
From: BISHOP, Andrew (ISED) <Andrew.Bishop@mfat.govt.nz>
Sent: Friday, 30 October 2020 3:34 pm
To: Andy Reisinger <Andy.Reisinger@mfe.govt.nz>
Cc: Dominic Thorn <Dominic.Thorn@mfe.govt.nz>
Subject: RE: Nuclear power and climate change

CLASSIFICATION

Hi Andy,

Thanks for this – let's confirm 11:00am on Tuesday 10 November?

I had in mind an introductory chat about our respective priorities, and to understand where crossover with debates over nuclear energy tends to occur, so I thought we could grab a coffee somewhere nearby (e.g. Mojo on Lambton Quay, near Bowen House?) – or I'd be happy to come to your office if you'd prefer that.

We would certainly appreciate the chance to benefit from Dom and the team's expertise. At the moment however we are really just starting to think a bit more deeply about the topic at our end (in our International Security and Disarmament team anyway – obviously our climate change colleagues are already well across it!) and consider how they could influence what we want to accomplish during our IAEA BoG tenure. For that reason it might be best to defer a more technical discussion for when we have some more considered questions to ask – but of course I'm open to your views.

Many thanks again – and have a great weekend.

Regards –

Andrew Bishop

Senior Policy Officer

International Security and Disarmament Division
New Zealand Ministry of Foreign Affairs & Trade | Manatū Aorere

M 9(2)(a) E andrew.bishop@mfat.govt.nz

From: Andy Reisinger <Andy.Reisinger@mfe.govt.nz>
Sent: Friday, 30 October 2020 2:03 PM
To: BISHOP, Andrew (ISED) <Andrew.Bishop@mfat.govt.nz>
Cc: Dominic Thorn <Dominic.Thorn@mfe.govt.nz>
Subject: RE: Nuclear power and climate change

Thanks Andrew – Tuesday 10th is currently free for me between 11am and 2.45pm.

Did you want to meet in person somewhere, or just remotely? In case it's remotely, I'm copying my colleague Dom Thorn who is working on science advice and also is the national focal point for the IPCC, whose input may be valuable depending on what additional information you're after. (But he's up north at the moment and I only able to connect on-line at that date I think.)

Cheers, Andy

From: BISHOP, Andrew (ISED) <Andrew.Bishop@mfat.govt.nz>
Sent: Thursday, 29 October 2020 4:37 pm
To: Andy Reisinger <Andy.Reisinger@mfe.govt.nz>
Subject: RE: Nuclear power and climate change

CLASSIFICATION

Hi Andy,

Would a time on Tuesday 10 November or Wednesday 11 November work for you – morning or afternoon? If you have any preference for either of those, I'll send an Outlook request to lock in an appointment.

Many thanks again –

Andrew Bishop**Senior Policy Officer**

International Security and Disarmament Division
New Zealand Ministry of Foreign Affairs & Trade | Manatū Aorere

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From: Andy Reisinger <Andy.Reisinger@mfe.govt.nz>
Sent: Wednesday, 28 October 2020 3:48 PM
To: BISHOP, Andrew (ISED) <Andrew.Bishop@mfat.govt.nz>
Subject: Re: Nuclear power and climate change

Hi Andrew, sure, just send through some calendar invites and we can accept whatever works best for us. Cheers Andy

Sent from phone, forgive typos and odd words

From: BISHOP, Andrew (ISED) <Andrew.Bishop@mfat.govt.nz>
Sent: Wednesday, October 28, 2020 3:29:14 PM
To: Andy Reisinger <Andy.Reisinger@mfe.govt.nz>; Kay Harrison (MFAT) <kay.harrison@mfat.govt.nz>; Helen Plume <helen.plume@mfe.govt.nz>
Cc: DONNELLY, Katy (ISED) <katy.donnelly@mfat.govt.nz>; ROCHE, Katie (CCD) <Katie.Roche@mfat.govt.nz>; Dominic Thorn <Dominic.Thorn@mfe.govt.nz>
Subject: RE: Nuclear power and climate change

CLASSIFICATION

Hi Andy,

Just writing to thank you for the very useful readout below – it provides real food for thought, and will be a good basis for me to try and pose some sensible follow-up questions...!

Could I possibly suggest a time during the week of 9 November for an introductory chat? At this stage I can be flexible to suit your schedule for most of that week, if it worked for you.

Many thanks again, and regards –

Andrew Bishop

Senior Policy Officer

International Security and Disarmament Division
New Zealand Ministry of Foreign Affairs & Trade | Manatū Aorere

M 9(2)(a) **E** andrew.bishop@mfat.govt.nz

From: Andy Reisinger <Andy.Reisinger@mfe.govt.nz>
Sent: Wednesday, 28 October 2020 12:41 PM
To: BISHOP, Andrew (ISED) <Andrew.Bishop@mfat.govt.nz>; HARRISON, Kay (CCD) <Kay.Harrison@mfat.govt.nz>; Helen Plume <helen.plume@mfe.govt.nz>
Cc: DONNELLY, Katy (ISED) <katy.donnelly@mfat.govt.nz>; ROCHE, Katie (CCD) <Katie.Roche@mfat.govt.nz>; Dominic Thorn <Dominic.Thorn@mfe.govt.nz>
Subject: RE: Nuclear power and climate change

CLASSIFICATION

Hi Andrew – some quick thoughts below (personal thoughts only, not calibrated with other colleagues here, i.e. please don't treat as formal advice). Happy to discuss in person at a time that suits, so we can help you find more specific answers and numbers as relevant to your work and posts. Best wishes, Andy

Any comments we can make are only about the GHG emissions side. There are clear downsides to nuclear power from nuclear waste, reactor safety and proliferation risks – but these do not eliminate the potential climate change benefits. It simply means that those non-climate trade-offs have to be balanced against the climate benefits, and it becomes a question of how both sides are weighted.

From a global GHG mitigation perspective, achieving well-below 2 and 1.5°C temperature limits clearly is easier if nuclear power is part of the global mix of energy generation options, and harder if it's not (i.e. in the absence of nuclear power, you need higher carbon prices, accelerate other low-carbon energy sources, and even more stringent mitigation measures to reduce emissions in other sectors for the same overall emissions outcome).

But it is not *necessary* in the sense of being a physical necessity, because of the same reasons: you can/could simply choose to have higher carbon prices and go even harder and faster on all other mitigation options and still achieve the same climate outcome without relying on nuclear power.

Global economic model studies can help quantify how much higher carbon prices the world would need in the absence of nuclear power as an option, and how much total mitigation costs across all sectors would increase (potentially also, how much more carbon dioxide removal we would need). If that's important, we could dig those numbers out (from dim memory, nuclear definitely isn't the most important choice/assumption for the feasibility and cost of achieving well-below 2 degrees, but it's not entirely trivial either).

Recent IEA updates to forecast costs of wind and solar PV may change this a little (in the sense that these technologies are becoming cheaper, and hence nuclear power may become less relevant as low-carbon energy source because it remains high cost) but will not eliminate this tension entirely.

Such GHG mitigation model studies tend to assume global participation – the reality is of course far from such ideal assumptions, and in practice the political economy of power choices, lobby groups etc may matter a lot more for the feasibility of achieving global temperature goals than the idealised carbon price.

So in summary:

- nuclear power is 'good' from a climate perspective (because it increases feasibility to reach a global goal, because can have slightly lower global carbon prices and because you may get greater buy-in from a broader range of stakeholders/countries where nuclear would be a relevant option),
- but it definitely isn't 'necessary' (because there are many other factors at play that could get you to the same global emissions outcome).
- Nuclear power may be 'bad' from a climate perspective because of the significant large-scale infrastructure investment that it requires, and it can therefore crowd out accelerated use of wind or solar PV (where costs have fallen so rapidly that nuclear may struggle to remain cost-effective for any other than very large scales – in which case it becomes simply increasingly irrelevant).
- It may also be 'bad' because uranium mining would also support the mining industry at large, which may prevent a step-change departure from more general reliance on fossil

fuels (not sure how strong a cross-subsidy effect would be and I'm speculating here because I can't point to specific studies on this socio-technical innovation complex that this relates to).

From: BISHOP, Andrew (ISED) <Andrew.Bishop@mfat.govt.nz>
Sent: Tuesday, 27 October 2020 1:35 pm
To: Andy Reisinger <Andy.Reisinger@mfe.govt.nz>; Kay Harrison (MFAT) <kay.harrison@mfat.govt.nz>; Helen Plume <helen.plume@mfe.govt.nz>
Cc: DONNELLY, Katy (ISED) <katy.donnelly@mfat.govt.nz>; ROCHE, Katie (CCD) <Katie.Roche@mfat.govt.nz>
Subject: RE: Nuclear power and climate change

CLASSIFICATION

Hi Andy,

Thank you for getting in touch.

As Kay has mentioned, we would be keen to hear from NZ Inc. climate policy experts regarding claims made by some partners about nuclear power being a potential mitigation and/or replacement for fossil fuel generation, and consequently a valid response to climate change. Our first instinct is to be sceptical about those claims (in terms of managing nuclear security, pollution and waste) but we want to check that we accurately understand New Zealand's approach to nuclear energy in UNFCCC talks to date, and in other climate forums.

The context to this request is that New Zealand has recently taken up a seat on the International Atomic Energy Agency (IAEA) Board of Governors for a two-year term, and we are taking stock of some of our key policy settings around nuclear power generation to better inform our BoG participation and ensure that New Zealand's voice will be heard.

We would be interested to hear your thoughts on this. It would be really helpful to have a summary of key points (as you suggest below) as a starting reference for ourselves and our team at post in Vienna – perhaps we could also meet up for a chat at some point in the next couple of weeks, if that also worked for you? I'd be happy to come over to your office, and we could discuss the topic in a bit more detail.

Many thanks again for your help with this – we look forward to your response.

Regards –

Andrew Bishop

Senior Policy Officer

International Security and Disarmament Division
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From: Andy Reisinger <Andy.Reisinger@mfe.govt.nz>

Sent: Tuesday, 27 October 2020 10:32 AM

To: HARRISON, Kay (CCD) <Kay.Harrison@mfat.govt.nz>; BISHOP, Andrew (ISED) <Andrew.Bishop@mfat.govt.nz>; Helen Plume <helen.plume@mfe.govt.nz>

Subject: RE: Nuclear power and climate change

Thanks Kay, and hello Andrew – happy to chat if that’s useful. I can also write you a brief summary of what I think we can say from a climate change perspective, but will wait to hear from you first about what sort of input you might need. Cheers, Andy

Andy Reisinger | Principal Scientist, Climate Change

Ministry for the Environment – Manatū Mō Te Taiao

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From: HARRISON, Kay (CCD) <Kay.Harrison@mfat.govt.nz>

Sent: Friday, 23 October 2020 6:55 pm

To: BISHOP, Andrew (ISED) <Andrew.Bishop@mfat.govt.nz>; Helen Plume <helen.plume@mfe.govt.nz>; Andy Reisinger <Andy.Reisinger@mfe.govt.nz>

Subject: Nuclear power and climate change

[UNCLASSIFIED]

Kia ora koutou

Helen (Principal Analyst) and Andy (Chief Scientist) – allow me to e-introduce Andrew Bishop

(Senior Policy officer). Andrew works in the area of nuclear things – the IAEA and the like.

Andrew was asking me about the legitimacy of claims made by some that nuclear power generation is good / necessary etc in the context of climate change mitigation. I said that what I mainly hear is calls for an end to fossil fuel use.

I am not sure whether you can have a useful exchange by email but I will leave it to you.

Ngā mihi

Kay

Kay Harrison

Climate Change Ambassador

Climate Change Division

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