals, particularly lead, in the marine environment?

MS MCCONNELL: I can't answer that specifically but what I would say is that I think the marine mammals are very, very adept at detoxifying their systems …"

19. CJT notes that Dr. McConnell's opinion is far more sanguine than the published findings of Das et al. (2003), who concluded that: *"the actual toxic effects of heavy metals on marine mammals remain unclear. Are they responsible - even in part - for the decline of some marine mammal species? … that decline is obviously multifactorial: past overfishing, present increasing human activities, accumulation of pollutants among which heavy metals cannot be neglected."*

20. As Prof. Liz Slooten noted in her evidence to the OMV Maari hearing in 2014, *"Research following the 2010 Gulf of Mexico oil spill has provided a large amount of additional data on the impacts of oil spills to cetaceans. Impacts on marine mammals are caused by inhalation, direct contact, and ingestion of oil in or on prey. The health impacts include bronchitis and other lung diseases, tooth loss, inflammation, compromised adrenal function and other changes to metabolism (Schwacke et al. 2014[i])."*

21. Although STOS argue that Maui condensate is very different to the oil spilled into the Gulf of Mexico, it is important to note that in the event of a spill here, eco-toxic volatile hydrocarbons will be on the sea surface, may spread across a large area and be inhaled by marine mammals.

22. If the other Taranaki offshore oil and gas facilities are also discharging heavy metals and other eco-toxic compounds to the marine environment, then again the cumulative risks will be greater, and not only to Maui Dolphin, but to other threatened cetaceans that also forage in the area.

23. CJT was unable to ascertain whether such an analysis of cumulative effects has been undertaken by STOS or indeed any of the other operators in the vicinity.

24. Again Prof. Slooten's evidence in the OMV Maari hearing is entirely relevant: *"Data on the cumulative impact of existing human activities are required in order to evaluate the additional impact of a new activity. In addition, a high standard of evidence that a new activity has little or no impact on dolphins would be expected before allowing the activity*

in the habitat of a Critically Endangered species. Such evidence has not been provided by the applicant".

25. CJT contends that this is also the case in the present application.

26. CJT also note that in their Final Decision on the OMV Maari application, the EPA DMC described Prof. Slooten as *'crossing the line into advocacy at times'.* Whether this comment is valid or not, CJT contend that if New Zealand had more scientific experts who are prepared to advocate on behalf of Critically Endangered species that cannot speak for themselves, our nation would be far better served, particularly in light of New Zealand's international obligations under the UNCBD.

27. In 2014, the International Whaling Commission Scientific Committee emphasized that the current protection measures for the Maui's Dolphin *"fall significantly short"* and recommended a protected area for the Maui's Dolphin to cover its range from Maunganui Bluff in the north to Whanganui in the south, offshore to 20 nautical miles (nm) and including harbours (IWC, 2014). This would include Maui Platform A, which is 18 nm offshore, and is a known part of the Maui dolphin range. So far, the New Zealand government has ignored this recommendation.

Well integrity, stimulation, discharges, injections and disposal of wastes

28. As explained in detail during our opening representation, the drilling of more wells and production over another 35 years will require discharge of significant quantities of contaminants into the sea and onto and into the seabed, and potentially also shipped to land, including ecotoxic chemicals. CJT concludes that this inevitably will result in adverse environmental effects beyond those that can be avoided, remedied and mitigated.

29. STOS propose to dispose of some drilling wastes, notably synthetic based muds, on farmlands. STOS' response to EPA's 21 Jan 2015 further request for information stated: *"Drilling mud management, including monitoring of cuttings discharges and corrective actions in the event of an exceedance to 6.9%, will be the responsibility of M-I SWACO. ...*

Apart from the residual mud discharged on drilling cuttings, all SBM drilling mud will be collected at the end of the campaign and be shipped onshore for disposal."

30. According to Taranaki Regional Council's monitoring report (Nov 2014), one such site for land disposal is the Surrey Road Landfarm adjacent to the Egmont National Park in Inglewood area. Together with the landowner, M-I SWACO manages the stockpiling and landfarming operations. In 2011-13, two incidents were recorded, one impacted on the Mangatengehu Stream, and the operation was rated 'improvement required' by the regional council. CJT has numerous concerns about the practice and regulation of landfarming. Several of these concerns were highlighted by the Parliamentary Commissioner for the Environment in her detailed 2014 report[ii] on the industry.

31. CJT is also concerned about the risks of increased seismicity to the Maui project, other oil and gas operations in the vicinity, and indeed the larger region, from injection of produced water at Maui A-12. There is a strong and growing body of peer-reviewed scientific evidence of increased seismicity from deep well injection happening elsewhere. CJT also notes that much of the infrastructure is aging, particularly the older well casings, as discussed yesterday. These will be increasingly prone to damage, as has also been well documented elsewhere, as indeed onshore in Taranaki by STOS themselves.

32. To briefly reiterate, yesterday CJT presented an industry graph which showed the marked increase in well failure with age. About 5% of all oil and gas wells leak immediately because of integrity issues, and in 20 years, more than half of all wells will leak (Bruffato et al. 2003[iii]). CJT contends that these results do not support the contention by STOS witness Mr. Hey of complete well integrity at Maui.

33. In Day 1 of the Wellington Hearing, Mr Hey stated, *"…we only monitor suspended and producing wells… Wells are either defined as producing, suspended or abandoned".* Table 1 of Bundle of Figures STOS provided earlier listed 26 wells, of which 7 have been abandoned, 15 are producers, 2 are "shut in", 1 suspended and 1 for "water disposal". Table 2 of the Bundle of Figures listed 30 wells that are "plugged & Sidetracked" in addition to 20 "Producer"s, 1 "Water Injector", 4 "Suspended" and 1 blank status. CJT was unable to ascertain how the 30 Plugged and Sidetracked wells are classified or whether STOS monitors them and the Water Injector?

34. Mr Hey went on to say that *"Once the well is abandoned, in accordance with the legislation and also with our own internal standards, then it is formally no longer monitored at all. The well is closed; the files are closed."* This is a significant concern.

The need for a bond and liability insurance

35. As the Parliamentary Commissioner for the Environment (PCE) noted in June 2014: *"The bigger challenge comes once a well has been abandoned. The likelihood of an abandoned well leaking increases with its age… There are also wells abandoned poorly both before and after 1965 that are considered to be at risk of failing and releasing gas into the atmosphere. … who pays when something goes wrong. In particular, it is not enough to abandon wells and assume they will never leak. In Canada, well operators pay a levy into a fund that is then available for cleaning up any contamination in the future. Such a fund can also be used to pay for monitoring the environment – necessary for detecting contamination. Monitoring is a recurring theme in the report, with New Zealand clearly out of step with international 'best practice'."* (Parliamentary Commissioner for the Environment, 2014).

36. The PCE made it clear that: *"The health and safety regulations serve indirectly to protect the environment because they ensure that wells are designed and constructed to prevent well failure. But those who work in the High Hazards Unit have no mandate for protecting the environment. This means health and safety inspectors are not required to … monitor the environment to see if a well is leaking. Indeed, inspectors cannot take environmental effects of leaks into account if they have no potential for harming people. And they have no responsibility for the integrity of abandoned well sites, since they are not workplaces"* (Parliamentary Commissioner for the Environment, 2014). Mr. Vernon from the High Hazards Unit confirmed this point (see Annex 1 for details).

37. CJT contends that the highly fragmented nature of the legislative and regulatory regime, and the treatment of the environment in parts rather than as a whole, means that the environment and existing interests are not properly considered.

38. **This makes a strong case to require a bond to ensure that wells are maintained, suspended and eventually abandoned in a safe manner**, such that after suspension or

abandonment, there can be no unplanned escape of fluids from the well or from the reservoir to which it led (See also HSE PEE Regulations, 2013 s 68).

39. According to the Ministry of Transport (July 2014)[iv]: *"Under Part 26A of the Maritime Transport Act 1994, owners or operators of offshore installations are liable for the full costs related to pollution damage to other parties, and costs incurred by public agencies in preventing, controlling and cleaning up a pollution spill. … Part 102 sits within a wider financial security regime that aims to ensure operators are financially able to meet their proposed activities and subsequent legal obligations. Within the financial security regime, requirements for offshore operators are currently considered at different stages of the regulatory regime by multiple agencies. … Owners and operators of offshore installations are currently required to hold financial assurance of at least 14 million International Monetary Fund Units of Account. This is equivalent to approximately NZ$26 million….*

40. Based on previous international incidents, and requirements in other jurisdictions, any significant incident is likely to exceed the current minimum fixed level of NZ$26 million. Should an owner or operator not have the financial capability to pay all response costs and compensation in the event of a spill, the current regime exposes the government and the public to the risk of bearing the costs of an incident. … To provide greater protection for the government and other parties until the wider review is completed and implemented, it is proposed that the current minimum requirement be increased to 162 million International Monetary Fund Units of Account, or approximately NZ$300 million."

41. The NZ$20 million of liability insurance that the joint venture partners (Shell, OMV and Todd) hold for STOS (Mr Hey Wellington Hearing Day 1) is therefore far from adequate. To put it in context, the relatively small Rena incident in 2011 cost Maritime NZ $36.8 million. Yet in the conference between EPA expert Ms Couzens and STOS witness Ms Catherine Clarke, our witness Ms Sarah Roberts' recommendation to include a condition requiring a bond or liability insurance (EEZ Act s 63) was deemed "unnecessary". Given all of the above, CJT finds this conclusion from the conference between Ms Cousins and Ms Clarke to be inconsistent with, and unsupported by, the evidence and clear recommendations of the PCE and Ministry of Transport.

42. In light of these various issues, CJT reiterates our recommendation that EPA require a significant bond from STOS for continued work on the Maui Field, consistent with EEZ Act Section 63 which refers to "a bond for the performance of any 1 or more conditions of the consent". In CJT's view, a bond is required to ensure that all wells and infrastructure are maintained beyond production life and until the time of abandonment and decommissioning. An adequate liability insurance is also required to cover costs for environmental / ecological assessment, monitoring and restoration, in the event of a major unplanned incident. CJT believes that the requirement for liability insurance for pollution damage and economic loss of existing interests are under Maritime Transport Act 1994 and Marine Protection Rule Part 102.

Decommissioning

43. EPA expert Ms Gemma Couzens, in her evaluation report, said *"… the requirement to decommission the facilities cannot be imposed as a condition of consent by the EPA*".

44. Ms Couzens' evaluation was written prior to STOS' reply on 17 April 2015 which revealed that, "STOS has started planning for decommissioning" and "*5 years of planning (and related stakeholder engagement) would preferably commence 5 years before production ends"*, followed by *"approximately 5 years to execute the physical removal"*.

45. If STOS has indeed started planning for decommissioning, then CJT contends that there should be a condition that specifies the requirement of a detailed decommissioning plan, including comprehensive environmental and cultural Impact Assessments, to be provided to EPA at expiry of the next consent period, which we strongly recommend be five years.

46. CJT disagrees with Ms Devine's legal submission for STOS (Hearing day 1, Wellington, transcript parg 169(ii)) that "*it is not for this Committee to identify the scope of future activities*". We contend that the Committee should identify what future activities are necessary to help avoid, remedy and mitigate the adverse effects, both individually and cumulatively, of the more immediate activities, and impose conditions to ensure that those future activities will be implemented.

47. CJT contends that the potential for significant adverse consequences exists if decommissioning and remediation are not properly conducted. An example has been provided very recently, when earlier this year publicly-owned Waterfront Auckland was ordered to pay Mobil almost $1 million in court costs for Waterfront Auckland's failed attempt to get Mobil to pay for cleaning up a heavily contaminated area of Wynyard Quarter (NZ Herald, 30 March 2015[v]).

48. *"Mobil Oil leased two properties in Auckland's waterfront 'tank farm' for more than 50 years. When Mobil's lease for the two sites ended in 2011, it was found the land they were on had been heavily contaminated… other oil companies as previous tenants and neighbouring tenants all contributed [to the contamination] too… Justice Sarah Katz in February last year* ***decided that Mobil was not contractually obliged*** *to decontaminate the subsurface of the land"* (Judgement of Katz J, 7 Feb 2014[vi]). Like STOS, Mobil is one of the largest corporations on the planet.

49. CJT contends that this incident highlights the absolute necessity that any consent conditions that are included in a future permit are explicit in requiring proper decommissioning (including decontamination and remediation of the site). This will require a bond to ensure that proper planning and implementation of decommissioning will occur, given the high costs and complexity involved and the adverse effects of improper decommissioning.

50. While the precise, detailed activities involved in decommissioning may not have been identified, it is clear that at least some of those would fall under the restricted activities in EEZ s20.

51. CJT concludes that a condition requiring that a detailed Decommissioning Plan with comprehensive environmental and cultural assessment should be completed before the end of production, and within five years of issuance of the permit, is reasonable and necessary.

52. Please refer to our opening submission for our proposed conditions in detail.

The Legislative Regime: lessons of history, natural justice and a level 'playing field'

53. Back in 1988 before the Maui B platform was developed, Peter Winter, then Chairman of the N. Taranaki Branch of the Royal Forest and Bird Society made this submission: *"… I strongly oppose the profligate use of hydrocarbons at a time when such use, combined with the destruction of forests, is threatening world climate. As a New Zealander I deplore the extravagant waste and damage to the economy from producing and selling petrochemical products at depressed prices on a world market … this letter is to protest about the arbitrary emasculation of environmental law by the declaration that 'the wise use and management of a New Zealand resource' may not be used in argument. … In conclusion, I would suggest, at a time when resource management law is being reviewed, there is little wrong with existing laws* ***excepting when they are manipulated or perverted to serve ends other than those intended.****"*

54. It seems history may be repeating itself with the EEZ Act, perhaps with a new twist, with 'secret meetings' between senior STOS executives and government ministers in 2012 and 2013, the detailed minutes of which remain unavailable to the public despite concerted attempts to obtain them. As the NZ Herald reported in May 2013:

    "Documents released … under the Official Information Act show Mr Joyce had back-to-back meetings last September with Shell New Zealand chairman Rob Jager, business advisor Chris Kilby and chief executive of the Petroleum Exploration and Production Association David Robinson. … the papers showed Energy and Resources Minister Simon Bridges met with Shell again on February 14, just two weeks before he took a paper on the protest changes to Cabinet" (NZ Herald, 13 May 2013[vii]).

55. Because of the secrecy, it remains unclear exactly how much influence Shell and other fossil fuel majors may have had, behind the scenes, in both developing and changing the EEZ Act. The current EEZ Amendment Bill may well be another case in point. Perhaps this is just 'business as usual'. [CJT note that STOS has already been non-compliant with the EEZ Act: "The level of non-compliance highlights a need for greater regulatory oversight" (EPA Memo, 20 June 2014)]

56. Perhaps our government has forgotten the father of modern economics, Adam Smith, who had this to say some 250 years ago in *'The Wealth of Nations'* (1776[viii]):
"The proposal of any new law or regulation of commerce which comes from this order [ie. industrialists], ought always to be listened to with great precaution, and ought never to be adopted till after having been long and carefully examined, not only with the most scrupulous, but with the most suspicious attention. It comes from an order of men, whose interest is never exactly the same with that of the public, who have generally an interest to deceive and even to oppress the public, and who accordingly have, upon many occasions, both deceived and oppressed it." (Chapter XI, Part III, Conclusion of the Chapter, p. 292).

57. The explicit exclusion from the EEZ Act in Section 59(2) of consideration of effects of emissions on climate change is another classic case in point. This would indeed be laughable if it were not so serious.

58. *C*JT wishes to show a brief video of Lord Oxburgh, the former head of Shell UK.

59. Having watched the video, it is important to note that these very relevant comments were not made this year, or last year, or even five years ago. These comments were made in 2005. In the subsequent decade the situation has deteriorated significantly. The degree of concern and need for urgent action expressed by Lord Oxburgh are found right across the scientific spectrum, including those 'radical greenies' at the American Association for the Advancement of Science and British Royal Society, and indeed among many submitters to this application.

60. . Here is what the AAAS had to say back in 2007:

61. *"The scientific evidence is clear …. Accumulating data from across the globe reveal a wide array of effects: rapidly melting glaciers, destabilization of major ice sheets, increases in extreme weather, rising sea level, shifts in species ranges, and more. The pace of change and the evidence of harm have increased markedly over the last five years. … Delaying action … will increase the environmental and societal consequences as well as the costs. The longer we wait …, the harder and more expensive the task will be."*

Concluding remarks

62. With significant divestment, abolition of perverse subsidies and the rapid development and increasing cost-effectiveness of clean renewable energy, and with increasing interest in environmental accounting and ecosystem services, significant reserves of fossil fuels will become stranded assets in coming decades.

63. The International Energy Agency and World Bank, among others, have warned that we must leave most of the remaining fossil fuels in the ground if we are to avoid catastrophic impacts of sea level rise, ocean acidification, increasingly extreme weather, and yes, even climate change.

64. In respect of the perceived economic benefits and losses, significant costs to other industries, notably fisheries and aquaculture and coastal infrastructure, are already accruing, and will accrue more rapidly in coming decades from continued exploitation of fossil fuels.

65. These are important reasons for having the security of a bond and liability insurance, and for a permit duration of five years, and certainly not 35 years.

66. Our world is changing fast, and CJT contend that the DMC decision should provide and enable future decision makers with full powers to review the Maui project, and indeed other fossil fuel projects in the EEZ, in a timely manner and without the restrictions that would be placed by a multi-decadal permit.

67. Hence CJT propose the following key conditions for the present permit application:

a) All production and associated discharges cease after the first 5 years.
b) Detailed decommissioning plan and consent application (including environmental and cultural assessment) completed for approval at the end of the 5th year.
c) Maintenance of all structures until actual decommissioning.
d) A bond and liability insurance to ensure the last 2 points will be implemented.

68. Climate Justice is as much about alleviating the cause and effects of climate change impacts as about fostering social justice – including justice for future generations who

don't yet have a say. What will our children and future generations think when they learn that we, their predecessors, have not only burnt the fossil fuel, but also seriously, potentially irreversibly on human time scales, damaged the life supporting system of the planet on which we live, all with full knowledge of the consequences of our actions?

69. This is not the future we aspire to. This is not the future we have to accept. New Zealand has the capacity, indeed duty, to lead the world away from such a future in these crucial coming decades. Are we capable of doing so?

70. CJT thanks the EPA and DMC for the opportunity to make these representations on this important application.

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[i] Schwacke, L.H., et al. 2014. Health of common bottlenose dolphins *(Tursiops truncatus)* in Barataria Bay, Louisiana, following the Deepwater Horizon oil spill. Environ. Sci. Tech. 48: 93-103.

[ii] Parliamentary Commissioner for the Environment, 2014. Drilling for oil and gas in New Zealand: Environmental oversight and regulation. http://www.pce.parliament.nz/publications/all-publications/drilling-for-oil-and-gas-in-new-zealand-environmental-oversight-and-regulation

[iii] Bruffato, C., J. Cochran, L.C.D. Power, S.Z.A.A. El-Zeghaty, B. Fraboulet, T. Griffin, S. Munk, F. Justus, J. Levine, C. Montgomery, D. Murphy, J. Pfeiffer, T. Pornpoch and L. Rishmani, 2003. From mud to cement-building gas wells, Schlumberger. *OilField Review*, 62-76, Autumn, 2003.

[iv] Ministry of Transport – Marine Protection Rule Part 102 – questions and answers. http://www.transport.govt.nz/sea/marine-protection-rules-part-102/part102-q-and-as/

[v] Mobil wins nearly $1m court costs from Waterfront Auckland, NZ Herald, 30 March 2015. http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=11425354

[vi] Judgement of Katz J, 7 February 2014. http://s3.documentcloud.org/documents/1697620/waterfrontpdf.pdf

[vii] http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10887489

[viii] Smith, Adam, 1776. An Inquiry into the Nature and Causes of the Wealth of Nations.