

Hon Dr Megan Woods

MP for Wigram

Minister of Housing

Minister for Infrastructure

Minister of Energy and Resources

Minister for Building and Construction

Associate Minister of Finance



04 OCT 2023

Chris McCashin

fyi-request-24059-f6367b7f@requests.fyi.org.nz

Ref: OIA 23-135

Dear Mr McCashin

Thank you for your email of 6 September 2023 requesting the following under the Official Information Act 1982 (the Act) (numbering added for clarity):

Please provide all of the known available information relating to the following

1. *Recyclable uses of wind turbines (if any)*
2. *Current tip sites for redundant turbines - where have these been disposed of to date or are they still on the wind farms*
3. *Total power generation per hectare of land required*
4. *Efficiency - ie how much of the time are wind farms generating power - 20%, 30%, 40%?*
5. *Environmental impact assessments of off-shore wind farms*
6. *Total number of solar farms approved*
7. *Total power generation per hectare of land required*
8. *Efficiency - ie how much of the time are solar farms generating power as above*
9. *Current dumping grounds for solar panels and environmental impact assessment of solar farms specifically looking at land contamination*
10. *Can you also please provide the carbon footprint from start to finish for the mining, extraction, manufacturing, transport, supply chains, installation for solar and wind farms.*
In addition to that can you also provide how the government
11. *Tackles exploitation risks in their operations and supply chains for solar panels and wind turbines*
12. *Specifically looking for supply chains for solar farms bulk that require rare earth minerals mined in third world countries contributing to modern slavery*
13. *Is it the Ministers view that solar and wind farms are less harmful to the environment than farming and grazing animals? We have to be living in clown world if that is the case. Solar farms are an eyesore to a country that cares about the environment.*

Please find my responses to your questions below. My response will refer to the following refusal grounds under the Act:

18(d) that the information requested is or will soon be publicly available; and

18(e) that the document alleged to contain the information requested does not exist or, despite reasonable efforts to locate it, cannot be found.

My formal responses under the Act are provided below. However, you should note that the Government deals with some of these issues in a way that does not require specific information to be collected about each of the issues you have raised.

In particular, in relation to your questions about recycling, tip sites and dumping grounds (questions 1, 2 and 9) please note that:

- Companies are required to dispose or reuse their waste as set out under legislation such as the Resource Management Act (RMA) and Waste Minimisation Act (WMA).
- The Ministry for the Environment (MfE) does not track individual products through their lifecycle disposal.

There is also a broader government workstream that is relevant to your questions about exploitation and modern slavery (questions 11 and 12). More information can be found at the following links:

- <https://www.mfat.govt.nz/en/trade/nz-trade-policy/combating-modern-slavery/#bookmark3>
- <https://www.mbie.govt.nz/business-and-employment/employment-and-skills/plan-of-action-against-forced-labour-people-trafficking-and-slavery/modern-slavery/>
- <https://www.beehive.govt.nz/release/business-government-and-ngos-join-end-modern-slavery-and-worker-exploitation>.

I understand that you have another information request with the Minister of Workplace Relations relating to supply chain exploitation and modern slavery. As such, I will not transfer this part of your request, as I expect you will be receiving more broadly relevant information in that response.

1. Recyclable uses of wind turbines (if any)

I do not hold this information, as such uses are dealt with in a generic way through legislation such as the RMA or the WMA. As such, this question is refused under section 18(e).

From an international standpoint, the industry is more advanced than in Aotearoa New Zealand. Wind turbines are generally made from Fibre Reinforced Plastics (FRP), sometimes referred to as composites.

The composite industry includes manufacture of many large components in aircraft, cars, trucks, bathtubs, roofing treatments and other products. In the case of turbine blades, once the metal parts of the blade are removed for recycling, the FRP materials pose more of a challenge.

Often (globally), they end up shredded and used as fillers (in other products), landfills, or incinerated.

In the New Zealand context, commercial wind farms have been built since 1996, so the waste stream is one that will result in higher volumes in decades to come, noting that a wind turbine blade lifespan is ~20 years. Reuse for another application is an option and there is interest in this overseas.

2. *Current tip sites for redundant turbines - where have these been disposed of to date or are they still on the wind farms*

I do not hold this information. Companies are required to dispose or reuse their waste under the RMA and WMA. As such, this question is refused under section 18(e).

3. *Total power generation per hectare of land required*

I do not hold this information. As such, this question is refused under section 18(e).

This could be calculated with information from the companies, and information that is publicly available through the Wind Energy Association, such as here: <https://www.windenergy.org.nz/operating-&-under-construction>

4. *Efficiency - ie how much of the time are wind farms generating power - 20%, 30%, 40%?*

This information can be found here: <https://www.ea.govt.nz/news/general-news/new-paper-wind-and-solar-generation-scenarios/>. As such, this question is refused under section 18(d).

5. *Environmental impact assessments of off-shore wind farms*

I am following debates in other jurisdictions about the environmental impact of off-shore wind farms, and how these are assessed. However, there are currently no offshore wind farms in New Zealand. As such, this question is refused under section 18(e).

6. *Total number of solar farms approved*

Relevant councils approve solar energy farms under the RMA. I do not hold a complete list of approved farms. As such, this question is refused under section 18(e).

However, my officials monitor public sources to maintain a record of solar energy initiatives. Based on publicly available information, there are over 15 new solar generation projects which have had resource consent approved.

7. *Total power generation per hectare of land required*

I do not hold this information. As such, this question is refused under section 18(e).

8. *Efficiency - ie how much of the time are solar farms generating power as above*

This information can be found here: <https://www.ea.govt.nz/news/general-news/new-paper-wind-and-solar-generation-scenarios/>. As such, this question is refused under section 18(d).

9. *Current dumping grounds for solar panels and environmental impact assessment of solar farms specifically looking at land contamination*

I do not hold this information. Companies are required to dispose or reuse their waste as set out under legislation, such as the RMA and WMA. As such, this question is refused under section 18(e). Please also refer to my response to question 2.

10. Can you also please provide the carbon footprint from start to finish for the mining, extraction, manufacturing, transport, supply chains, installation for solar and wind farms.

I do not hold this information. As such, this question is refused under section 18(e).

However, you should be aware that New Zealand's Emissions Reduction Plan includes an action to develop a Circular Economy and Bioeconomy Strategy.

This recognises that circular approaches have a critical role in reducing greenhouse gas emissions. Circular approaches reduce greenhouse gas emissions by radically increasing the efficiency of resources used within the economy. This is achieved by designing out waste and pollution, keeping resources in use for as long as possible, then recovering and repurposing products and materials at the end of their lifecycle. Studies indicate countries can reduce greenhouse gas emissions by 25 to 39% by adopting ambitious circular approaches.

Circular approaches can provide new business and job opportunities, and will help maintain New Zealand's economic competitiveness as global markets demand stronger environmental credentials across value chains.

The Strategy will also provide direction to ensure there are sufficient biological resources to support New Zealand's transition to a low emissions future. There will be significant increased demand for biomass to replace fossil fuels in energy, construction, and other materials. It is important that finite biological resources are used sustainably and for their greatest value, to avoid risks to exports, local economics and the resilience of ecosystems.

The Strategy will lay out how Aotearoa New Zealand can best shift to a more circular economy. It will help identify resource-efficient and innovative uses of bioresources that can reduce emissions and provide broader benefits.

11. In addition to that can you also provide how the government tackles exploitation risks in their operations and supply chains for solar panels and wind turbines

As noted above, exploitation risks are dealt with in a broader way across sectors and Government. This question is refused under section 18(e).

12. Specifically looking for supply chains for solar farms bulk that require rare earth minerals mined in third world countries contributing to modern slavery

As noted above, exploitation risks are dealt with in a broader way across sectors and Government. I do not hold this information. As such, this question is refused under section 18(e).

13. Is it the Ministers view that solar and wind farms are less harmful to the environment than farming and grazing animals?

As set out under section 2 of the Act, official information is information created by a Minister or agency and includes information held in the pursuit of their official functions. It does not apply to requests for opinions. However, I consider that solar and wind farms play a positive role in addressing the impact of climate change.

Where I have used section 18(e) of the Act, I do not believe that the information requested is held by another government agency or crown entity.

You have the right to seek investigation and review of my decision by the Ombudsman, in accordance with section 28(3) of the Act. The relevant details can be found at: www.ombudsman.parliament.nz.

Yours sincerely

A handwritten signature in black ink, appearing to read 'M. Woods', with a stylized flourish at the end.

Hon Dr Megan Woods
Minister of Energy and Resources