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OIA-2019-3549

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Mr Stuart Moriarty-Patten
Fyi-request-10540-a0a0cc6b@requests.fyi.org.nz

Dear Mr Moriarty-Patten

I refer to your email of 14 June 2019 requesting, under the Official Information Act 1982 (OIA):

[1] - *how many barrels of petroleum fuel have been used by the NZ Defence Force on a yearly basis for the last decade*

[2] - *What is the cost of the fuel it has bought*

[3] - *Typical fuel consumption in litres per km for vehicles (sky, sea as well as land) used*

[4] - *Does the defence force keep a track of its greenhouse gas emissions*

[5] - *Does it have plans to reduce them* and

[6] - *Have any plans to cut its carbon footprint been implemented already.*

I regret that some of the information you have requested either does not exist, or cannot be compiled in a useful way. Accordingly, I must decline the requests in [1] and [3] under section 18(e) of the OIA: the information requested does not exist.

The following narrative explains the complexity of the questions you raise about fuel consumption when considering the variety of land vehicles, ships and aircraft the New Zealand Defence Force (NZDF) operates, and so the reason these parts of your request are declined.

The NZDF does not purchase fuel in the measurement of 'barrels': this is typically a measure of production and transportation used in the oil industry. The NZDF purchases liquid fuels in litres and also in kilogrammes, depending upon the use (land vehicle, ship or aircraft), but also the location of purchase which may be locally in New Zealand, or anywhere on the globe, particularly for ships and aircraft.

Furthermore, the NZDF purchases different types of fuel for different land vehicles, ships and aircraft. Fuels include diesel, petrol, marine diesel, and different grades/blends of 'kerosene' for aircraft and marine gas turbines.

'Typical' levels of fuel consumption in litres per kilometer cannot be determined. To illustrate: fuel consumption per kilometre for the Navy's frigates varies greatly depending on whether the ship is proceeding under diesel power only, or if it is being propelled by its gas turbines, and the particular conditions in which it is operating.

Ships may also consume fuel when not moving, for example the new dive/hydro ship HMNZS *Manawanui* will often use its ability to 'hover' in one place in the ocean, regardless of tides or currents, and this will consume fuel without progressing any distance in kilometres.

The Army operates vehicles ranging in size from small cars to large buses; light commercial trucks to heavy, all-terrain trucks; and Light Operational Vehicles to Light Armoured Vehicles. Fuel economy for the heavier military vehicles in particular will vary significantly between use on roads or hard ground, and use off-road in the challenging terrain of our training areas.

For NZDF aircraft, fuel burn rates vary widely between aircraft types - from the small Texan T-6 trainer, to the large Boeing B757 transport aircraft, to a variety of helicopter types. With each aircraft type fuel use will vary depending on the type of flying being conducted, the load being carried, and the environment operated in (including weather conditions and altitudes). For helicopters in particular for example, measures such as litres per km are not meaningful.

Although the complexity of NZDF's fuel usage means that I am unable to answer your questions [1] and [3] as specified, I am able to provide a measure of fuel use by the total value of fuel purchased in answer to your question [2], see enclosed. For completeness, this data includes some solid fuels used on camps and bases.

In regards to your questions [4], [5] and [6] the NZDF is aware of the desirability of reducing its platform-related emissions and their environmental impact and is following sustainability guidelines to achieve that aim.

The NZDF does not record the greenhouse gas emissions for its land vehicles, ships and aircraft, for many of the same reasons relating to the complexity of our equipment types and the way that they are operated that would make accurate recording of such data extremely difficult. I must therefore decline to meet your request [4] in any detail, again under section 18(e) of the OIA.

However, this does not mean that the NZDF is not taking action to reduce emissions in a number of ways. The NZDF is replacing older vehicles with new lower-emissions vehicles, including the replacement of diesel-fuelled Administration Fleet vehicles with lower CO_2-emission petrol-fuelled cars and hybrids. The suitability of electric vehicles for the Administration Fleet, including required infrastructure upgrades, is also being actively studied.

The Navy's principal fuel is low sulphur (10ppm) diesel, now used by the entire fleet, reducing harmful emissions compared with previous fuels. The retirement of several platforms recently is augmenting changes within the NZDF's overall fuel usage. The recently-commissioned dive/hydro vessel *Manawanui* is the Navy's first diesel/electric ship. In early 2021, the Navy will take delivery of its new fuel tanker *Aotearoa,* a second 'hybrid' vessel. In addition, the diesel propulsion units in both of these vessels are new generation, high efficiency 'green' units and both of the two new vessels have closed-loop exhaust gas scrubbers to minimise emissions.

The planned replacement of the 1960s-era C130 Hercules aircraft with the modern C130J-30 has the advantage of replacing an old fleet of turbine engines with new

engines that operate much more efficiently. The Air Force has also, over several years, substantially increased the amount of flying training that is undertaken on simulators, reducing the need to use aircraft (and consume fuel) for many training tasks.

Although the NZDF retains much of its equipment for long periods of time, where equipment is able to be replaced, the opportunity is being used to upgrade to more efficient and lower-emission technology.

To illustrate where NZDF is taking action to minimise emissions in areas outside our major equipment fleets, I have also enclosed a note that the NZDF circulated earlier this year: *World Environment Day 5 June*. As well as the request for all members of the Defence Force to help #BeatAirPollution, the note also describes some of the large and small innovations that have been adopted, both in the past and recently, to reduce the Defence Force's environmental impact on Camps and Bases, and how we have encouraged our personnel to take similar action in their personal lives.

Finally, I attach general guidance on the sustainable development of the New Zealand Defence Force that has been issued in *Defence Force Order 23/2007 – Sustainability Commitment and Principles*. That Order has been contributing for some time to the decisions being taken about vehicle acquisitions and the NZDF's overall energy management. I have enclosed a copy of that Order.

Although I have not been able to answer all of your questions as specified, I trust that this response has given you an indication of the actions NZDF is taking to reduce its carbon footprint.

You have the right, under section 28(3) of the OIA, to ask an Ombudsman to review this response to your request.

Yours sincerely

A.J. WOODS
Air Commodore
Chief of Staff HQNZDF

Enclosures:

1. *New Zealand Defence Force fuel expenditures, Financial Years 2010/11 to 2018/19*
2. *World Environment Day 5 June*
3. *Defence Force Order 23/2007 – Sustainability Commitment and Principles*, dated 30 January 2008