





Re: Official Information Act request – SSD Funded Parliamentary Services solar panel project

Thank you for your email on 13 April 2022, in which you requested details of the Parliamentary Services solar project funded through the \$219.5 million State Sector Decarbonisation Fund (SSDF), which is administered by the Energy Efficiency and Conservation Authority (EECA). Specifically, you requested:

- A copy of the business case and/or the feasibility study that was given by Parliamentary Services to install solar panels under the state sector decarbonisation fund
- A copy of all the written application material that was given by Parliamentary Services to install solar panels under the state sector decarbonisation fund
- A copy of all the written responses from the administers of the state sector decarbonisation fund, in relation to their application to install solar panels

The SSDF supports the Carbon Neutral Government Programme (CNGP) which has been set up to accelerate emissions reductions across the State sector, and highlight the Government's commitment to leadership on climate change to leave a better future for the next generation. The SSDF has a focus on bridging the financial gap between the upfront cost of replacing equipment or vehicles with the cheapest option, and replacing with the most efficient low-emission option.

The following material falls within the scope of your request:

Item	Date	Description	Decision
1	11 - 16 June 2020	Email correspondence between Parliamentary Services and EECA. Subject: Funding.	Release in part
2	28 May - 1 July 2020	Email correspondence between Parliamentary Services and EECA. Subject: Parliament LED Lighting data and July 2019 Solar Cell assessment	Release in part

		Includes attachments: - SEANZ (Sustainable Energy Association New Zealand) Estimate for Parliamentary Services and Treasury (page 6) - Solar PV Project Analysis Report May 2020 (page 8) - Solar PV Project Analysis Report July 2019 (page 14)	
3	16 April - 22 May 2020	Email correspondence between Parliamentary Services and EECA. Subject: Follow up to phone call - EECA & SSDF.	Release in part

I have decided to release the relevant parts of the documents listed above, subject to information being withheld under one or more of the following sections of the OIA, as applicable:

- personal contact details, under section 9(2)(a) to protect the privacy of natural persons, including that of deceased natural persons
- commercially sensitive information, under section 9(2)(b)(ii) to protect the commercial position of the person who supplied the information, or who is the subject of the information.

You have the right, by way of complaint to the Ombudsman, to seek an investigation and review of the Energy Efficiency and Conservation Authority's response to your information request. You can do this by email to info@ombudsman.parliament.nz or by writing to the Office of the Ombudsman, PO Box 10152, Wellington 6143.

Yours sincerely



Andrew Caseley **EECA Chief Executive**

Subject: Funding

From: Dave Wills

Sent: Tuesday, 16 June 2020 12:23 p.m.

To: 'Graham Dray' @eeca.govt.nz>

Subject: RE: Funding

Hi Graham,

Solar Parliament House roof PV Analysis.

Cheers

David Wills

Manager Buildings and Safety

Parliamentary Service Te Ratonga Whare Pāremata Private Bag 18041, Wellington 6160, New Zealand www.parliament.nz

From: Dave Wills

Sent: Thursday, 11 June 2020 9:09 a.m.

To: 'Graham Dray' @eeca.govt.nz>

Subject: RE: Funding

How about 2pm Tuesday shall we make it a coffee

From: Graham Dray @eeca.govt.nz

Sent: Thursday, 11 June 2020 9:06 a.m.

To: Dave Wills @parliament.govt.nz>

Subject: Funding

Hi Dave,

Thanks for the conversation this morning.

There was nothing else to ask.

Out of scope

Can we get together, maybe coffee or at EECA or PS. We need to tie down the funding part,

, so a bit more detail on budget would be good.

Friday mid-morning or Tuesday most of the day looks good currently.

Regards

Grahamn

Graham Dray

Investment and Engagement Group Public Sector



<u>Level 8 · 44 The Terrace · Wellington 6011 · PO Box 388 · Wellington</u> 6140

www.eeca.govt.nz



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A Please consider the environment before printing this email

Subject: RE: Parliament LED Lighting data and July 2019 Solar Cell assessment

From: Dave Wills <a>@parliament.govt.nz>

Sent: Wednesday, 01 July 2020 2:46 PM
To: Paul Bul @eeca.govt.nz>

Cc: Graham Dray @eeca.govt.nz>

Subject: RE: Parliament LED Lighting data and July 2019 Solar Cell assessment

Thanks Paul I look forward to hearing how it goes

From: Paul Bull [@eeca.govt.nz]

Sent: Wednesday, 1 July 2020 11:11 a.m.

Subject: RE: Parliament LED Lighting data and July 2019 Solar Cell assessment

Thanks for confirmation

Paul

From: Dave Wills <a>@parliament.govt.nz>

Sent: Tuesday, 30 June 2020 11:46 AM
To: Paul Bull @eeca.govt.nz>

Cc: Graham Dray @eeca.govt.nz>

Subject: RE: Parliament LED Lighting data and July 2019 Solar Cell assessment

Hi Paul,

All good to include the capital is ring fenced in our capital plan. Note though that once we have the funding then we will prepare the final business case for approval by our CE.

Cheers

David Wills

Manager Buildings and Safety

Parliamentary Service Te Ratonga Whare Pāremata Private Bag 18041, Wellington 6160, New Zealand

www.parliament.nz

From: Paul Bull @eeca.govt.nz]

Sent: Monday, 29 June 2020 9:14 a.m.

Subject: RE: Parliament LED Lighting data and July 2019 Solar Cell assessment

Hi Dave,

Just checking in to gauge response from ELT meeting and that project is good to go for inclusion in paper this week

Paul

From: Dave Wills <a>@parliament.govt.nz>

Sent: Thursday, 25 June 2020 4:24 PM
To: Paul Bull @eeca.govt.nz>

Subject: RE: Parliament LED Lighting data and July 2019 Solar Cell assessment

Hi Paul

Caught up with our CE and DCE Corporate Services this afternoon. They are on board for committing the spending but what to raise it at the ELT meeting tomorrow so I will give you a final yes post that meeting.

Cheers Dave Wills

Level 8 · 44 The Terrace · Wellington 6011 · PO Box 388 · Wellington 6140

www.eeca.govt.nz

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From: Dave Wills

Sent: Friday, 29 May 2020 7:51 a.m.

To: 'Paul Bull' @eeca.govt.nz>; Graham Dray

Subject: Parliament LED Lighting data and July 2019 Solar Cell assessment

Sorry meant to send this through which is the SEANZ proposal that the cost estimates were based on note the no longer applies wed would have to fund it all ourselves.

Cheers

Information withheld under section 9(b)(ii)

David Wills

Manager Buildings and Safety

Parliamentary Service Te Ratonga Whare Pāremata Private Bag 18041, Wellington 6160, New Zealand www.parliament.nz

From: Brendan Winitana

Sent: Thursday, 31 January 2019 10:15 a.m.

To: Dave Wills < parliament.govt.nz >

Cc: @seanz.org.nz

Subject: SEANZ Estimate for Parliamentary Services and Treasury

Hi Dave

Information withheld under section 9(b)(ii)

As discussed please find attached the estimate for Solar PV system(s) for the 2 buildings. As part of this, SEANZ and its members will provide part of the system as per our original offer.

The estimates, as you have requested are at the retail value. The final pricing and acceptance of such, is subject to a final proposal from SEANZ and its members, which will cover off the provisos as detailed in the attached document.

Any questions, please let me know and we will address them as soon as we can.

Thanks and kind regards.

Brendan Winitana Chair | SEANZ





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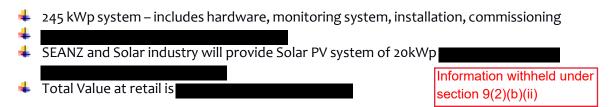


SOLAR PV SYSTEM ESTIMATE FOR PARLIAMENTARY SERVICES

ESTIMATE

Supply, install, implement and commission Solar PV System(s) on 1 or 2 buildings for Parliamentary Services, Wellington.

Main Building



Press Gallery Annex

90 kWp system – includes hardware, monitoring system, installation, commissioning
 Estimate is

Please note the following provisos and overiders to the above:

A final proposal must be supplied before acceptance, taking into consideration the following factors which influence final pricing.

- Position of Inverters
- Solar panel mounting system
- Engineering report
- Length and type of cable run required to access suitable grid connection point
- Accessibility of work site for crane and materials
- Roof loading ability for panel storage
- Switchboard alterations for Solar PV connections
- Solar PV isolation from generator essential supplies
- Work site access and time tabling
- Scaffolding / edge protection
- Exchange rate fluctuation on hardware

From: Dave Wills

Sent: Thursday, 28 May 2020 2:36 p.m.

To: 'Paul Bull' <u>l@eeca.govt.nz</u>>; Graham Dray <u>@eeca.govt.nz</u>>

Subject: Parliament LED Lighting data and July 2019 Solar Cell assessment

Funny just as I sent this I got the updated report from ETS which is attached payback has slightly improved.

Cheers Dave Wills



PARLIAMENTARY SERVICE

Te Ratonga Whare Pāremata

Solar PV Project Analysis Report

May 2020

Prepared for Parliamentary Service By Carbon EMS L6, Waterside House 220 Willis Street PO Box 6004 Marion Square Wellington

Tel: 04 384 6121

Email: general@energyts.com Website: <u>www.energyts.com</u>

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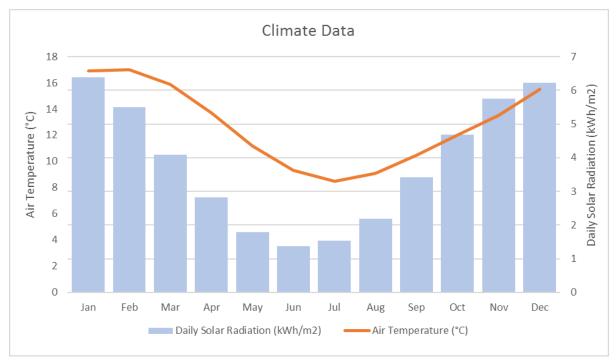
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Solar PV Modelling Assumptions

Climate Data Used

Climate data was modelled from historic average ground-based temperature measurements (MetService) and solar radiation data from satellite readings (NASA).

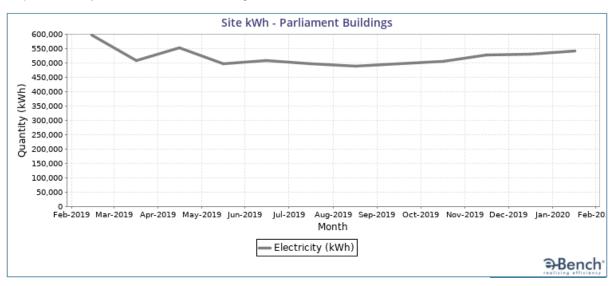
Graph 1: Average climate data for Parliament Buildings



Electricity Data Used

Electricity demand for Parliament Buildings was modelled using e-Bench electricity data for Parliament Buildings from March 2019 to February 2020. This twelve-month period is in line with years 2018 and 2019 which suggests it is not an outlier and thus would serve as a reliable baseline.

Graph 2: Electricity demand for Parliament Buildings



Solar PV Modelling Results

Estimated Solar Production

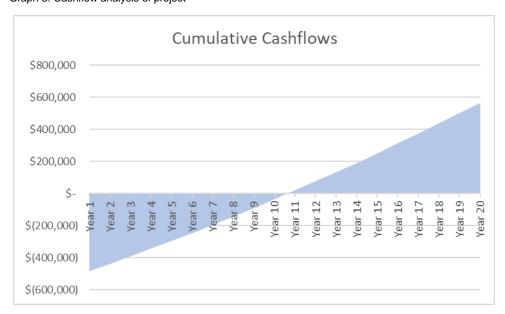
With a capacity factor of 17.5%¹ it is estimated that the solar array would produce 410,844kWh per annum. This would meet 6.6% of the site's annual electricity demand.

Estimated Energy Cost Avoidance

Given that both the operational and maintenance (O&M) costs and the electricity rates have been assumed to increase at a 2% rate (inflation), the average annual energy cost avoidance over the 20-year lifecycle of the panels would be \$55,101 per annum.

Simple Payback Calculation

It would therefore take 10.7 years for the cumulative cashflows of the project to recoup the initial investment cost. This is shown on the graph below.



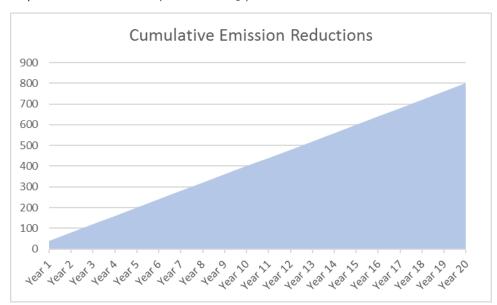
Graph 3: Cashflow analysis of project

GHG Emissions Reduction

As the project will meet an average of 6.6% of the site's annual electricity demand, the project will therefore avoid some future GHG emissions from purchased electricity supplied by the national grid. Given MfE's latest purchased electricity emissions factor, it is estimated that the project will avoid 40.1 tonne/CO₂e per annum.

The project would therefore reduce Parliamentary Service's Scope 2 emissions by 6.6% which is the equivalent of taking 7.4 cars off the road.

Cumulative emissions reductions over the lifetime of the panels will total 1003 tonne/CO₂e as shown below in the graph.



Graph 4: Emissions reductions (in tonnes of CO2e)

Additional Assumptions

1. Seeing as the capacity factor of the proposed panels was unknown for this analysis an estimated 17.5% was used. This falls in the middle of the industry average which ranges from 10-25%.

Source: https://sunmetrix.com/what-is-capacity-factor-and-how-does-solar-energy-compare/

2. O&M Maintenance of 25CAD/kWh/year which is the industry standard as of 1/1/2019.

Source: RETScreen Cost Database, 2019.

3. Conversion rate used for O&M: 25CAD to 29.3937 NZD as of 28/5/2020

Source: https://www.xe.com/currencyconverter/convert/?Amount=25&From=CAD&To=NZD

4. Emissions factor for purchased electricity from MfE: 0.0977kg CO₂e per kWh.

Source: https://www.mfe.govt.nz/sites/default/files/media/Climate%20Change/2019-emission-factors-summary.pdf

- 5. Inflation of 2% was assumed for O&M costs and the price of electricity.
- 6. One car or light truck not used would avoid 5.42 tonne/CO₂e per annum.

Source: RETScreen Database, 2019.

@eeca.govt.nz>

From: Dave Wills @parliament.govt.nz> **Sent:** Thursday, 28 May 2020 2:21 PM To: Paul Bull @eeca.govt.nz>; Graham Dray

Subject: Parliament LED Lighting data and July 2019 Solar Cell assessment

Hi Paul and Graham,

out of scope

Attached is the and also the original report ETS did for us on the Solar Cells. It is nearly 12 months old so I am getting them to update it but this one gives you the general picture.

Cheers

David Wills

Manager Buildings and Safety

Parliamentary Service Te Ratonga Whare Pāremata Private Bag 18041, Wellington 6160, New Zealand www.parliament.nz



PARLIAMENTARY SERVICE

Te Ratonga Whare Pāremata

Solar PV Project Analysis Report

July 2019

Prepared for Parliamentary Service By Energy and Technical Services L6, Waterside House 220 Willis Street PO Box 6004 Marion Square Wellington

Tel: 04 384 6121

Email: general@energyts.com Website: <u>www.energyts.com</u>

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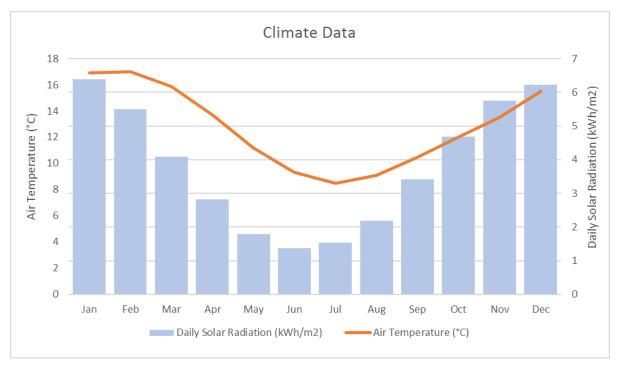
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Climate Data Used

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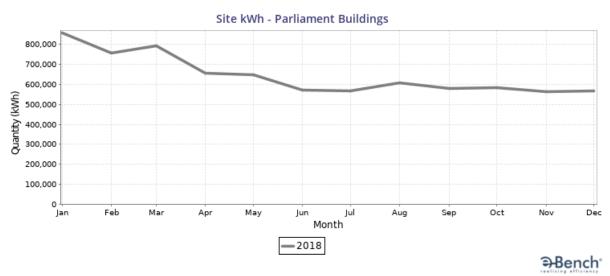
Graph 1: Average climate data for Parliament Buildings



Electricity Data Used

Electricity demand for Parliament Buildings was modelled using e-Bench electricity data for Parliament Buildings for 2018. This year is inline with years 2016 and 2017 which suggests it is not an outlier and thus would serve as a reliable baseline.

Graph 2: Electricity demand for Parliament Buildings



Solar PV Modelling Results

Estimated Solar Production

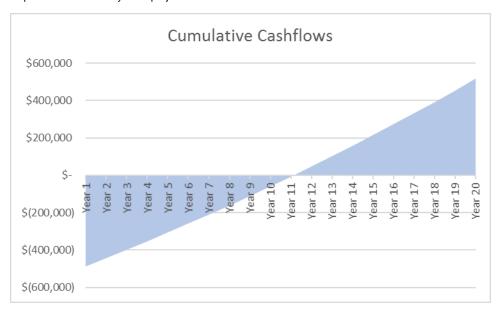
With a capacity factor of 17.5%¹ it is estimated that the solar array would produce 410,844kWh per annum. This would meet 5.3% of the site's annual electricity demand.

Estimated Energy Cost Avoidance

Given that both the operational and maintenance (O&M) costs and the electricity rates have been assumed to increase at a 2% rate (inflation), the average annual energy cost avoidance over the 20-year lifecycle of the panels would be \$52,306 per annum.

Simple Payback Calculation

It would therefore take 10.9 years for the cumulative cashflows of the project to recoup the initial investment cost. This is shown on the graph below.



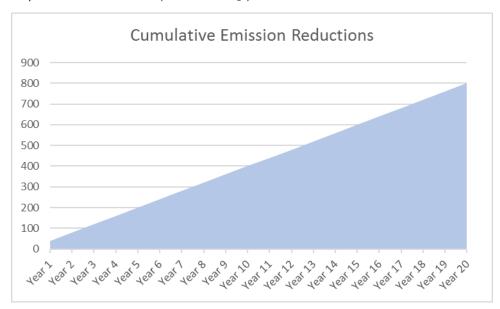
Graph 3: Cashflow analysis of project

GHG Emissions Reduction

As the project will meet an average of 5.3% of the site's annual electricity demand, the project will therefore avoid some future GHG emissions from purchased electricity supplied by the national grid. Given MfE's latest purchased electricity emissions factor, it is estimated that the project will avoid 40.1 tonne/CO₂e per annum.

The project would therefore reduce Parliamentary Service's carbon footprint by 1.8% and is the equivalent of taking 7.4 cars off the road.

Cumulative emissions reductions over the lifetime of the panels will total 1003 tonne/CO₂e as shown below in the graph.



Graph 4: Emissions reductions (in tonnes of CO2e)

Additional Assumptions

1. Seeing as the capacity factor of the proposed panels was unknown for this analysis an estimated 17.5% was used. This falls in the middle of the industry average which ranges from 10-25%.

Source: https://sunmetrix.com/what-is-capacity-factor-and-how-does-solar-energy-compare/

2. O&M Maintenance of 25CAD/kWh/year which is the industry standard as of 1/1/2019.

Source: RETScreen Cost Database, 2019.

3. Conversion rate used for O&M: 25CAD to 28.52NZD.

Source: https://www.xe.com/currencyconverter/convert/?Amount=25&From=CAD&To=NZD

4. Emissions factor for purchased electricity from MfE: 0.0977kg CO₂e per kWh.

Source: https://www.mfe.govt.nz/sites/default/files/media/Climate%20Change/2019-emission-factors-summary.pdf

- 5. Inflation of 2% was assumed for O&M costs and the price of electricity.
- 6. One car or light truck not used would avoid 5.42 tonne/CO₂e per annum.

Source: RETScreen Database, 2019.

7. From e-Bench it was calculated that for 2018 Parliamentary Service's total carbon footprint was 2222.4 tonne/ CO₂e.

Subject: Follow up to phone call – EECA & SSDF

From: Dave Wills <a>@parliament.govt.nz>

Sent: Friday, 22 May 2020 8:11 AM

To: Paul Bull @eeca.govt.nz>

Cc: Graham Dray <u>@eeca.govt.nz</u>>
Subject: RE: Follow up to phone call - EECA & SSDF

Hi Paul,

If you can come to Bowen House that would be great.

Cheers Dave W

From: Paul Bull @eeca.govt.nz]

Sent: Friday, 22 May 2020 7:53 a.m.

Dave,

That works for both of us, we can come to you. Can you just confirm which building you are in.

Thanks

Paul

From: Dave Wills <a>@parliament.govt.nz>

Sent: Friday, 22 May 2020 7:37 AM

To: Paul Bull @eeca.govt.nz>

Cc: Graham Dray @eeca.govt.nz>
Subject: RE: Follow up to phone call - EECA & SSDF

Hi Paul,

Yes I am and keen to catch-up. Any chance you are free at 9am it's the only spare slot I have.

Cheers

David Wills

Manager Buildings and Safety

Parliamentary Service Te Ratonga Whare Pāremata Private Bag 18041, Wellington 6160, New Zealand www.parliament.nz

From: Paul Bull @eeca.govt.nz]

Sent: Thursday, 21 May 2020 7:53 a.m.

To: Dave Wills openics.cov <a hre

Hi Dave,

I trust your 1st day back in the office yesterday was ok for you. Are you back in office next Wednesday? If so can we catch up?

Regards

Paul

From: Paul Bull

Sent: Tuesday, 12 May 2020 10:22 AM

To: 'Dave Wills' @parliament.govt.nz>
Cc: Graham Dray @eeca.govt.nz>
Subject: RE: Follow up to phone call - EECA & SSDF

Hi Dave,

Thanks for the update, and keen to see info when you have had a chance to review. It might be good to schedule another zoom catch up when you do share them with us.

Also keen to catch up, but not sure next Wednesday will work for me, how about the following Wednesday (27th) maybe late morning / early afternoon? At your offices or ours?

Paul

From: Dave Wills <a>@parliament.govt.nz>

Sent: Tuesday, 12 May 2020 6:11 AM

To: Paul Bull @eeca.govt.nz>

Cc: Graham Dray @eeca.govt.nz>
Subject: RE: Follow up to phone call - EECA & SSDF

Hi Paul,

. SEANZ are reluctant to

release the Solar data so I will go back to ETS who originally need the analysis and get a refshed set for the solar cells.

Out of scope

Might be good to have a catch up next week. I am planning to be in the office Wednesdays working from home still the other days.

Many thanks

David Wills

Manager Buildings and Safety

Parliamentary Service Te Ratonga Whare Pāremata Private Bag 18041, Wellington 6160, New Zealand www.parliament.nz

From: Dave Wills

Sent: Tuesday, 5 May 2020 3:14 p.m.

To: Paul Bull @eeca.govt.nz>

Cc: Graham Dray

Subject: RE: Funding

Hi Paul,

I have requested the detailed analysis from SEANZ but have attached their cost proposal.

Out of scope

Cheers

David Wills

Manager Buildings and Safety

Parliamentary Service Te Ratonga Whare Pāremata Private Bag 18041, Wellington 6160, New Zealand www.parliament.nz

From: Paul Bull @eeca.govt.nz]

Sent: Monday, 4 May 2020 11:28 a.m.

 Hi Dave,

Just following up from our recent meeting to see if you have manage to get any info on Solar array project from Brendon @ SEANZ,

Out of scope

Regards

Paul

From: Paul Bull @eeca.govt.nz]

Sent: Friday, 24 April 2020 7:26 a.m.

To: Dave Wills parliament.govt.nz
Cc: Graham Dray @eeca.govt.nz
Subject: RE: Follow up to phone call - EECA & SSDF

Hi Dave,



It would appear that we should also look the solar array project and assess the potential for this project for funding as well (assess the payback and carbon cost/ offset).

Would be good to have another conversation on possibility / timeframes and what information we could look to include in the Aide Memoire.

If you are able to let me know when would be a good time to chat or Video conference

Regards

Paul

Paul Bull

Account Director



Level 8 \cdot 44 The Terrace $\,\cdot\,$ Wellington 6011 $\,\cdot\,$ PO Box 388 $\,\cdot\,$ Wellington 6140

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From: Paul Bull

Sent: Thursday, 16 April 2020 12:53 PM

To: 'David.Wills @parliament.govt.nz>

Cc: Graham Dray @eeca.govt.nz>
Subject: RE: Follow up to phone call - EECA & SSDF

Dave,

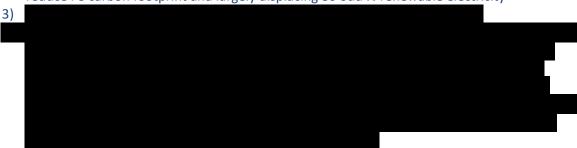
Thanks again for your time on the telephone.

Out of scope

To summarise our conversation, we talked about 4 projects:



2) 250kw Solar array project. I suggested this was out of scope for fund as it was only helping reduce PS carbon footprint and largely displacing 80 odd % renewable electricity



EECA Business Solution	Feasibility Study & Business Case Development for the State Sector
Description	Assessment of the technical and financial feasibility of an energy efficiency or renewable energy project at design phase.
	Demonstrate that the scope of the study has been defined after a reasonable exploration of viable solutions.
	Commit to implementing the project including any commitment to applying for capital funding through the State Sector Decarbonisation Fund. Schools are excluded due to projects being managed by centralised procurement at Ministry of Education.
EECA funding (\$)	up to \$50,000
EECA funding (%)	up to 75%

Out of scope

Regards Paul