



To: Dr Michael Spence, Vice-Chancellor **From:** Susan Turner, Executive Director, COS
CC: Stephen Phillips, Vice Principal of Operations
Date: 30 September 2020
Subject: FY19-20 NGER Memo to VC

2020 National Greenhouse and Energy Reporting (NGER) Report

The annual NGER report is due to be submitted to the Australian Government's Clean Energy Regulator (CER) no later than 31 October 2020.

For the 2019-20 NGER reporting year, COS engaged Schneider Electric (the University's energy and carbon consultants) to ensure submitted data is compliant to NGER requirements. Schneider Electric have compiled a summary of the 2019-20 NGER report results, provided in **Attachment 1**.

The 2019-20 NGER report in its entirety is also provided in **Attachment 2**.

Executive Summary

The report shows a 4% decrease in the University's total emissions for the year 2019-20, based on the 2018-19 reporting period. This decrease is primarily attributed to the University's response to the COVID-19 pandemic, which reduced utilisation of space and assets, subsequently reducing energy consumption.

There has also been a slight increase of 3% in solar electricity generated which is attributed to a full reporting year on the solar systems on Faculty of Social Science Building and Administration Building.

Future NGER Forecasts

2020-21 Reporting Period

It is anticipated that the total emissions will increase for NGER 2020-21 reporting period. This increase will predominantly be from an increase in space and asset utilisation as COVID-19 impacts continue to ease, together with a net increase of total GFA of 45,000m² with the delivery of the new transformational buildings Chau Chak Wing Museum, Susan Wakil Health Building and ETP Building becoming operational in 2020 - 2021. The impact of the rise in total emissions has been reduced with inherent energy efficient design of the new buildings, increase in number of solar panels on campus and local energy saving initiatives.

2021-22 Reporting Period

It is anticipated that the total emissions will significantly reduce for NGER 2021-22 reporting period as a result of a procurement exercise being conducted in 2021 and commencing in 2022 to source 100% of electricity from renewable sources by 2025. This is a key component of the University Sustainability Strategy 2020 to achieve net zero emissions from Scope 1 and 2 greenhouse gas sources by 2030.

Recommendation

That the Vice-Chancellor approve via returned signature:


- 1) Submission of the 2020 NGER report on behalf of the VC

If you require further information to assist with the approval of the submission, please do not hesitate to contact me directly.

Regards,

Susan Turner, Executive Director, Central Operations Services

Approval

<p>Report recommended for approval by:</p> <p>Susan Turner  Digitally signed by Susan Turner Date: 2020.10.13 14:23:54 +11'00'</p> <p>Susan Turner Executive Director, Central Operations Services</p>	<p>Report approved for submission by:</p> <p>Dr Michael Spence Vice-Chancellor, The University of Sydney 13/10/2020</p>
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Attachments

Attachment 1: FY19-20 NGER report summary

Attachment 2: NGER Section 19 EERS (Reporting Year 2019 – 2020)

Attachment 1: FY19-20 NGER Report Summary

Background

The National Greenhouse and Energy Reporting Act 2007 (NGER) established the legislative framework for a national greenhouse and energy reporting system. Under the Act, it is mandatory for controlling corporations to submit an annual report to the federal Clean Energy Regulator (CER) when their energy consumption, energy production or greenhouse gas emissions exceed the following thresholds:

- 1) Any facility under the organisation's operational control that emits more than 25,000 tonnes of carbon dioxide equivalent (tCO₂-e) or uses or produces more than 100 TJ of energy (facility threshold – relevant facility must report); or
- 2) The organisation's facilities together emit more than 50,000 tCO₂-e or use or produce more than 200 TJ of energy (corporate threshold – all facilities in the corporate group must report).

In this reporting year (FY2019-20) the University of Sydney is a controlling corporation that exceeds the second threshold, having greenhouse gas emissions of over 99,0000 tCO₂-e and having consumed over 500 TJ of energy.

Annual reporting under NGER is undertaken using the online Emissions and Energy Reporting System (EERS) platform established by the CER.

2019-20 NGER Report Overview

The attached EERS provide in **Attachment 2**, documents the University's energy use, production and greenhouse gas emissions from 1 July 2019 to 30 June 2020 for facilities over which the University had operational control.

Facilities over which the University has operational control was determined previously through a collaboration by The Office of General Counsel and UI Property and Development Division. This was reviewed for 2019-20 and the boundary was found to be consistent with 2018-19.

The 2019-20 report includes energy consumption and associated emissions of electricity, natural gas, diesel and gasoline (petrol). Energy production is reported for electricity generated by the solar PV systems at Camperdown, Darlington and Mallet St campuses, noting there are no associated emissions PV electricity generation, however the solar energy "consumed" and the consumption of the generated electricity are reported as separate line items.

COS have undertaken due diligence to ensure submitted data is compliant to NGER requirements and engaged Schneider Electric (the University energy and carbon consultants) to compile the data and complete online data entry.

Greenhouse Gas Emissions

Scope 1 and 2 greenhouse gas emissions for 2019-20 are outlined below, with 2018-19 reported values included for comparison.

Scope 1 emissions are direct emissions that occur from activities under the operational control of the organisation (e.g. natural gas and transport fuels). Scope 2 are indirect emissions associated with the generation of electricity consumed that is purchased from the grid.

Scope 2 emissions represent the majority (93%) of the University's total emissions.

	Scope 1	Scope 2	Total Emissions
FY 2019-20 (tCO ₂ -e)	6,785	92,252	99,037
FY 2018-19 (tCO ₂ -e)	7,440	95,553	102,993
Variance	-9%	-3%	-4%

University Emission Sources

The table below shows the energy sources for scope 1 and 2 emissions and reportable quantities for FY2019-20 and FY2018-19. Data is collated mainly from utility and fuel invoices.

Scope	Activity	FY 2019-20	FY 2018-19	Variance
1	Natural Gas (GJ)	117,494	128,003	-8%
1	Transport and Stationary Fuels (kL)	284.98	309	-8%
2	Electricity Consumed (MWh)	114,966	117,569	-2%
	Electricity Produced (MWh)	1,058	1,026	3%
	Total Energy Consumed (GJ)	545,742	566,305	-4%

Natural Gas (-8%) and Electricity (-2%)

The decrease in natural gas (-8%) and electricity (-2%) is primarily attributed to the University's response to the COVID-19 pandemic, which resulted in reduced utilisation of space and assets, subsequently reducing energy consumption. These reductions were achieved in the period from mid-March, when the University transitioned to remote learning and working from home, to the end of the reporting period, 30 June 2020.

Electricity Produced (+3%)

There has been a slight increase in solar generation (+3%) in FY19-20 this is due to full reporting year on the solar systems on Faculty of Social Science Building and Administration Building. The solar generation will further increase in next reporting year with the introduction of new solar systems on the new buildings.

Future NGER Forecasts

NGER 2021 (1 July 2020 -30 June 2021)

The University has been implementing a staged Return to Campus plan from 27 July 2020. The plan encourages a combination of remote and on-campus working for most staff with rostering and flexible working arrangements in place. Students have welcomed the return of face-to-face teaching experiences alongside remote learning. We anticipate this new flexible working and teaching arrangement to continue into 2021. These new working arrangements will result in very minor emission reductions associated with the reduce utilisation of space and assets.

The general floor area (GFA) of the University will increase from 802,000 m² to 846,760 m² (net increase of 45,000 m²) with the delivery of the new transformational buildings Chau Chak Wing Museum, Susan Wakil Health Building and ETP Building becoming operational in 2020 - 2021. The increase in GFA will increase the overall energy consumption and emissions in the NGER 2021 reporting period, negating any reduction in emissions achieved through the new flexible working arrangements.

The impact of the rise in total emissions has been reduced with inherent energy efficient design of the new buildings, increase in number of solar panels on campus and local energy saving initiatives.

NGER 2022 (1 July 2021 -30 June 2022)

It is anticipated that the total emissions will significantly reduce for the NGER 2021-22 reporting period as a result of the commencement of the University Sustainability Strategy 2020 initiatives in 2021.

A major electricity procurement exercise will be conducted in 2021, with contract commencing in 2022, to source 100% of electricity from renewable sources by 2025. This is a key component (Target 2, Strategy 8) of the Sustainability Strategy to achieve net zero emissions from Scope 1 and 2 greenhouse gas sources by 2030.