OMV Maari Field Development: Application for marine consent

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Climate Justice Taranaki (CJT) hereby states its <u>opposition</u> to the OMV Maari Field Development application for marine consent, based on the following grounds.

- 1) The drilling program will further threaten the survival of endangered marine mammals, notably the Maui's dolphin and Blue whale.
- 2) The risks to marine life, coastal ecosystems, fisheries, local livelihoods and economy are too great if a major oil spill occurs.
- 3) The application and impact assessment do not meet all the requirements of the EEZ Act, notably assessment of cumulative effects on marine mammals (i.e. considering also the impacts from fishing and other current and planned petroleum and mineral exploration and mining activities in the area) and ecosystems.
- 4) The analysis on economic benefits ignores potential costs and opportunity loss.
- 5) The need to keep fossil fuels in the ground and transition onto renewable energy to meet the target of 2 degree C increase in global air temperature, to avert catastrophic climate change.
- 6) Reservations on the composition of the Decision Making Committee, noting members' expertise and particular members' past interest.

1. Endangered Marine Mammals

Section 59(2)(e) of the EEZ Act requires Environmental Protection Authority (EPA) to consider "the importance of protecting rare and vulnerable ecosystems and the habitats of threatened species."

NZ is also a signatory to the Convention on Biological Diversity (CBD, 1992) and therefore has the obligation to conserve biodiversity and to protect and prevent the demise of threatened and endangered species and ecosystems. The EEZ Act section 11 (b) states the importance of NZ's international obligations, including the CBD.

The drilling program will further threaten the survival of endangered marine mammals, notably the Maui's dolphin *Cephalorhynchus hectori maui* and Blue whale *Balaenoptera musculus*, by way of increased noise in the marine environment, increased ship traffic, dumping of drilling wastes (containing toxic components) and accidental spills into the sea (See also section 2).

The drilling program will last for 420 days during which noise from drilling, ship and helicopter traffic and explosions under the seabed will occur. This has the potential to cause direct and indirect adverse effects on marine mammals and other species in the area. Increased vessel traffic

associated with the drilling program and subsequent production will increase the risks of marine mammal casualty from ship strikes.

There is increasing recognition among scientists and regulators that in addition to serious, direct impacts from intense noise from sonar and seismic surveys, low-frequency noise such as that generated from shipping and possibly drilling beneath the seabed, can have profound, indirect impacts on marine mammals (Simmonds, et al., 2014 and references therein).

Numerous scientific reviews covering noise from sonar, seismic surveys, offshore construction, shipping and other activities have considered "evidence showing how noise can reduce communication ranges and obscure sounds of interest (known as masking), disrupt reproductive behaviours (including by causing cessation of singing and possibly also mother-calf separations), affect energetic budgets through interference with foraging and increased travel, exclude animals long term from certain important habitats, induce chronic stress responses, cause temporary or permanent loss of hearing sensitivity, induce physical injury and, in extreme cases, cause animals to die" (Simmonds, et al., 2014).

Any one or a combination of such effects on an endangered marine mammal can be catastrophic.

1.1 Maui's Dolphin

In the case of the Maui's dolphin and other marine mammals, noise disturbance can confuse the animals, making them more vulnerable to fishery bycatch.

The International Whaling Commission (IWC) Scientific Committee, in its 2014 conference in Slovenia, "reiterates its extreme concern about the continued decline of such a small population as the human-induced death of even one dolphin would increase the extinction risk for this subspecies. It also reiterates that rather than seeking further scientific evidence it is of highest priority to take immediate management action ... The Committee re-emphasises that the critically endangered status of Maui's dolphin and the inherent and irresolvable uncertainty surrounding information on small populations, require the implementation of precautionary measures" (IWC, 2014).

At the IWC conference, Prof Liz Slooten of Otago University, pointed out that "to avoid further population declines it is also important to avoid adding new activities off the west coast of the North Island such as ... marine mining, and to manage existing threats such as pollution". Indeed, for a species at the brink of extinction, any added adverse effects or stress to the animals can be the 'last nail in the coffin'.

1.2 Blue Whale

The Blue whale which occurs year-round off the North Island west coast, is another endangered marine mammal (IUCN 2014) threatened by the OMV proposal. A potentially critical foraging ground has recently been discovered in the South Taranaki Bight (STB) – it is one of just five known

foraging grounds for the species in the Southern Hemisphere outside Antarctic waters. The STB area has the most extensive zooplankton biomass of all coastal regions in NZ (Bradford & Roberts, 1978), a likely key reason for the presence of the whale. Because of the reliance of the Blue Whale on the large aggregations of euphausiid prey in the STB, protecting its feeding ground is fundamental to enhancing its recovery (Torres, 2013).

Various studies have shown that shipping and seabed mining activities impact Blue whales directly, alter their behaviour and degrade their habitat. "Anthropogenic noise, even at frequencies well above the blue whales' sound production range, has a strong probability of eliciting changes in vocal behavior. The long-term implications of disruption in call production to blue whale foraging and other behaviors are currently not well understood" (Melcón, et al. 2012).

Noise from drilling, vessel traffic, machinery and possibly explosions associated with the OMV program will adversely affect the Blue whale in the area. Moreover, the shipping lane north of the Maari Field runs within 10 km of 14 Blue Whale sightings examined in Torres (2012). Increased vessel traffic during and after the proposed drilling program (once production starts) will increase the risk of ship strike casualty on this endangered species.

2. Oil Spills and Discharge of Contaminants

Section 59(2)(d) and (e) of the EEZ Act requires EPA to consider "the importance of protecting the biological diversity and integrity of marine species, ecosystems, and processes" and (e) "the importance of protecting rare and vulnerable ecosystems and the habitats of threatened species."

The <u>UN Convention Law of the Sea</u> (UNCLOS) Article 145 requires authorities to protect the marine environment from harmful effects such as pollution, drilling, disposal of waste, construction and operation of installations, and to protect and conserve natural resources and prevent damage to flora and fauna of the marine environment (UNCLOS, 1982).

UNCLOS Article 194 requires states to undertake all measures consistent with the Convention to prevent, reduce and control pollution of the marine environment from any source. The latter includes the release of toxic, harmful or noxious substances by dumping, pollution from installations, etc.

The NZ government, being state party to UNCLOS, has the obligation to meet its statutory requirements. OMV's impact assessment (IA) has no reference to UNCLOS. <u>Will EPA be considering</u> the UNCLOS requirements when evaluating the consent application?

There are significant risks on the marine environment, biodiversity, ecosystems and threatened species from a major accident such as an oil or hazardous or noxious substance spill, as well as from routine, operational discharges of contaminants, especially considering the cumulative effects.

There have already been two significant oil spills associated with offshore oil and gas production in NZ in recent years, both associated with Floating Production, Storage and Offload (FPSO) facilities: AWE's Tui field FPSO spilled 20-25 tonnes of oil in 2007 and OMV's Maari field FPSO spilled 1 tonne in 2010, the latter reaching the Kapiti coast. In the past ten years, Taranaki has suffered eight oil spills of varying magnitudes and many other accidents associated with the petroleum industry (Climate Justice Taranaki, 2013).

There is no doubt that the risks of spills and catastrophic accidents are increasing, with greater number of wells, extensive lengths (kilometres) of horizontal /directional drilling (5 side tracked from old wells and 2 new wells) and between the Well Head Platform (WHP) and FPSO, accompanied by increased activities associated with offshore storage and offloading of oil to shuttle tankers.

Note the Discharge Management Plan (DMP) approved by Maritime NZ refers to only five wells, although OMV is seeking a marine consent from EPA for development drilling of up to seven wells. Note also the IA states that jack-up rigs (e.g. E 107) can only be placed in relatively shallow water, usually less than 110 m deep. The Maari WHP is in 103 m of water and is thus barely within the operational limits of E107.

NZ has little capacity for dealing with offshore spills (Radio NZ, 20 April 2011). The closest location of specialist oil spill response equipment and resources that OMV can access in the event of a major spill is in Singapore, as stated in the IA.

2.1 Marine Mammals, Seabirds and Internationally Recognised Wetlands

In 2014, the IWC 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 and including harbours (IWC, 2014).

OMV's Maari platform, at 80 km off Opunake, is about 40 km from the IWC recommended protected area for the Maui's Dolphin. Oil could reach this area in less than 5-7 days or quicker in certain weather conditions.

"While the likelihood of a spill in New Zealand may not be high, the consequence of a spill on a small inshore population of cetaceans with a small home range could be catastrophic. The grounding of the MV Rena off the Astrolabe Reef, off Tauranga in 2011 highlighted the potential impact ... it is not just the oil itself that may impact on the dolphins, but many aspects of an oil spill response will have direct or indirect effects on the population, eg, the use of dispersants to clean up the oil, increased vessel activity in the area, the use of sonar for tracking lost cargo etc." (MPI and DOC, 2012).

OMV's IA lists three Nationally Critically seabirds: Antipodean albatross *Diomedea antipodensis antipodensis*, Gibson's albatross *Diomedea antipodensis gibsoni* and Salvin's mollymawk

Thalassarche salvini, the Nationally Endangered Black-fronted tern *Chlidonias albostriatus* and the Nationally Vulnerable Black petrel *Procellaria parkinsoni* and Flesh-footed shearwater *Puffinus carneipes*, as potentially present in the permit area. It also lists 13 seabird species which breed in the surrounding coastal area, including four endangered or vulnerable species.

Manawatu Estuary, a Wetland of International Importance declared under the RAMSAR Convention, provides feeding ground for migratory and resident birds and breeding grounds for native fish (Ramsar, 2000). Threatened species in this area include the Nationally Critical NZ shore plover (Thinornis novaeseelandiae), Black-billed gull (Larus bulleri) and Fairy tern (Sternula nereis davisae), the Nationally Endangered Black-fronted tern, and others. OMV's spill model indicates that in all seasons, the area between New Plymouth and Levin has the highest probabilities of coastal beaching in the case of an oil spill. The Manawatu Estuary is located within this area.

<u>Farewell Spit, also a Ramsar wetland</u>, is an important breeding ground for seabirds and a known whale stranding hotspot. Its mudflats support an immense biomass of invertebrates, birds and fish – with flow on benefits across Golden Bay and beyond (Robertson, 2013). Merely 67 km from the OMV Maari platform, it will take just 7-14 days for oil to reach the shore of Farewell Spit, or as little as 1-2 days in certain weather conditions, according to OMV's IA and supplementary information (dated 18 July 2014, made available to public on 24 July 2014).

2.2 Scale and Significance of Effects

The Completeness Evaluation Report commissioned by EPA highlighted clearly the limitations in OMV's impact assessment (IA) in regards to oil spill from loss of well control. Notably "the spill modelling results only presents a very limited amount of information and does not include the more important detail or any quantitative information e.g. average loadings on shore, extent of surface slicks under different spill scenarios. Also, [it] is not related to the locations of specific sensitive resources in adequate detail" (ERM, 2014).

In regards to accidental discharge excluding oil, "the detail... does not correspond to the scale and significance of effects. ... The Discharge Management Plan Summary likewise does not include the level of detail on potential spill scenarios so the scale and significance of the activity is unclear. The significance of effects from these types of spills may not be great, but in the absence of more detail about what substances are held in large quantities and may be spilled this is difficult to determine" (ERM, 2014).

As mentioned earlier, the approved DMP refers to only five wells.

The risks to marine and coastal biodiversity and ecosystems, and more specifically habitats of threatened species, are too great if a major oil spill occurs, as are the impacts on fisheries, local livelihoods, economy and human health. OMV's IA does not provide adequate information and analysis on these risks and potential effects.

A number of marine reserves are threatened by potential oil spills from the proposed program, notably Kapiti Island described by Department of Conservation (DOC) as "one of the nation's most valuable nature reserves" (DOC website), Tonga Island and Westhaven. Several nationally threatened species occur on the coasts of Kapiti Island, including the nationally endangered Reef Heron Egretta sacra sacra and Cooks Scurvy Grass Lepidium oleraceum, both are found on Mana Island as well.

OMV's modelling predicts oil will reach these places in 7-14 days or as quickly as 1-2 days at Westhaven and 3-5 days at Tonga and Kapiti Islands under certain weather conditions. "The impact of an oil spill in these marine reserves could have detrimental effects on biodiversity and the integrity of marine ecosystems and processes", as noted in the IA.

OMV's supplementary information (18 July 2014) includes some details on threatened species and their habitats. E.g. The threatened species found in the Manawatu Estuary (See 2.1) but fails to mention the international significance of Farewell Spit being a Ramsar site as well.

Discussion on the effects on human health that may arise from effects on the environment (EEZ Act section 59(2)(c)) is also limited.

2.3 Accidental and routine discharges of hazardous or noxious substances and contaminants

According to the IA, some 3,000 m³ of drill cuttings is expected from the seven development wells, of which 40% will be produced using synthetic based muds (SBM). Cuttings from SBMs with residual oil content below 4.9% as well as all cuttings from water based muds (WBM), used WBMs, cement slurry, residual milling swarf, completion fluids and oily water from machinery spaces will be discharged at sea.

Following request for further information by EPA, OMV provided tables of drilling fluids hazard classification and usage on 18 July 2014. The tables list 14 chemical products to be used in the WBMs, another 11 in SBMs and 23 'contingency chemicals'.

Many of these products are <u>acutely toxic</u> (e.g. 60 x 55kg drums of Safesolv E in SBM), <u>carcinogenic</u> (e.g. 300 mT of MI Gel in WBM), harmful or very <u>harmful in the aquatic environment</u> (e.g. 1720 x 25 kg sacks of Polypac to be used in WBM; 15 x 50 gallon drums per well of Wellock as a 'contingency product').

Alarmingly, Saraline 185V (base oil of SBM) does not have any NZ hazardous classifications because it has not even been registered in the NZ Inventory of Chemicals, yet 12,000 bbls (oil barrels) will be used each year for this program.

In addition, numerous hazardous chemicals will be involved in the cementing process. E.g. 30,000 x 94 lb sacks of Class G Lafarge Cement (oil well cement) and 250 x 50 lb sacks of Halliburton Gel (bentonite) will be used each year on site. Both are carcinogenic and cause <u>specific target organ</u>

systemic toxicity. 430 x 5 gallon cans of NF-6 (defoamer), Cleanbore (surfactant) and AS-5 (antisludging agent) will also be used each year.

What would be the environmental and health effects should a major spill of these products occur, considering their significant quantities and potential synergistic effects?

What kind of assessment has been conducted to determine the effects of these chemicals as part of the routine discharge at sea?

Importantly, 'completion fluids' will also be discharged at sea. But there is no information or discussion in the IA re the composition, concentration, toxicity or quantity of such fluids to be discharged. The effects on marine ecosystems and human health cannot possibly be fully assessed without full disclosure of substances involved.

For the more toxic components, the 'disperse and dilute' option suggested in the IA will not be effective in mitigating the environmental and ecological impacts of their discharge. Any adverse effects on planktonic productivity can have cascading effects along the food chain, potentially threatening the wellbeing of predators like the Blue Whale, many fishes and seabirds (e.g. shearwaters) that are dependent on the high abundance of zooplankton.

ERM (2014) pointed out, "Discussion of effects of SBM could be better quantified e.g. reiterate potential distribution of these cuttings, how does volume of SBM cuttings and residual concentration of SBM translate to actual contamination levels. ... the information is not adequate to understand the effects".

The supplementary information provided by OMV subsequently remains inadequate. For example, there is no information or discussion about 'production water', its toxicity and quantity to be discharge. It is well known that production water contains contaminants from the drilling process and naturally occurring hydrocarbons, metals and potentially radioactive substances from the formation.

<u>Is 'production water' considered part of the 'completion fluids'? How, how much and where will these be disposed of?</u>

What kind of monitoring will be conducted to ensure that the effects (immediate and cumulative) on the environment will be 'minor' or can be mitigated?

Furthermore, there is no description or discussion on the "<u>water injection</u>" process and chemicals involved, other than the need to modify the equipment on the WHP "to tie-in the additional production and injection".

What exactly does "water injection" involve? A 2013 OMV document stated, "Calcium Nitrate dosing of injection water to control sulphate reducing bacteria" and "Injection under fractured conditions" (Mills and Zelt, 2013).

What chemicals will be involved in the proposed program for "water injection"? How much will be stored and how much will be discharged at sea?

Has hydraulic fracturing been conducted at the Maari site prior to 28 June 2014 before the transitional provisions of the EEZ Act expired? Will fracking be involved in the proposed program to create further fractures?

If yes, what other hazardous substances will be involved and how much will be stored on-site with potential of spillage? Will any of these be discharged at sea?

Without detailed information, presumably provided in the Discharge Management Plan (DMP) submitted to Maritime NZ, it is impossible to comprehensively assess the effects of discharge on the environment and existing interest.

The DMP should be made available to EPA and the public for informed, comprehensive evaluation of the IA and assessment of effects.

3. Assessment of Effects especially Cumulative Effects

The EEZ Act section 39(1)(c) requires an IA to "identify the effects of the activity on the environment and existing interests (including cumulative effects and effects that may occur in New Zealand or in the sea above or beyond the continental shelf beyond the outer limits of the exclusive economic zone)" while section 59(2)(a)(i) states that "EPA must take into account any effects on the environment or existing interests of allowing the activity, including cumulative effects…"

3.1 IA lacks detail relevant to potential impacts

ERM's Completeness Evaluation Report remarked, "In general, IA sections do not demonstrate how a risk based approach has been applied to the impact assessment. While there is a conclusion as to the environmental risk for most impacts discussed, in most cases this has not been justified by discussing the consequence and likelihood of effects on the individual receptors that may be affected by that activity either at all, or in a way that would be apparent to most readers" (ERM, 2014).

More specifically, the discussion of underwater noise generation in the IA "lacks detail relevant to the potential impacts such as the actual duration of the drilling program... and the almost continuous nature of drilling noise during the project. The explanation as to the source of vibration and noise (e.g. in the drill string) is not clearly articulated. ... the number of vessel movements

additional to usual operations and the nature of vessels is not specified. This information is needed to identify the scale of the activity."

Supplementary information was provided following ERM's evaluation, but still falls short of what's required for comprehensive assessments. E.g. the noise levels expected from drill rig (drilling, not drilling, rig tender) are taken from McCauley, 1998. <u>Are there no quantitative figures from more recent studies or directly obtained from the E-107 jack-up rig or similar?</u>

3.2 IA fails to identify and assess the cumulative effects on marine mammals

The EEZ Act section 6(1) explains that 'effect' includes (b) any temporary or permanent effect; (c) any past, present, or future effect; and (d) any cumulative effect that arises over time or in combination with other effects.

The IA fails to identify the cumulative effects of the proposed activities on marine mammals, considering the duration of the drilling program and effects from other activities by OMV and other existing interest groups in the area. It is arguable that 420 days of drilling and other noise should be considered "temporary" for species like the Blue Whale that are dependent on the area for foraging and do not necessarily migrate.

What are the cumulative effects of near continuous noise for 420 days to a sensitive, endangered mammal over time?

How would the animal fare, considering the stress from noise, combined with increased risk of ship strike, and potential health effects from ingesting prey contaminated with discharges from the drilling operation?

The 'zone of influence' from the discharge is beyond 40 km from the release point even though 90% of deposition occurs within that distance.

Critically, the impacts on marine mammals, notably the critically endangered Maui's Dolphin, from fishing, shipping and other current and planned petroleum and mineral exploration and mining activities in and around the area are not taken into account in the IA, making assessment of cumulative impacts impossible.

Note effects from both OMV's current exploration drilling at Whio-1 (PEP51313) immediately south of the Maari development drilling program in question (PMP38160) and its drilling plan in PEP51906 immediately to the north are not discussed at all in the IA.

The Parliamentary Commissioner for the Environment stressed, "the Resource Management Act has never been well-suited to managing cumulative effects because of the way precedents are created. The straw that breaks the camel's back generally receives consent more readily than the first straw" (PCE, 2014). The end result for our endangered species and marine environment will be devastating if this flaw applies equally to the EEZ Act.

As Prof Liz Slooten emphasized, "the Maui's Dolphin's survival is already affected by noise from seismic surveys which travels at least 80 km, right to the coastline."

Can we expect it to survive and recover to a healthy population, while exposing it to an ever increasing range and intensity of threats and stress from drilling noise, waste discharge, vessel traffic as well as the risks of oil and toxic chemical spills, associated with all the other also profit-driven companies (e.g. STOS, AWE, TTR) exploring and extracting petroleum and minerals in the area?

A recent Potential Biological Removal (PBR) analysis commissioned by DOC estimates that "the Maui's dolphin population can sustain [just] one human-induced mortality every 10 to 23 years without impacting on its ability to rebuild to its optimum sustainable population size" (MPI and DOC, 2012). A risk assessment workshop held in June 2012 suggested that "each of the non-fishing-related human-induced threat had between 30% and 60% likelihood of exceeding the PBR, even in the absence of all other threats".

The non-fishing-related threats include seismic survey, seabed mining, commercial shipping, oil spills, etc. The combined cumulative effects of these activities, plus those expected of the OMV program, must be assessed comprehensively in regard to survivorship of endangered marine mammals.

4. Economic benefit, loss and opportunity cost

The section on economic benefits in the IA provides mostly information on jobs and incomes (royalties and taxes) from the oil and gas industry nationwide. There is little quantitative information specific to OMV's Maari field development program. Understandably, the IA omits the fact that NZ has one of the lowest overall tax takes from the oil industry (46 %) compared with other oil producing countries and the world average of 70% (WWF, 2013).

The list of sponsorships/donations represents pittance compared with OMV's annual budget. It'd be naive and short-sighted to consider such sponsorships as economic or social benefits for New Zealand. At best, they are no more than cheap advertising investment for the company.

The projected royalties and corporate tax were estimates based on oil production forecasts, subject to a volatile market. It is increasingly evident that the oil and gas industry habitually inflate their reserve and profit forecasts. "The oil had always been a statistical fantasy. Left out of all the hoopla was the fact that the EIA's estimate was little more than a back-of-the-envelope calculation," said Geoscientist David Hughes, who worked for the Geological Survey of Canada for 32 years (Guardian, 22 May 2014).

Importantly, OMV's analysis of economic benefit does not take into account potential economic losses from a major oil spill including cleanup cost and losses by the fishery and tourism sectors. E.g.

The Gulf of Mexico disaster has cost BP over \$42 billion (The Telegraph, 2013) while the relatively small Rena disaster has cost Maritime NZ \$36.8 million (Morton, 2013).

Abel Tasman National Park, renowned for its golden beaches, sculptured granite cliffs, and world-famous Abel Tasman Coast Track, is one of NZ's most popular tourism destination. Even little Tonga Island Marine Reserve and Kapiti Island Nature Reserve, support a thriving local tourist industry. Should an oil spill occurs, oil can be expected to reach these tourism hotspots within 7-14 days, if not quicker.

What would be the economic losses associated with a major oil spill, considering the damage to the tourism industry?

OMV's analysis also ignores the opportunity loss for not pursuing renewable energy, low-carbon technologies and green economy (Royal Society of NZ, 2014). Statistics New Zealand has valued NZ's global clean, green brand at over NZ\$13 billion while Investment New Zealand estimated that we can create a NZ\$150 billion high-value, low-carbon export economy by 2025 (Greenpeace, 2013).

In terms of jobs, green energy creates four times more jobs than the oil industry globally (Greenpeace, 2013). In NZ, almost half of all jobs and more than 70% of our goods and services exports rely on our clean green reputation. Indeed there is a lot to gain by building on this reputation and a lot to lose by compromising it, by allowing the fossil fuel and other heavy, polluting industries to proliferate, both at sea and on land.

The so-called economic benefit analysis presented in the IA is therefore incomplete and misleading.

5. Climate Change

It is irrational and irresponsible of the NZ government to exclude climate change from the EEZ Act and preclude EPA from considering the effects on climate change when reviewing applications for marine consents and submissions.

The latest IPCC report (2014) pointed out the vulnerability of New Zealand and the world to catastrophic climate events, and the social and economic costs of not acting now. The urgency to transition off fossil fuels is clear.

The Ministry for the Environment acknowledges "New Zealand must adapt to changes in climate and contribute to coordinated international action to reduce greenhouse gas emissions in the atmosphere" (Royal Society of NZ, 2014). The Government has set several targets for reducing national net greenhouse gas (GHG) emissions compared with gross emissions in 1990. Yet under current policy settings, GHG emissions from the energy and transport sectors alone will exceed the 2050 target by 2030.

There is also a need to reduce NZ's exposure to increasingly volatile international price fluctuations and future supply uncertainties.

6. Composition of the Decision Making Committee

Climate Justice Taranaki has serious reservation on the composition of the Decision Making Committee, considering the expertise and declared interests of some of the members. Of the five members of the committee, only two have scientific background with specialist knowledge in marine biology and the environment. One member has been in organisations that were recipients of OMV sponsorships. Another member is a former chief financial officer of Shell Todd.

Given the substantive requirements within the EEZ Act for the EPA to consider "any effects on the environment", the scarcity of environmental expertise in the decision making committee will seriously hamper the ability of the committee to making a science-based decision about the application that truly meets the requirements of the EEZ Act.

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