

19-D-02355

22 October 2019

Andrew Tipton
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Dear Andrew

Thank you for your email of 13 October 2019, made via the FYI website, requesting the following under the Official Information Act 1982 (the Act):

Dear Ministry for the Environment,

I am currently attempting to reproduce some of the calculations that you made in the 2017 Greenhouse Gas Inventory (published in April 2019). Some questions have arisen around the calculation of item 1.A.1.a, "Public electricity and heat generation".

Section 3.3.6 of the national inventory report indicates that the source of the activity data for this item of the Inventory is MBIE, and that "all thermal electricity generators provide figures to MBIE for the amount of coal, natural gas, and oil used for electricity generation."

The relevant fossil fuel energy consumption figures for the 2017 Inventory are set out in the "CRF tables" spreadsheet, on sheet "Table1.A(a)s1" under heading 1.A.1.a:

*Liquid fuels: 41.12 TJ
Solid fuels: 5681.06 TJ
Gaseous fuels: 57120.83 TJ*

The corresponding data from MBIE is contained in a series of spreadsheets available under the "Energy statistics" section of the MBIE website. [1] These spreadsheets detail the consumption of the different fuels (oil, coal, and gas) for various sectors, including "Electricity Generation". The relevant figures for the 2017 year from these spreadsheets are:

*Oil consumption for electricity generation: 0.06340 PJ (63.40 TJ)
Coal consumption for electricity generation: 5.681059 PJ (5681.059 TJ)*

*Natural gas for electricity generation: 45.693978 PJ (45693.97 TJ)
Natural gas for co-generation: 13.881745 PJ (13881.745 TJ)*

*As you can clearly see, the MBIE figures for coal consumption correspond precisely with the amounts as stated in the Inventory. However, the MBIE figures for oil and natural gas consumption do *not* correspond to the amounts as stated in the Inventory.*

For the gaseous fuels category, the issue of co-generation appears to complicate matters, as some co-generation is included in category 1.A.1.a whilst other co-generation is included within other categories. No explanation is provided that would account for the inconsistency between the Inventory and the MBIE oil consumption figures.

I hope you will agree that it is of the utmost importance that the public have full confidence in the figures contained within the Greenhouse Gas Inventory. Therefore, my questions to you are:

(1) What is the reason for the inconsistency between the figures provided in MfE's GHG Inventory and MBIE's energy statistics publications?

(2) Did you rely upon any additional (non-disclosed) data sources in arriving at the activity data for category 1.A.1.a of the Inventory? If so, can you please describe these additional data sources? If the data source is not currently available to the public, please provide it as part of your response.

(3) How did you determine whether or not a particular co-generation plant's "primary purpose" was to "produce electricity"? For the purposes of reproducing your results, can you please provide a list of the co-generation plants that you evaluated, together with the plant's fuel consumption and the category (such as 1.A.1.a) it was assigned to in the Inventory?

(4) The CRF tables accompanying the Inventory also state the "implied emission factors" for each fuel type. Please explain which data sources you used, and the methodology that you employed, to arrive at the specific emissions factors that were used in the calculation of category 1.A.1.a in the Inventory. If any of the data that you used is not currently available to the public, please provide that data as part of your response.

[1] <https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-statistics-and-modelling/energy-statistics/>

We have transferred your request to the Ministry of Business, Innovation and Employment (MBIE). This is because the information to which your request relates is not held by us, but is believed to be held by MBIE. In these circumstances, we are required by section 14 of the Act to transfer your request.

Yours sincerely



Debbie Bell
Manager, Executive Relation