

EMISSIONS, THE STRATEGIC OMISSION

CLIMATE SECURITY AND
AUSTRALIA'S NATIONAL
INTELLIGENCE COMMUNITY

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October, 2023

A sub-thesis submitted in partial fulfilment of the degree of Master of Strategic Studies
Advanced at The Australian National University.

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STATEMENT OF ORIGINALITY

I declare that the entirety of the research presented in this sub-thesis is original work, that all sources have been fully cited, and that this sub-thesis has not been submitted for any other qualification.

Signed,

A handwritten signature in blue ink, appearing to read 'Isabelle Bond', with a long horizontal flourish extending to the right.

Isabelle Bond

ACKNOWLEDGEMENTS

I would like to thank my primary and secondary supervisors, respectively Dr. James Mortensen and Associate Professor Jake Blight, who provided me with much guidance and support throughout this process. Their wisdom and knowledge were invaluable. I will be forever grateful.

I would also like to thank my family, particularly my partner, for their patience, unwavering support, and love. I would not have been able to finish this without you.

ABSTRACT

The Australian Government has identified climate change as being a threat to national security, raising the question as to how the extraordinary powers of Australia's security agencies could be utilised. Currently, discourse remains restricted to the tactical capacity of the Department of Defence or intelligence agencies' assessment functions.

Conversely, this thesis outlines strategic opportunities for Australia's National Intelligence Community to substantially enhance the Commonwealth's climate security response. Firstly, the Office of National Intelligence (ONI) is found to be well-placed to develop conceptual clarity surrounding 'climate security'. Hence, the establishment of an ONI-led task force is suggested.

Secondly, it is found that the Australian Geospatial-Intelligence Organisation (AGO) and the Australian Federal Police (AFP) are well-placed to support the monitoring of breaches to specific components of Australia's federal climate change legislation. Additionally, the Australian Criminal Intelligence Commission (ACIC) is found to be able to support both the AFP and ONI in the above endeavours.

Hence, it is recommended that the collection and provision of GHG emissions data be prioritised within AGO, and, regarding the AFP and ACIC, that Subsection 22XF(1) of the *National Greenhouse and Energy Reporting Act 2007* be amended to include a criminal penalty to form a hybrid criminal/civil regime.

Word count: 200

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Given that anthropogenic greenhouse gas emissions pose a threat to security, would increasing the involvement of Australia's National Intelligence Community (NIC) substantially enhance the Australian Commonwealth's current threat response?

INTRODUCTION

Although changes within the Earth's climate system are considered a natural occurrence, the current *rate* of change is unprecedented; inducing conditions likely not observed for hundreds of thousands of years.¹ The cause is unequivocally attributed to anthropogenic greenhouse gas emissions (GHG).² If catastrophic tipping points and cascades are to be averted, global temperatures must not be permitted to surpass 2°C above preindustrial levels.³ Despite this, international emission reduction strategies remain vastly inadequate with carbon dioxide emissions increasing by more than 2% per annum, consequently setting temperatures on route to reach 3.5°C of warming by the end of this century.⁴ As such, it is expected that catastrophic tipping points and cascades will soon be initiated, leading to occurrences such as a decoupling of biotic processes, run-away sea level rise, increases in the frequency and

¹ IPCC, "Glossary of Terms," in *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*, ed. Christopher B. Field et al. (Cambridge, United Kingdom, and New York: Cambridge University Press, 2012), 577; Myles R. Allen et al., "Framing and Context," in *Global Warming of 1.5°C: An IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre-Industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty*, ed. Valérie Masson-Delmotte et al. (In Press, 2018), 54; IPCC, "Climate Change Widespread, Rapid, and Intensifying – IPCC," 2021, <https://www.ipcc.ch/2021/08/09/ar6-wg1-20210809-pr/>.

² IPCC, "Summary for Policymakers," in *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, ed. Valérie Masson-Delmotte et al. (Cambridge, United Kingdom, and New York: Cambridge University Press, 2021), 5.

³ Timothy M. Lenton et al., "Climate Tipping Points — Too Risky to Bet Against," *Nature* 575 (November 2019): 592–95, <https://doi.org/10.1038/d41586-019-03595-0>.

⁴ HM Government, *Global Britain in a Competitive Age: The Integrated Review of Security, Defence, Development and Foreign Policy: Presented to Parliament by the Prime Minister by Command of Her Majesty* (United Kingdom: HM Government, 2021), 31, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/969402/The_Integrated_Review_of_Security_Defence_Development_and_Foreign_Policy.pdf; University of Southampton, "Assessing the Impact of Geo Engineering the Climate," Ocean and Earth Science, National Oceanography Centre Southampton, 2021, https://www.southampton.ac.uk/oes/research/impact_projects/assessing_the_impact_of_geo_engineering_the_climate.page#pro__; IPCC, "Summary for Policymakers," 5.

intensity of natural disasters, famine, mass displacement, enhanced risk of infectious disease outbreak, and a multiplication of the risks involved with other ‘traditional’ security threats.⁵

Australia’s principal strategic ally, the United States (US), has officially declared climate change a direct threat to national security and in 2021 released a ‘National Intelligence Estimate that placed climate change at the heart of America’s security planning’.⁶ The Albanese Government appears to be following suit, stating that ‘climate change...is a national security issue’, and commissioning the development of a security-focused climate risk assessment (2022) led by the director-general of the Office of National Intelligence (ONI).⁷ Calls have been made to use this (yet to be made public) assessment as the basis upon which an Australian climate and security policy be established.⁸ The prospect of Australia developing and implementing a national security response to climate change is the starting point for this thesis.

However, despite calls to implement a national security response to climate change, little information is available, in Australia or elsewhere, as to what declaring climate change a security issue practically entails; that is, what needs to be undertaken or done in practice from a security standpoint. To clarify, it is common to read government statements that identify climate change as a national security ‘risk’ or ‘threat’ due to its influence on, for example, sea level rise, droughts, bushfires, floods, and cyclones, or as a result of its impact on the economy, infrastructure, or community health, and what could or should be undertaken to

⁵ Başar Baysal and Uluç Karakaş, “Climate Change and Security: Different Perceptions, Different Approaches,” *Uluslararası İlişkiler / International Relations* 14, no. 54 (2017): 22, 24–25, 28; Lenton et al., “Climate Tipping Points — Too Risky to Bet Against,” 592–95.

⁶ [Quote]Evan Barnard, Loch K. Johnson, and James Porter, “Environmental Security Intelligence: The Role of US Intelligence Agencies and Science Advisory Groups in Anticipating Climate Security Threats,” *Journal of Intelligence History* 0, no. 0 (December 28, 2021): 2, <https://doi.org/10.1080/16161262.2021.2021687>; “Office of the Director of National Intelligence - Global Trends,” accessed July 15, 2022, <https://www.dni.gov/index.php/gt2040-home/emerging-dynamics>; Australian Government Department of Defence, *2020 Defence Strategic Update*. (Canberra: Commonwealth of Australia, 2020), 4, 7, 22; Foreign Affairs, Defence and Trade References Committee, “Implications of Climate Change for Australia’s National Security” (Canberra, ACT: The Senate, Commonwealth of Australia, May 2018), 30.

⁷ Department of Climate Change, Energy, the Environment and Water, “Annual Climate Change Statement 2022: The First Annual Climate Change Statement to Parliament as Required by the *Climate Change Act 2022*” (Commonwealth of Australia, 2022), 23; William Leben, “Intelligence Agency’s 1981 Assessment of Climate-Change Threat Was Remarkably Accurate,” Australian Strategic Policy Institute, *The Strategist*, December 8, 2022, <https://www.aspistrategist.org.au/intelligence-agencys-1981-assessment-of-climate-change-threat-was-remarkably-accurate/>; *Climate Change Is a “National Security Issue”, Says PM* (ABC News, 2022), <https://www.abc.net.au/news/2022-05-24/climate-change-is-a-national-security-issue-says-pm/13896852>.

⁸ Chris Barrie et al., “Australian Climate and Security Risk Assessment: Implementation Proposal” (Canberra, ACT: Australian Security Leaders Climate Group, June 2022), 3; Leben, “Intelligence Agency’s 1981 Assessment of Climate-Change Threat Was Remarkably Accurate.”

protect from these *specific* threats or risks (manifestations of climate change).⁹ It is, however, much less common to find government statements that comment on what can practically be undertaken to counter the threat of climate change writ large in a security context.

Only two Australian Government references to ‘protection’, as a *practical* response to keep safe from harm or injury (reflecting the ‘ordinary’ and ‘traditional’ understanding of ‘security’, where the use of force, violence, military aggression, or other forms of adversarial interaction is regarded to constitute threats to security), could be found for climate security at large.¹⁰ The first of these reads; ‘The committee [on behalf of the Commonwealth of Australia] emphasises that protecting Australia’s national security in the context of climate change requires not only the whole of government approach being taken by Commonwealth Government agencies but also the ongoing cooperation of communities, academia, the private sector and all levels of government, as well as Australia’s regional and international partners’.¹¹ The second, from the same committee, reads; ‘The committee [on behalf of the Commonwealth of Australia] views climate change mitigation through emissions reductions as a fundamental part of protecting Australia’s national security’.¹²

As anthropogenic GHG emissions are the ‘unequivocal cause’ of climate change, and due to GHG abatement being identified by the Australian Government as a fundamental part of protecting national security, the question arises: Given that anthropogenic GHG emissions

⁹ Foreign Affairs, Defence and Trade References Committee, “Implications of Climate Change for Australia’s National Security,” 91; Department of Climate Change, Energy, the Environment and Water, “Annual Climate Change Statement 2022: The First Annual Climate Change Statement to Parliament as Required by the *Climate Change Act 2022*,” 23; Australian Government Department of Defence, *2020 Defence Strategic Update*, 16; Department of Defence, “2016 Defence White Paper” (Australian Government, 2016), 16, 41, 48, 55, 56; Australian Government Department of Defence, “Senate Standing Committee on Foreign Affairs, Defence and Trade Inquiry into the Implications of Climate Change for Australia’s National Security,” Submission to Senate inquiry (Commonwealth of Australia, August 2017), 3, 6, 8, 10.

¹⁰ Başar BAYSAL and Uluç KARAKAŞ, “Climate Change and Security: Different Perceptions, Different Approaches,” *Uluslararası İlişkiler / International Relations* 14, no. 54 (2017): 27, 29; Matt McDonald, “Securitization and the Construction of Security,” *European Journal of International Relations* 14, no. 4 (December 1, 2008): 578–79, <https://doi.org/10.1177/1354066108097553>; Maria Julia Trombetta, “The Securitization of the Environment and the Transformation of Security,” *University of Nottingham Ningbo China*, 2007, sec. 1, para. 12, sec. 2, para 1, <https://www.researchgate.net/publication/228662377>; C Peoples and N Vaughan-Williams, “Securitisation Theory,” in *Critical Security Studies: An Introduction* (New York: Taylor and Francis, 2014), 98; DC Pearce and RS Geddes, “Approaches to the Interpretation of Legislation,” in *Statutory Interpretation in Australia* (Chatswood NSW: LexisNexis Butterworths, 2014), 35; Robin Creyke, David Hamer, and Patrick O’Mara, “Approaches to Interpretation of Legislation,” in *Laying Down the Law* (Chatswood NSW: LexisNexis Butterworths, 2021), 341, 344; Lukas Milevski, “Western Strategy’s Two Logics: Diverging Interpretations,” *Journal of Strategic Studies*, October 2019, 1–2.

¹¹ Emphasis added. Foreign Affairs, Defence and Trade References Committee, “Implications of Climate Change for Australia’s National Security,” 98.

¹² Emphasis added. Foreign Affairs, Defence and Trade References Committee, 37, 96.

pose a threat to security, would increasing the involvement of Australia's National Intelligence Community (NIC) substantially enhance the Australian Commonwealth's current threat response?

As will be seen, this thesis finds that the answer to the above question is yes - increased involvement of NIC would substantially enhance the Commonwealth's current climate security response. Specifically, due to its assessment and leadership functions, it is found that ONI is well placed to further the conceptual clarity of 'climate security' and hence, identify further opportunities to enhance the Commonwealth's climate security threat response. Furthermore, it is found that the Australian Geospatial-intelligence Organisation (AGO) and the Australian Federal Police (AFP) are well-placed to support the monitoring of breaches to specific components of Australia's federal climate change legislation; the former, due to its existing remit, ability to provision high-quality satellite imagery, and experience in satellite imagery analysis, and the latter due to its surveillance capabilities, domestic intelligence-gathering functions, and democratic safeguards. Finally, due to its role of assessing and provisioning strategic criminal intelligence, the Australian Criminal Intelligence Commission (ACIC) is found well-placed to support the AFP as well as ONI in these endeavours. Enacting these findings would address various weaknesses this thesis identifies within Australia's current climate security strategy.

This thesis employed a qualitative research method, which entailed a combination of discourse, content, and legal analysis. This involved reviewing and critically analysing a range of sources. For example, government documentation and transcripts such as committee inquiries, commission reports, white papers, and departmental reports, were searched to gain an awareness of policy direction and intentions; whereas academic literature, book chapters, and other research theses were largely reviewed to build theoretical understanding. Journals cited multiple times include those such as the Australian Journal of International Affairs, Journal of Strategic Studies, and Nature. Furthermore, texts produced by international organisations, think tanks, and newspapers were consulted to ensure that the discourse and content of other sources were up-to-date and relevant. Finally, regarding the legal analysis, twenty pieces of federal legislation, predominantly regarding NIC, were examined to ascertain agency functions and limitations.

This research was undertaken primarily via internet and library searches, incrementally and longitudinally using keywords such as ‘climate change’, ‘intelligence agencies’, ‘security’, ‘strategy’, and ‘national security law’. During the research’s early exploratory phase, several unstructured focus groups were also undertaken to test hypotheses. Notes from these various methods were recorded and documented.

This combination of discourse, content, and legal data sources ensured triangulation whilst providing a wide and varied scope. It also enabled results to be cross-checked, for example, between academia and government documents, areas of divergence and convergence to become evident, and trends to materialise. Furthermore, considering that this thesis focused on Australia’s NIC, other research methods such as interviews, questionnaires, or surveys, were, due to the classified nature of intelligence, largely redundant. However, this also constitutes a limitation of this thesis, that is, the research conducted was limited to open-source material. As a result, the approach of NIC towards the threat posed by anthropogenic GHG emissions was inferred from their legislative functions, government documents, and academic literature.

Before proceeding, some terms and concepts will be clarified to firstly, set the target of the analysis and, secondly, set the analytical scope. Firstly, since the phrase ‘climate security’ will appear throughout this thesis, it is important to clarify that it refers to security issues that arise as a result of *climate change*. This is a narrower focus than ‘environmental security’, which refers to broader environmental threats, which have and always will provide challenges.¹³ Although difficult, if not at times impossible to distinguish due to their interrelation, the former relates to anthropogenic changes to the gaseous composition of the atmosphere, whereas the latter is a natural phenomenon. For example, projected increases in sea level rise are the result of a warming climate (climate change), whereas, despite the increasing intensity and frequency of bushfires being attributable to climate change, the occurrence of bushfires is a natural phenomenon.¹⁴ In summary, climate security refers to the

¹³ A. V. Whyte, “Environmental Security,” in *International Encyclopedia of the Social & Behavioral Sciences*, ed. Neil J. Smelser and Paul B. Baltes (Oxford: Pergamon, 2001), 4663–67, <https://doi.org/10.1016/B0-08-043076-7/04153-X>; Jon Barnett, “Environmental Security,” in *International Encyclopedia of Human Geography (Second Edition)*, ed. Audrey Kobayashi (Oxford: Elsevier, 2020), 247–51, <https://doi.org/10.1016/B978-0-08-102295-5.10789-9>.

¹⁴ Nicky Phillips and Bianca Nogrady, “The Race to Decipher How Climate Change Influenced Australia’s Record Fires,” *Nature* 577, no. 7792 (January 23, 2020): 611, <https://doi.org/10.1038/d41586-020-00173-7>.

security implications that arise as a result of anthropogenic changes to the gaseous composition of the Earth's atmosphere, which are causing the climate to warm.

Secondly, what is meant by Australia's national intelligence agencies will now be turned to. Australia's Intelligence Community (AIC) consists of six core intelligence agencies; the Australian Secret Intelligence Service (ASIS), the Australian Security Intelligence Organisation (ASIO), the Australian Signals Directorate (ASD), AGO, the Defence Intelligence Organisation (DIO), and ONI (formerly referred to as the Office of National Assessments). AIC along with four additional agencies; ACIC, the AFP, the Australian Transaction Reports and Analysis Centre (AUSTRAC), and the Department of Home Affairs (HA) comprise the National Intelligence Community (NIC).¹⁵

Thirdly, this thesis subscribes to an understanding of strategy as the pursuit of continuing advantage.¹⁶ Strategic studies literature suggests that to ensure strategic pitfalls are avoided, a strategic approach to climate security needs to not only possess the basic elements of ends, ways, and means, but importantly first, be practical; second, be pre-emptive and proactive; and third, consist of longer time horizons (a decade or more).¹⁷ It must be noted that

¹⁵ Office of National Intelligence, "National Intelligence Community Agencies," Australian Government, Office of National Intelligence, accessed March 4, 2023, <https://www.oni.gov.au/national-intelligence-community/about-the-NIC/agencies>; Keiran Hardy and George Williams, "Executive Oversight of Intelligence Agencies in Australia," in *Global Intelligence Oversight: Governing Security in the Twenty-First Century*, ed. Jane Harman, Zachary K. Goldman, and Samuel J. Rascoff (Oxford University Press, 2016), 319, 322, <https://doi.org/10.1093/acprof:oso/9780190458072.003.0013>; Patrick F. Walsh and Mark Harrison MBE, "Strategic Intelligence Practice in the Australian Intelligence Community: Evolution, Constraints and Progress," *Intelligence and National Security* 36, no. 5 (July 29, 2021): 667–68, <https://doi.org/10.1080/02684527.2021.1911434>.

¹⁶ Everett Dolman, *Pure Strategy: Power and Principle in the Space and Information Age* (New York, UNITED STATES: Taylor & Francis, 2005), 6; Jeffrey Meiser, "Ends Ways Means=(Bad) Strategy," *The US Army War College Quarterly: Parameters* 46, no. 4 (December 1, 2016): 81, 86, <https://doi.org/10.55540/0031-1723.3000>.

¹⁷ For example, regarding practicality Meiser highlights it is necessary to not lose sight of 'how our proposed actions will actually *cause* success...how to *cause* our preferred outcome', '...good strategy is "an insight that, when acted upon, provides a much more effective way..." of doing something ((emphasis added) Meiser 2016, 86-87). This is supported by Milevski who states that 'Strategy is something done as an activity, not purely decided', and that 'The link between strategy and its performative element is vital for instrumentality' (Milevski 2019, 4, 10).

Regarding pre-emption and proactiveness, Milevski concedes, when he outlines classical Chinese strategic thinking, that adversariality is not a strictly necessary component of strategy. This is, importantly, as long as the performative dimension of strategy remains engaged in some way (Milevski 2019, 4-5). 'Classical Chinese strategic thinking, unlike that of the West, is not strictly adversarial. It instead emphasises the propensity of things: 'Chinese strategy aimed to use every possible means to influence the potential inherent in the forces at play to its own advantage, even before the actual engagement, so that the engagement would never constitute the decisive moment, which always involves risk. Despite this relative lack of adversariality, central to the notion of the propensity of things is the performative dimension, of how the Chinese can affect the environment now to make future performance as easy as possible'. That is, to maintain the performative dimension in the absence of strict adversariality, 'the forces at play' need to be proactively and pre-emptively manipulated to one's advantage (Milevski 2019, 4-5). The importance of proactiveness and pre-emption is reiterated by the legendary Chinese strategist Sun Tzu; 'He who excels at resolving difficulties does so before they arise' (Tzu 1971, 77).

Finally, what becomes clear through an analysis of the academic literature is that strategy is distinct from tactics. Tactics can be conceptualised as the operational enactment of strategy (Milevski 2019, 2, 9, 14). Tactics, according to Milevski and unlike strategy, can occur without decision-making, that is, 'sometimes the enemy acts against oneself and one must perform' (Milevski 2019, 24). As such, tactics typically operate along shorter time horizons and are more reactive (Porter 1996, 74; Carr 2021, 6, 8).

approaches that render no or limited practical outcomes consequentially undermine the ability of the approach to be pre-emptive or proactive. These three components will provide the foundational lens through which the analysis of this thesis is conducted.

Finally, what is meant by ‘substantially enhance’ the Australian Commonwealth’s current threat response will briefly be outlined. Although a valid endeavour, this thesis is not interested in the many and varied ways in which NIC’s climate security response could be incrementally strengthened. The luxury of time is something that the world, in the context of climate change, cannot afford. Rather this thesis aims to identify leverage points being, as per Donella Meadows’s definition, areas within a system in which relatively small interventions have the potential to result in large-scale change.¹⁸

This thesis continues as follows; chapter one will discuss existing literature to contextualize this work within the broader academic debate, assess the ‘state of play’, and expose several ‘gaps’ within the current discourse. From these gaps a leverage point will be identified. As areas of strategic weaknesses offer the most effective opportunity to enact a leverage point, chapter two will analyse and assess the Commonwealth’s current threat response to GHG emissions, through which two major weaknesses are identified. Chapter three will assess whether the identified weaknesses present potential opportunities for NIC’s involvement to be increased. The proceeding two chapters will evaluate whether this increased involvement would substantially enhance the Commonwealth’s climate security threat response and identifies which NIC agencies would be best suited to this task. This is divided between which NIC agencies are ill-suited (chapter four), and best suited (chapter five), to utilise the strategic leverage point identified. Enacting the recommendations made in the final chapter would substantially enhance the Commonwealth’s climate security threat response.

It is important to note that this thesis does not contribute to the debate surrounding the legitimacy or otherwise of climate change as a security issue or debates about whether Australia should or should not act on climate change. Rather its focus is on analysing the

Michael Porter, “What Is Strategy?,” *Harvard Business Review* 6, no. 74 (1996): 74; Meiser, “Ends Ways Means=(Bad) Strategy,” 82, 83, 86, 87; Milevski, “Western Strategy’s Two Logics: Diverging Interpretations,” 1, 2, 4–5, 9–10, 14, 19, 21–22, 24; Sun Tzu, *The Art of War*, trans. Samuel B. Griffith (New York and Oxford: Oxford University Press, 1971), 77; Andrew Carr, “It’s about Time: Strategy and Temporal Phenomena,” *Journal of Strategic Studies* 44, no. 3 (April 16, 2021): 6, 8, <https://doi.org/10.1080/01402390.2018.1529569>.

¹⁸ Donella H. Meadows, *Thinking in Systems: A Primer* (London: Earthscan, 2009), 145.

appropriateness of increasing NIC's involvement *should* climate change be securitised.

Furthermore, it must be stressed that constitutional considerations on security lawmaking as well as case law, have largely been excluded as, although this thesis utilises law, its focus is on practical and policy outcomes.

CHAPTER ONE: Literature and leverage

Much literature exists regarding climate change and security broadly; however, few analyses have been undertaken that focus on the nexus between GHG emissions and climate security more specifically. This chapter will proceed as follows, first, the academic literature that discusses the nexus between climate change and security generally, before narrowing specifically to its relation to Australia, will be overviewed. Second, the literature that analyses the relationship between climate change and intelligence agencies, particularly concerning Australia, will be outlined. Third, Australian Government security documents and statements will be reviewed to highlight areas of congruence or divergence with academia. Fourth, NIC's lack of strategic focus pertaining to climate security will be clarified. Fifth, the academic literature regarding GHG emissions and intelligence agencies will be outlined, before finally, the several 'gaps' identified throughout the review will be summarised.

Climate change and security

A vast amount of academic literature exists that explores the relationship between climate change and security.¹⁹ The majority of it can be divided into three overarching themes; human, national, and international security.²⁰ The literature that focuses on climate change's relationship with human security emphasises human beings as the referent object of security;

¹⁹ Alan Dupont, "The Strategic Implications of Climate Change," *Survival* 50, no. 3 (July 1, 2008): 29–54, <https://doi.org/10.1080/00396330802173107>; Jon Barnett, "Security and Climate Change," *Global Environmental Change* 13, no. 1 (April 1, 2003): 7–17, [https://doi.org/10.1016/S0959-3780\(02\)00080-8](https://doi.org/10.1016/S0959-3780(02)00080-8); Jan Selby, "Positivist Climate Conflict Research: A Critique," *Geopolitics* 19, no. 4 (October 2, 2014): 829–56, <https://doi.org/10.1080/14650045.2014.964865>; OLI BROWN, ANNE HAMMILL, and ROBERT MCLEMAN, "Climate Change as the 'New' Security Threat: Implications for Africa," *International Affairs* 83, no. 6 (November 1, 2007): 1141–54, <https://doi.org/10.1111/j.1468-2346.2007.00678.x>; Idean Salehyan, "From Climate Change to Conflict? No Consensus Yet," *Journal of Peace Research* 45, no. 3 (May 1, 2008): 315–26, <https://doi.org/10.1177/0022343308088812>; Ole Magnus Theisen, Helge Holtermann, and Halvard Buhaug, "Climate Wars? Assessing the Claim That Drought Breeds Conflict," *International Security* 36, no. 3 (2011): 79–106; Kurt M. Campbell et al., "The Age of Consequences: The Foreign Policy and National Security Implications of Global Climate Change" (Center for Strategic & International Studies, Center for a New American Security, November 2007), <https://www.jstor.org/stable/resrep06366>; Richard A. Matthew, "Is Climate Change a National Security Issue?," *Issues in Science and Technology* 27, no. 3 (2011): 49–60.

²⁰ Matt McDonald, ed., "Climate Security Discourses," in *Ecological Security: Climate Change and the Construction of Security* (Cambridge: Cambridge University Press, 2021), 55, <https://doi.org/10.1017/9781009024495.003>; Eliana Cusato, "Of Violence and (in)Visibility: The Securitisation of Climate Change in International Law," *London Review of International Law* 10, no. 2 (July 1, 2022): 206, <https://doi.org/10.1093/lril/lrac015>; Tobias Ide, "Climate Change and Australia's National Security," *Australian Journal of International Affairs* 0, no. 0 (January 25, 2023): 1–2, <https://doi.org/10.1080/10357718.2023.2170978>; Baysal and Karakaş, "Climate Change and Security," 23; Matt McDonald, ed., "The Construction of Security," in *Ecological Security: Climate Change and the Construction of Security* (Cambridge: Cambridge University Press, 2021), 28–33, <https://doi.org/10.1017/9781009024495.002>.

the focus being on how to alleviate people's suffering and pain as well as how to best ensure their protection and empowerment.²¹ Here climate change is discussed in the sense of how it will likely impact the lives, welfare, and pre-existing vulnerabilities of individuals, for example, through food insecurity, health issues, or increased poverty.²² A range of mitigation and adaption measures are prompted to preserve human security, most of which are context-specific but may include aid programs, education, or other forms of community resilience and capacity development.²³

By comparison, those that focus on climate change and national security perceive the state as the primary referent object; whose territorial integrity and sovereignty is to be preserved from predominantly external military threats via the use of force.²⁴ Here, the connection between climate change and violence is largely postulated to be the result of resource scarcity, that is, climate change-induced alterations in the distribution and availability of, or incentives to acquire natural resources.²⁵ In this sense, the security threat is not posed by climate change per se, rather by other states (or to a lesser extent domestic disorder) as a result of competition, instability, or large scale migration.²⁶ As such, climate change has been labelled a 'threat multiplier' in that it is thought to exacerbate various factors commonly associated with violent conflict.²⁷ Despite the substantial literature on the climate change conflict nexus, it must be noted that empirical evidence of this relationship remains itself scarce and highly contentious.²⁸

Finally, it has also been argued that climate change poses a threat to international or collective security. This discourse amalgamates certain aspects of the national and human

²¹ Baysal and Karakaş, "Climate Change and Security," 27; McDonald, "Climate Security Discourses," 81.

²² Baysal and Karakaş, "Climate Change and Security," 27–29.

²³ McDonald, "Climate Security Discourses," 84–86; Cusato, "Of Violence and (in)Visibility," 219–21.

²⁴ McDonald, "Climate Security Discourses," 56–57; Cusato, "Of Violence and (in)Visibility," 216; Baysal and Karakaş, "Climate Change and Security," 29–30; Peter Schwartz and Doug Randall, "An Abrupt Climate Change Scenario and Its Implications for United States National Security" (Defense Technical Information Center, 2003), <https://apps.dtic.mil/sti/citations/ADA469325>.

²⁵ Baysal and Karakaş, "Climate Change and Security," 29–30; Cusato, "Of Violence and (in)Visibility," 216.

²⁶ Baysal and Karakaş, "Climate Change and Security," 29–30; McDonald, "Climate Security Discourses," 58–59.

²⁷ Baysal and Karakaş, "Climate Change and Security," 30.

²⁸ Cusato, "Of Violence and (in)Visibility," 204; Baysal and Karakaş, "Climate Change and Security," 30; McDonald, "Climate Security Discourses," 58; Jan Selby and Clemens Hoffmann, "Rethinking Climate Change, Conflict and Security," *Geopolitics* 19, no. 4 (October 2, 2014): 747–56, <https://doi.org/10.1080/14650045.2014.964866>; Selby, "Positivist Climate Conflict Research"; Betsy Hartmann, "Converging on Disaster: Climate Security and the Malthusian Anticipatory Regime for Africa," *Geopolitics* 19, no. 4 (October 2, 2014): 757–83, <https://doi.org/10.1080/14650045.2013.847433>; Theisen, Holtermann, and Buhaug, "Climate Wars?"

security discourses by emphasising the threats climate change poses to the maintenance of peace and stability, while simultaneously maintaining the need to assist vulnerable communities.²⁹ As such, climate change is understood to threaten individuals, states, and the international community in its entirety. International organisations such as the United Nations are perceived to play a significant role in supporting state cooperation and hence, mitigation of, and adaption to, climate security threats.³⁰

Diverging from the vast amount of academic literature, this thesis is unable to be categorised as subscribing to a human, national, or international security paradigm. As will be seen, this is because it cuts across these categorical divides by focusing on what the paradigms hold common. The next section will now explore the literature that discusses the relationship between climate change and Australia's security.

Climate change and Australia's security

A review of the literature that discusses climate change specifically concerning Australia's security reveals a predominant theme: the Department of Defence is the primary emphasis.³¹

²⁹ Cusato, "Of Violence and (in)Visibility," 223.

³⁰ McDonald, "Climate Security Discourses," 69, 73.

³¹ Ide, "Climate Change and Australia's National Security"; Matt McDonald, "After the Fires? Climate Change and Security in Australia," *Australian Journal of Political Science* 56, no. 1 (January 2, 2021): 1–18, <https://doi.org/10.1080/10361146.2020.1776680>; Michael Thomas, "Climate Change and the ADF," *Australian Defence Force Journal*, no. 185 (2011): 34–44, <https://doi.org/10.3316/ielapa.451430811278277>; Michael Durant Thomas, "Climate Securitization in the Australian Political–Military Establishment," *Global Change, Peace & Security* 27, no. 1 (January 2, 2015): 97–118, <https://doi.org/10.1080/14781158.2015.990879>; Michael Thomas, "The Securitisation of Climate Change: A Military Perspective," *Australian Defence Force Journal*, no. 192 (2013): 7–18, <https://doi.org/10.3316/informit.453051879777740>; Ben White, "Sustainable Defence Capability: Australia's National Security and the Role of Defence Industry," *Australian Defence Force Journal*, 2010, 87–96; Chris Barrie et al., "Be Prepared: Climate Change, Security and Australia's Defence Force" (Climate council of Australia, 2015); Anthony J. Press, Anthony Bergin, and Eliza Garnsey, "Heavy Weather: Climate and the Australian Defence Force," SPECIAL REPORT (Australian Strategic Policy Institute, March 2013); Anthony Bergin and Jacob Townsend, "A Change in Climate for the Australian Defence Force," SPECIAL REPORT (Australian Strategic Policy Institute, July 2007); Peter Layton, "Preparing Australia to Respond to Disasters – at Home and Abroad | Lowy Institute," LOWY INSTITUTE, Defence & Security Australian Defence Force Climate Change, 2021, <https://www.loyyinstitute.org/the-interpreter/preparing-australia-respond-disasters-home-abroad>; Peter Layton, "Keeping the Australian Defence Force in the Climate-Change Fight," Australian Strategic Policy Institute, The Strategist, January 28, 2020, <https://www.aspistrategist.org.au/keeping-the-australian-defence-force-in-the-climate-change-fight/>; John Blaxland, "Defending Australia from Future Catastrophe: The Australian Defence Force Was Not Built to Fight Fires - the Country Needs Another Way Forward," Policy Forum, *Asia & The Pacific Policy Society* (blog), January 19, 2020, <https://www.policyforum.net/defending-australia-from-future-catastrophe/>; Brendan Nicholson, "Defence 'Acutely Aware' of Risks Posed by Climate Change: ADF Chief," The Strategist, February 24, 2022, <https://www.aspistrategist.org.au/defence-acutely-aware-of-risks-posed-by-climate-change-adf-chief/>; Elliot Parker, "Climate and Australia's National Security," Australian Government, The Forge, 2023, <https://theforge.defence.gov.au/publications/climate-and-australias-national-security>; Chris Barrie, "Climate Change, Security and the Australian Defence Force," *United Service* 67, no. 2 (June 2016): 13–16, <https://doi.org/10.3316/informit.114833446089883>; Jane Holloway, Michael Durant Thomas, and Cheryl

Matt McDonald's 2021 article, in particular, supports this claim stating that; 'Of direct national security threats to Australia, analysts have pointed most consistently to the challenges posed to Australia's defence capability...[and]... locate (limited) climate security responses within the jurisdiction of Defence'.³² Although noting that Australia's response to climate security has been 'partial and piecemeal' with limited integration of climate security concerns into the 'security establishment' and broader whole of government responses, McDonald proceeds to follow suit by failing to investigate how a wholesome and systematic integration of climate change's security considerations into Australia's security establishment might work in practice.³³ This is indicative of the majority of the academic work in this space.³⁴

While the Department of Defence is integral to managing and responding to issues of climate security, the lack of focus on other agencies within NIC and their roles and responsibilities regarding Australia's climate security render latent opportunities to strengthen the government's approach to climate security overlooked.

Climate change and intelligence agencies

A review of the literature that discusses climate change regarding intelligence agencies broadly, and then NIC more specifically, reveals that the majority of these works share a common emphasis; a focus on the assessment role of intelligence agencies.³⁵ For example,

Durrant, "Strategic Military Geography: Climate Change Adaptation and the Military," in *Handbook of Climate Change Adaptation*, ed. Walter Leal Filho (Berlin, Heidelberg: Springer, 2015), 493–514, https://doi.org/10.1007/978-3-642-38670-1_24; Chris Barrie et al., "Defence Strategic Review: Submission to the Australian Government" (Canberra, ACT: Australian Security Leaders Climate Group, October 2022).

³² McDonald, "After the Fires?," 8–9, 11.

³³ McDonald, 10–11.

³⁴ Ide, "Climate Change and Australia's National Security," 7–8; Robert Sturrock and Peter Ferguson, "The Longest Conflict: Australia's Climate Security Challenge" (Centre for Policy Development, 2015), 9, 31–35, 37; Carol Farbotko, "Climate Change and National Security: An Agenda for Geography," *Australian Geographer* 49, no. 2 (April 3, 2018): 248, 250–51, <https://doi.org/10.1080/00049182.2017.1385119>; Robert Glasser, "The Rapidly Emerging Crisis on Our Doorstep," Strategic Insights (Australian Strategic Policy Institute, April 2021), 8; "The Geopolitics of Climate and Security in the Indo-Pacific" (Barton, ACT: Australian Strategic Policy Institute, February 2022), 103–4.

³⁵ Erin Sikorsky, "National Security and Climate Change: The Attention It Deserves?," *Survival* 64, no. 1 (January 2, 2022): 67, <https://doi.org/10.1080/00396338.2022.2032961>; Thomas L. Brewer, "U.S. Policy Agendas," in *Transforming U.S. Climate Change Policies: 2021 and Beyond*, ed. Thomas L. Brewer, SpringerBriefs in Energy (Cham: Springer International Publishing, 2022), 15–35, https://doi.org/10.1007/978-3-030-99716-8_2; Mark Nevitt, "Key Takeaways from the Glasgow Climate Pact," SSRN Scholarly Paper (Rochester, NY, November 17, 2021), <https://doi.org/10.2139/ssrn.4005495>; Joshua Busby, "Climate Change and National Security: An Agenda for Action" (Council on Foreign Relations, November 2007), 1, 17, 24–25; Joshua W. Busby, "Who Cares about the Weather?: Climate Change and U.S. National Security," *Security Studies* 17, no. 3 (September 18, 2008): 469, 473, 500, <https://doi.org/10.1080/09636410802319529>; Paul J. Smith, "Climate Change, Mass Migration and the Military Response," *Orbis* 51, no. 4 (January 1, 2007): 621,

Alan Dupont and Graeme Pearman's 2006 analysis recommends that Australia's Intelligence Community should focus on climate change risk and that the study of climate change's emerging challenge to security be mainstreamed. They go on to suggest that the Office of National Assessments (now ONI) could coordinate 'an agency-wide, all-source assessment of' the security threats Australia will likely face due to climate change.³⁶

Another example can be found in the Australian Security Leaders Climate Group's (ASLCG) 2021 report, which recommended that an Office of Climate Threat Intelligence be established to assess climate security risks and 'provide an integrated flow of analysis to government and departments'.³⁷ In 2022 the ASLCG suggested that a climate and security risk assessment be conducted every nine months in which expertise from intelligence and Defence (along with several other government departments and agencies) are drawn upon.³⁸

Although a focus on assessment is justified given that this is a significant function, and in some cases the sole function, of the various intelligence agencies, the lack of attention and focus on *other functions* that certain intelligence agencies possess and, hence, the wider roles and responsibilities they hold is a significant oversight. A review will now be conducted to investigate whether these trends identified throughout broader academic literature are also

631, <https://doi.org/10.1016/j.orbis.2007.08.006>; Mark Nevitt, "The Climate-Security Nexus," SSRN Scholarly Paper (Rochester, NY, January 6, 2023), <https://papers.ssrn.com/abstract=4321229>; Matt Fu, "Climate Change and Terrorism" (Boston: Harvard Model Congress, 2023), 4, 6; Duncan Depledge, "The Impact of Climate Change on Security: Is the UK in Need of a Nationwide Review?," The Royal United Services Institute, February 12, 2010, <https://www.rusi.org>; Diego H. Nuñez, "A New Hub for American Climate Security: Strengthening the Intelligence Community's Role in Meeting the Threat of Climate Change," *American Intelligence Journal* 37, no. 1 (2020): 117–18, 121; Mark Nevitt, "What You Need to Know About The New Climate Change Security Reports," SSRN Scholarly Paper (Rochester, NY, October 26, 2021), <https://doi.org/10.2139/ssrn.4005606>; Cusato, "Of Violence and (in)Visibility," 217; Mark Nevitt, "Climate Change and the Law of National Security Adaptation," SSRN Scholarly Paper (Rochester, NY, November 9, 2022), 6, 7, 18–19, <https://papers.ssrn.com/abstract=4273292>; Mark Nevitt, "On Environment Law, Climate Change & National Security Law," *Harvard Environmental Law Review* 44 (October 1, 2020): 336, 361; Charlotte Collins, "Climate Change and Global Security: Planning for Potential Conflict" (Washington DC: A Climate Institute Publication, September 2019), 1; James Stuhltrager, "Global Climate Change and National Security," *Natural Resources & Environment* 22, no. 3 (2008): 40; Peter H. Gleick, "A History of U.S. Defense, Intelligence, and Security Assessments of Climate Change," in *World Scientific Encyclopedia of Climate Change: Case Studies of Climate Risk, Action, and Opportunity*, vol. 3 (Singapore: World Scientific Publishing, 2021), 203–9, https://doi.org/10.1142/9789811213960_0026; Robert Glasser, "Australia Must Get Review of Climate-Change Security Risks Right," Australian Strategic Policy Institute, The Strategist, July 11, 2022, <https://www.aspistrategist.org.au/australia-must-get-review-of-climate-change-security-risks-right/>; Leben, "Intelligence Agency's 1981 Assessment of Climate-Change Threat Was Remarkably Accurate."

³⁶ Emphasis added. Alan Dupont and Pearman Graeme, "Heating up the Planet: Climate Change and Security" (New South Wales, Australia: Lowy Institute for international Policy, 2006), x.

³⁷ Chris Barrie et al., "Missing in Action: Responding to Australia's Climate and Security Failure: Whole-of-Government Climate-Security Risk Assessment" (Canberra, ACT: Australian Security Leaders Climate Group, September 2021), 3, 37.

³⁸ Barrie et al., "Australian Climate and Security Risk Assessment: Implementation Proposal," 16–17.

present within government documents and statements regarding Australia's practical approach to climate security.

Australian Government security documents and statements

Australian Government documentation affirms what the literature suggests; that security regarding climate change has largely been considered only in relation to the Department of Defence and that regarding climate change and intelligence, intelligence agencies' assessment function (specifically that of ONI) has been the focus.³⁹ The former is particularly well illustrated in the Foreign Affairs, Defence and Trade References Committee's 2017 inquiry and report into the 'implications of climate change for Australia's national security'.⁴⁰ Within this report 'intelligence' is only referred to three times in relation to changes made to Australia's national security and emergency management sectors as a result of the establishment of the Home Affairs Portfolio in 2017, once regarding Humanitarian Assistance and Disaster Relief (HADR), and twice concerning the Deputy Secretary Strategic Policy and Intelligence, who is the Defence lead on climate change policy.⁴¹ Comparatively, a whole chapter was dedicated to the Department of Defence.⁴²

The latter can be demonstrated through the absence of considerations regarding climate change within the reports of Australia's intelligence collection, as opposed to assessment, agencies. Within the past twelve years, never once did any of ASIO's annual reports mention climate change.⁴³ Neither do any of the Director-General's Annual Threat Assessments, including the most recent 2023 assessment.⁴⁴

³⁹ Australian Government Department of Defence, "National Defence; Defence Strategic Review" (Commonwealth of Australia, 2023), 41, 109; Australian Government Department of Defence, *2020 Defence Strategic Update*, 16; Department of Defence, "2016 Defence White Paper," 16, 41, 48, 55, 56; Australian Government Department of Defence, "Defending Australia in the Asia Pacific Century: Force 2030," Defence White Paper 2009 (Canberra, ACT: Commonwealth of Australia, 2009), 2, 12, 31, 39–40, 43; Department of Defence, "Senate Standing Committee on Foreign Affairs, Defence and Trade Inquiry into the Implications of Climate Change for Australia's National Security," 3, 6, 8, 10; Australian Government Department of Defence, "Defence White Paper 2013" (Canberra, ACT: Commonwealth of Australia, 2013), iii, 18–19.

⁴⁰ Commonwealth Parliament, "Implications of Climate Change for Australia's National Security," Australian Government website, Parliament of Australia, Australia, accessed March 5, 2023, https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Foreign_Affairs_Defence_and_Trade/NationalSecurity.

⁴¹ Foreign Affairs, Defence and Trade References Committee, "Implications of Climate Change for Australia's National Security," 5–6.

⁴² Foreign Affairs, Defence and Trade References Committee, 51–70.

⁴³ "Previous Reports to Parliament | ASIO," Australian Government website, Australian Security Intelligence Organisation, 2023, <https://www.asio.gov.au/resources/previous-reports-parliament>.

⁴⁴ Mike Burgess, "Director-General's Annual Threat Assessment," Australian Government Document (Australian Security Intelligence Organisation, February 24, 2020); Mike Burgess, "Director-General's Annual

Comparatively, ONI has written several reports on climate change and its implications for Australia's security. The first of these, a report written in 1981, warned the Australian government of the security threat climate change would pose regarding the reduced profitability of fossil fuel industries.⁴⁵ Following this, in 2008 the threat climate change posed to national and international security was reviewed, however, this document remains classified.⁴⁶ ONI's most recent 2021 report, similarly, is yet to be made public.⁴⁷ Furthermore, on the 13th of February 2023, Mr Andrew Shearer (the Director-General of National Intelligence) stated that ONI's role is helping government make sense of the complexities, navigate the uncertainties, as well as manage the strategic, political, and economic implications of, among other issue areas, 'the diverse impacts of climate change'.⁴⁸

Hence, government documentation appears to support the claim that when focusing on climate change and security in Australia, the Department of Defence is the primary emphasis; and that, when focusing on climate change and intelligence in Australia, the assessment role of ONI comprises the primary emphasis. The preceding analysis has hence, illuminated two interrelated gaps; the first being a lack of focus on non-Defence and non-assessment intelligence agencies, the second being an absence of legal analysis concerning NIC's response capabilities regarding climate change. These gaps are symptomatic of the third and largest oversight, being a lack of strategic focus.

A lack of strategic focus

NIC's current approach to climate security lacks a strategic focus for several reasons. Firstly, while a focus on the manifestations of climate change is important, such an approach does not pertain to climate security *as a whole*. That is, current approaches merely focus on specific climate change related threats or risks - this being only one component or aspect of climate security. As such, approaches to climate security have remained reactive, with a lack

Threat Assessment," Australian Government website, Australian Security Intelligence Organisation, March 17, 2021, <https://www.asio.gov.au/resources/speeches-and-statements/director-generals-annual-threat-assessment-2021>; Mike Burgess, "Director-General's Annual Threat Assessment," Australian Government website, Australian Security Intelligence Organisation, February 9, 2022, <https://www.asio.gov.au/resources/speeches-and-statements/director-generals-annual-threat-assessment-2022>; Mike Burgess, "Director-General's Annual Threat Assessment," Australian Government website, Australian Security Intelligence Organisation, February 21, 2023, <https://www.asio.gov.au/director-generals-annual-threat-assessment-2023>.

⁴⁵ Office of National Assessments, "Assessment Fossil Fuels and the Greenhouse Effect," Australian Government Document (Canberra, ACT, November 1981), 13.

⁴⁶ Dupont, "The Strategic Implications of Climate Change," 30.

⁴⁷ Leben, "Intelligence Agency's 1981 Assessment of Climate-Change Threat Was Remarkably Accurate."

⁴⁸ Australian Government Office of National Intelligence, "Senate Estimates," accessed March 5, 2023, <https://www.oni.gov.au/senate-estimates>.

of pre-emption and proactiveness. To respond to climate security as a whole, climate change's causes need to be addressed alongside its manifestations. This is not only because addressing causes ensures that a hitherto overlooked element of climate security is addressed, but also because addressing causes has the inverse effect to that of merely addressing manifestations - addressing manifestations does nothing to address causes, while addressing causes impacts manifestations and, thereby, the security issue as a whole. Furthermore, a failure to address causes ensures that any responses will remain restricted to essentially environmental, rather than climate, security outcomes (refer to introduction as to conceptual differences).

To be clear, although ONI has allegedly conducted assessments on 'climate security' writ large, it is worth reiterating that, as stated by Mr Andrew Shearer, ONI's role regarding climate security is helping government make sense of the complexities, navigate the uncertainties, as well as manage the strategic, political, and economic implications of, 'the diverse *impacts* of climate change'.⁴⁹ The contention that ONI conforms to a reactive and tactical approach to climate security is consistent, as will be seen, by the lack of discussion in the academic literature (or elsewhere) pertaining to GHG emissions and intelligence agencies.

Secondly, and as a result, a lack of focus or understanding of climate security as a whole, renders the realisation of potential leverage points to strengthen the government's approach to climate security, in its entirety, overlooked. This undermines practical potential and, hence, proactive and pre-emptive abilities as well as long-term security outcomes. As stated by Ken Booth;

'...we cannot expect to deal successfully with world problems if we cannot sort out our word problems...we must name things correctly before we can 'live in truth'.....If we cannot...can we ever hope to achieve it?'

⁴⁹ Emphasis added. Office of National Intelligence.

That is, concepts, or lack thereof, establish ‘...a particular horizon for potential experience...and in this way sets a limit’ to perceptions, thoughts, and, importantly, actions.⁵⁰ Hence, strategic pathways forward require conceptual clarity.

This thesis will now demonstrate one such pathway forward. This is by no means the only pathway, rather it exemplifies the strategic effect conceptual clarity holds. To be clear and as will be seen, a lack of conceptual clarity *hinders* strategic outcomes, while the yet-to-be-identified leverage point is an example by which to *further* strategic outcomes.

Greenhouse Gas emissions and intelligence agencies

Understanding climate security as more than its manifestations illuminates new and strategic responses to climate security. Irrespective of how one conceives of climate security (human, national, or international/collective), the key driver of the security issues associated with climate change stem from the same origin; the excessive production of anthropogenic GHG emissions.⁵¹ All other approaches to climate security treat the symptoms rather than the cause and, as such, are effectively ‘Band-Aid solutions’. The prospect of potentially involving intelligence agencies in assisting GHG emissions reduction, would not only address a previously overlooked element of climate security, but would also ensure a strategic approach due to its practical, pre-emptive, and longer-term-impact potential. However, despite its central importance to climate security, there is little literature outlining how GHG emissions should be dealt with in a security context.

Although many authors recognise GHG emissions as the root cause of issues of climate security, and even call for GHG emissions as the source of the threat to be reduced or eliminated, what the broader intelligence establishment can do to assist in the mitigation of climate change in the first instance, has been majorly overlooked.⁵² Some notable exceptions

⁵⁰ Christian Volk, “The Problem of Sovereignty in Globalized Times,” *Law, Culture and the Humanities* 18, no. 3 (2019): 13, <https://doi.org/10.1177/1743872119828010>; Ken Booth, “Security and Emancipation,” *Review of International Studies* 17, no. 4 (1991): 314–15, 317.

⁵¹ IPCC, “Summary for Policymakers,” 5; Australian Government Department of Climate Change, Energy, the Environment and Water, “Understanding Climate Change,” Australian Government website, November 7, 2022, <https://www.dcccew.gov.au/climate-change/policy/climate-science/understanding-climate-change>; University of Southampton, “Assessing the Impact of Geo Engineering the Climate.”

⁵² McDonald, “After the Fires?,” 10–11, 13; Ide, “Climate Change and Australia’s National Security,” 1, 14; William J. Lahnenman, “The Need for a New Intelligence Paradigm,” *International Journal of Intelligence and Counter Intelligence* 23, no. 2 (February 26, 2010): 222, <https://doi.org/10.1080/08850600903565589>; Farbotko, “Climate Change and National Security,” 250; Barrie et al., “Missing in Action: Responding to Australia’s Climate and Security Failure: Whole-of-Government Climate-Security Risk Assessment,” 2.

include Evan Barnard, Loch Johnson, and James Porter's 2021 article, Simon Dalby's 1995 piece, and Louis Bruhnke's 2013 master's thesis for the Naval Postgraduate School (Monterey, California).⁵³

Barnard, Johnson, and Porter's article focuses on the MEDEA program which, through its partnership with the intelligence community, aided the anticipation of security threats associated with climate change.⁵⁴ MEDEA (which is not an acronym) was essentially a task force of leading American environmental scientists who acted as an advisory group to the American intelligence community.⁵⁵ MEDEA played a role in monitoring and verifying the GHG emissions compliance of *other nations* to their Kyoto Protocol GHG emission reduction commitments.⁵⁶ However, other than the use of military satellites, the role the intelligence community played in this process was not detailed.

It must be reiterated that MEDEA was a task force of environmental scientists who only *advised* the American intelligence community. They were not part of the intelligence community themselves. Secondly, this monitoring and verification only pertained to *other nations*. The former differs from Dalby and Bruhnke's works which focus directly on the intelligence community.

Dalby recommends two 'new tasks' for US intelligence agencies. Firstly, as Dalby pinpoints technological innovation as essential for reducing GHG emissions, he concludes that due to their 'Cold War experience with monitoring technology innovation...', intelligence agencies 'could play a lead role in informing governments about innovative developments...' in renewable energy technologies.⁵⁷ This is followed by the question of whether, due to their Cold War expertise in preventing sensitive technology export, intelligence agencies could now pivot their attention to policing the 'transfer of environmentally hazardous and fuel inefficient technologies across national boundaries'.⁵⁸ The question is not answered. The second new task Dalby envisions for intelligence agencies is that, as 'some states understand

⁵³ Simon Dalby, "Security, Intelligence, the National Interest and the Global Environment," *Intelligence and National Security* 10, no. 4 (October 1, 1995): 175–97, <https://doi.org/10.1080/02684529508432332>; Louis Bruhnke, "CLIMATE CHANGE MITIGATION: CAN THE U.S. INTELLIGENCE COMMUNITY HELP?" (Master's Thesis, Monterey, California, Naval Postgraduate School, 2013); Barnard, Johnson, and Porter, "Environmental Security Intelligence."

⁵⁴ Barnard, Johnson, and Porter, "Environmental Security Intelligence," 2.

⁵⁵ Barnard, Johnson, and Porter, 2–3.

⁵⁶ Barnard, Johnson, and Porter, 6.

⁵⁷ Dalby, "Security, Intelligence, the National Interest and the Global Environment," 188.

⁵⁸ Dalby, 188.

their interests to be threatened not by imminent global climatic change, but by the proposed policy responses to these concerns', intelligence agencies could become involved with assessing governmental threat perceptions so as to aid cooperation and the formation of 'acceptable international agreements [regarding GHG emissions] ...[and] global environmental regimes'.⁵⁹

It must be noted that Dalby's recommendations for how intelligence agencies could assist in the reduction of GHG emissions are indirect and do not target the source itself. This raises concerns regarding the effectiveness of his recommendations, as not targeting an issue at its source has the potential to exacerbate a problem by diverting attention and delaying the necessary change.⁶⁰ In contrast to Dalby, Bruhnke explores how intelligence involvement could directly target GHG emissions reduction.

Bruhnke's central contention is that the US's intelligence community could support climate change mitigation via assisting the *international* monitoring, reporting, and verification of GHGs *were* an international GHG limitation treaty to be formed.⁶¹ It must be noted that although the world does now possess an international GHG limitation treaty (the Paris Agreement), its objectives are essentially non-binding and non-enforceable.⁶² Bruhnke is referring to a binding and enforceable agreement. According to Bruhnke's findings, the question as to whether there are 'operational contributions that the national security establishment could bring to climate change mitigation...is an unqualified "yes"'. To support this, Bruhnke provides several reasons. These include the ability of intelligence agencies to ascertain signatory intentions and thereby accelerate the process of treaty

⁵⁹ Dalby, 188–89.

⁶⁰ Daniel Sarewitz and Richard Nelson, "Three Rules for Technological Fixes," *Nature* 456, no. 7224 (December 2008): 871–72, <https://doi.org/10.1038/456871a>; Duncan McLaren and Nils Markusson, "The Co-Evolution of Technological Promises, Modelling, Policies and Climate Change Targets," *Nature Climate Change* 10, no. 5 (May 2020): 392–97, <https://doi.org/10.1038/s41558-020-0740-1>; Shira Ovide, "Tech Can't Fix It," *The New York Times*, August 10, 2021, sec. Technology, <https://www.nytimes.com/2021/08/10/technology/tech-solutions.html>.

⁶¹ Bruhnke, "CLIMATE CHANGE MITIGATION: CAN THE U.S. INTELLIGENCE COMMUNITY HELP?," v, 212, 214.

⁶² Daniel Bodansky, "The Legal Character of the Paris Agreement," *Review of European, Comparative & International Environmental Law* 25, no. 2 (2016): 146, <https://doi.org/10.1111/reel.12154>; Margaretha Wewerinke-Singh, *State Responsibility, Climate Change and Human Rights Under International Law* (Oxford: Hart Publishing, 2018), 52–53.

violation identification, the provision of a secure means of confidential reporting, and the potential deployment of technologies with covert GHG monitoring capacities.⁶³

Although Bruhnke's work is to be commended for its strategic foresight and will be referred to throughout the remainder of the thesis, the central contention is hypothetical. With persistent disagreement and ever-increasing complexity, the prospect of a *binding* international GHG emissions limitation agreement in the near future appears distant.⁶⁴ Considerations as to how intelligence agencies might contribute to GHG emissions reduction in the *meantime* remain neglected. Furthermore, similarly to MEDEA, the monitoring and verification proposed by Bruhnke only pertains to *other nations*. These neglected considerations of the role intelligence could play in assisting GHG emissions reduction in a way that *ensured* strategic (practical, pre-emptive/proactive, and long-term) outcomes under current geopolitical circumstances, constitutes a potential point of leverage for NIC regarding climate security. The remainder of this thesis investigates the feasibility of enacting this leverage point.

Summary

In summary, 'Amongst the intelligence agencies there is little evidence that climate and security issues have received the strategic priority they need'.⁶⁵ Australian Government documentation appears to affirm what the literature suggests; that security and intelligence regarding climate change has largely been considered only in relation to the Department of Defence or intelligence's assessment agencies. This lack of focus on other agencies within

⁶³ Bruhnke, "CLIMATE CHANGE MITIGATION: CAN THE U.S. INTELLIGENCE COMMUNITY HELP?," 214.

⁶⁴ Maiko Meguro, "Litigating Climate Change through International Law: Obligations Strategy and Rights Strategy," *Leiden Journal of International Law* 33, no. 4 (December 2020): 946–47, <https://doi.org/10.1017/S0922156520000473>; Savaresi Annalisa, "Inter-State Climate Change Litigation: 'Neither a Chimera nor a Panacea,'" in *Climate Change Litigation: Global Perspectives*, ed. Ivano Alogna, Christine Bakker, and Jean-Pierre Gaudi (Leiden: Koninklijke Nijhoff NV, 2021), 5; Vanessa Tsang, "Establishing State Responsibility in Mitigating Climate Change under Customary International Law" (Master's Thesis, Columbia University, 2021), 9–10; National Intelligence Council, "Emerging Dynamics: State: Tensions, Turbulence, And Transformation," in *Global Trends 2040: A More Contested World* (Office of the Director of National Intelligence, 2021), 80, 82–83, <https://www.dni.gov/index.php/gt2040-home/emerging-dynamics/state-dynamics>; Jochen Prantl, "Reuniting Strategy and Diplomacy for 21st Century Statecraft," *Contemporary Politics* 28, no. 1 (January 1, 2022): 3–4, 7, <https://doi.org/10.1080/13569775.2021.1961387>; Cinnamon P. Carlane and J. D. Colavecchio, "Balancing Equity and Effectiveness: The Paris Agreement & the Future of International Climate Change Law," *New York University Environmental Law Journal* 27 (2019): 116, 125.

⁶⁵ Barrie et al., "Missing in Action: Responding to Australia's Climate and Security Failure: Whole-of-Government Climate-Security Risk Assessment," 9.

NIC and their roles and responsibilities regarding Australia's climate security constitutes the first of three significant 'gaps'.

The second interrelated gap stems from a focus primarily on assessment intelligence agencies regarding matters of climate security. Despite a focus on assessment capacities being justified, a lack of focus on the *other functions* of certain intelligence agencies and hence, the wider capabilities they have, or may need to possess, has been a blind spot. That is, the second 'gap' that presents itself is that no analysis has been conducted concerning law and how this may enable or impede NIC to contribute to climate security.

Only with a thorough understanding of agencies' capabilities regarding GHG emissions can one be sure that various opportunities to ensure Australia's security regarding climate change are not being missed. This has meant that the broader intelligence communities' latent capacity to contribute to 'Pre-emptive approaches to security', as called for by Farbotko and Lahneman, has remained untapped.⁶⁶

As such, the third, final, and largest 'gap' that emerges is that the approaches to climate security discussed in the literature and throughout government documentation appear to lack strategic foresight. That is, responses to climate security have thus far remained relatively reactive (tactical). Except for Bruhnke's hypothetical work, what the broader intelligence establishment can do to assist in the mitigation of climate security threats in the first instance, has been majorly overlooked.⁶⁷ This is especially the case when looking internally, that is, how intelligence agencies can assist *domestic* GHG emissions reduction. This consideration is completely absent within existing literature.

This oversight is startling for several reasons; firstly, due to the continual reiteration of the 'critical', 'necessary' and 'essential' need for immediate emissions reduction to limit the national security risks of climate change; secondly, because of the persistent calls to address 'the problem itself rather than simply responding defensively to manifestations of it'; and

⁶⁶ Lahneman, "The Need for a New Intelligence Paradigm," 222; Farbotko, "Climate Change and National Security," 250.

⁶⁷ Foreign Affairs, Defence and Trade References Committee, "Implications of Climate Change for Australia's National Security," 58–63; Kjølsv Egeland, "Climate Security Reversed: The Implications of Alternative Security Policies for Global Warming," *Environmental Politics* 0, no. 0 (November 17, 2022): 1–20, <https://doi.org/10.1080/09644016.2022.2146934>.

finally, due to Bruhnke's identification of an opportunity to enhance the robustness of GHG emission reduction through intelligence participation.⁶⁸

Although assessments, planning and preparation can aid Australia's adaptive response to climate change, to truly ensure Australia's security, pre-emptive and proactive approaches to climate security as a whole are *also* required.⁶⁹ That is, 'Focus should be on the root causes of climate warming, principally eliminating emissions much faster than proposed, rather than just responding to the symptoms'.⁷⁰

It is these three 'gaps'; a lack of focus on non-Defence establishments and non-assessment intelligence agencies and functions; an absence of legal analysis regarding NIC's response capabilities; and a lack of strategic foresight, that this thesis wishes to address. This thesis will seek to achieve this by investigating the ability of NIC to be able to deliver on the strategic leverage point identified; the role intelligence could play in assisting GHG emissions reduction. This investigation will address both gaps one (lack of focus on non-Defence and non-assessment intelligence agencies) and two (lack of legal analysis), as it demands a legal review of the functions of all NIC agencies regarding climate change and GHG emissions reduction potential. The third gap (lack of strategic foresight) has been and will continue to be addressed through the identification and forthcoming analysis of the role intelligence could play in assisting GHG emissions reduction.

⁶⁸ Foreign Affairs, Defence and Trade References Committee, "Implications of Climate Change for Australia's National Security," 37; Ide, "Climate Change and Australia's National Security," 14; Barrie et al., "Missing in Action: Responding to Australia's Climate and Security Failure: Whole-of-Government Climate-Security Risk Assessment," 2.

⁶⁹ Lahneman, "The Need for a New Intelligence Paradigm," 222; Farbotko, "Climate Change and National Security," 250.

⁷⁰ Barrie et al., "Missing in Action: Responding to Australia's Climate and Security Failure: Whole-of-Government Climate-Security Risk Assessment," 2.

CHAPTER TWO: Weaknesses of current threat response

Since this thesis is concerned with the security threat posed by GHG emissions and hence, climate change at large, rather than the specific manifestations of climate change (such as the exacerbation of bushfires), this analysis will focus on Australia's, and tangentially the international community's, current threat response regarding climate change mitigation (reducing the severity of climate change via reducing GHG emissions) rather than adaptation (adjusting to the impacts of climate change).⁷¹ This chapter will outline Australia's major threat responses in terms of climate change mitigation. These are grouped in terms of major commitments, both international and domestic, followed by what practical initiatives the federal government is undertaking both in terms of 'carrots' and 'sticks'; essentially incentives and penalties to induce desired behaviour. The chapter will conclude by assessing the effectiveness of Australia's sole stick; the Safeguard Mechanism under the Clean Energy Regulator (CER). This analysis is crucial to identifying any weaknesses in Australia's federal climate change mitigation strategy, and hence, any potential opportunities regarding NIC's ability to enhance the Commonwealth's threat response.

Major commitments

International

The United Nations Framework Convention on Climate Change (UNFCCC) (1992) is the international community's primary mechanism by which to counter climate change.⁷² 198 countries, including Australia, have ratified the Convention whose primary purpose is to prevent dangerous anthropogenic interference with the Earth's climate system.⁷³ This culminated in 2020 with the 'first-ever universal, legally binding global climate agreement'; the Paris Agreement (2015).⁷⁴ The Paris Agreement established a global framework that

⁷¹ European Union European Environment Agency, "What Is the Difference between Adaptation and Mitigation?," HelpCenter FAQ, accessed June 25, 2023, <https://www.eea.europa.eu/help/faq/what-is-the-difference-between>.

⁷² European Union European Commission, "Climate Negotiations," Climate Action, accessed June 25, 2023, https://climate.ec.europa.eu/eu-action/international-action-climate-change/climate-negotiations_en.

⁷³ United Nations Climate Change, "What Is the United Nations Framework Convention on Climate Change? | UNFCCC," accessed June 25, 2023, <https://unfccc.int/process-and-meetings/what-is-the-united-nations-framework-convention-on-climate-change>; United Nations Climate Change, "Parties to the United Nations Framework Convention on Climate Change," accessed June 25, 2023, <https://unfccc.int/process/parties-non-party-stakeholders/parties-convention-and-observer-states>.

⁷⁴ Parliament House Commonwealth Parliament, "Climate Change—the International Approach," Australian Government Website, Australia, accessed June 25, 2023, https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/BriefingBook45p/InternationalApproach; European Commission, "Climate Negotiations."

seeks to keep global warming to ‘well below’ 2°C, with the objective of limiting warming to 1.5°C.⁷⁵ Under the Paris Agreement, each state determines and reports on its own GHG emission reductions contribution.⁷⁶

This international agreement constitutes part of a strategic approach to climate security. It encompasses long-term thinking and attempts to instil domestic action in a pre-emptive and proactive manner. However, to be clear, the Paris Agreement is, in and of itself, not a strategy as it has no means by which to ensure practical outcomes.⁷⁷ Due to a lack of other international mechanisms, a practical approach to climate security is, hence, clearly lacking within the international realm. This may, however, constitute an opportunity for Australia to demonstrate GHG emissions reduction leadership, through which, and potentially in combination with other techniques such as economic sanctions, to hold signatories and the international community to a higher standard. This has the potential to render practical outcomes and as such constitutes the first potential opportunity to deliver on the strategic leverage point, something which will be discussed in the following chapter.

Domestic

Australia’s international commitment to the Paris Agreement of reducing Australia’s GHG emissions to 43% below 2005 levels by 2030 and reaching net zero by 2050, has as of September 2022, been legislatively enshrined within Australian law.⁷⁸

⁷⁵ European Union European Commission, “Paris Agreement,” accessed June 25, 2023, https://climate.ec.europa.eu/eu-action/international-action-climate-change/climate-negotiations/paris-agreement_en.

⁷⁶ Meguro, “Litigating Climate Change through International Law,” 946; Australian Government Department of Climate Change, Energy, the Environment and Water, “International Climate Action - DCCEEW,” Australian Government Website, climate change, 8/ 6/ 23, <https://www.dcceew.gov.au/climate-change/international-commitments>.

⁷⁷ Meguro, “Litigating Climate Change through International Law,” 946–48; Aarti Gupta and Harro van Asselt, “Transparency in Multilateral Climate Politics: Furthering (or Distracting from) Accountability?,” *Regulation & Governance* 13, no. 1 (2019): 18–20, <https://doi.org/10.1111/rego.12159>; Bodansky, “The Legal Character of the Paris Agreement,” 146; Wewerinke-Singh, *State Responsibility, Climate Change and Human Rights Under International Law*, 52–53; Sylvia I. Karlsson-Vinkhuyzen et al., “Entry into Force and Then? The Paris Agreement and State Accountability,” *Climate Policy* 18, no. 5 (May 28, 2018): 594–95, <https://doi.org/10.1080/14693062.2017.1331904>.

⁷⁸ *Climate Change Act 2022* (Cth) s 10; Australian Government Australian Office of Financial Management, “Australian Government Climate Change Commitments, Policies and Programs: A Guide for AGS Investors,” 1–2, https://www.aofm.gov.au/sites/default/files/2022-11-28/Aust%20Govt%20CC%20Actions%20Update%20November%202022_1.pdf#:~:text=Progress%20towards%20Climate%20Change%20Commitments&text=Australia's%20climate%20change%20commitments%20include,net%20zero%20emissions%20by%202050.

Domestically enshrining Australia's international climate change commitments into law constitutes part of a strategic approach to climate security. It encompasses long-term thinking (has an outlook until 2050), but also has a greater potential capacity than current international mechanisms to deliver practical (hence, pre-emptive and proactive) outcomes. Although this piece of legislation itself does not offer this, it forms a basis by which to hold the government to account if these targets are not met and hence, has and is likely to stimulate various initiatives to ensure objectives are achieved. As such, this thesis will now turn to what practical initiatives (not merely assessments and reports) the Australian Government is undertaking to actually ensure GHG emissions reduction.

Practical initiatives

'Carrots'

Australia's approach to practically reducing GHG emissions is sought to be achieved, almost exclusively, via incentives.⁷⁹ These initiatives largely encompass grants and investments which focus on 'creating jobs, cutting power bills and reducing emissions by boosting renewable energy'.⁸⁰

Some of the main government entities in this space include the Clean Energy Regulator (CER), the Clean Energy Finance Corporation, and the Australian Renewable Energy Agency, as well as the forthcoming National Net Zero Authority.⁸¹ The National Net Zero Authority will support workers to access new non-emissions intensive employment, support regions and communities to attract and implement clean energy, and help investors and

⁷⁹ Giuseppe Dari-Mattiacci and Gerrit De Geest, "Carrots, Sticks, and the Multiplication Effect," *Journal of Law, Economics, & Organization* 26, no. 2 (2010): 365–66; Australian Government Department of Climate Change, Energy, the Environment and Water, "Powering Australia | Energy.Gov.Au," Australian Government Website, Government priorities, accessed June 28, 2023, <https://www.energy.gov.au/government-priorities/australias-energy-strategies-and-frameworks/powering-australia>.

⁸⁰ These include several projects, key ones being Rewiring the Nation, in which \$20 billion will be invested to upgrade Australia's electricity network, investment of hundreds of millions of dollars into the National Electric Vehicle Strategy to encourage the uptake of electric vehicles, and The National Reconstruction Fund in which up to \$3 billion will be invested towards clean energy (Department of Climate Change, Energy, the Environment and Water; Australian Office of Financial Management 2022, 3).

Department of Climate Change, Energy, the Environment and Water, "Powering Australia | Energy.Gov.Au"; Australian Office of Financial Management, "Australian Government Climate Change Commitments, Policies and Programs: A Guide for AGS Investors," 3.

⁸¹ Department of Climate Change, Energy, the Environment and Water, "Powering Australia | Energy.Gov.Au"; Australian Office of Financial Management, "Australian Government Climate Change Commitments, Policies and Programs: A Guide for AGS Investors," 4, 6; Prime Minister, Treasurer, Minister for Climate Change and Energy, "National Net Zero Authority | Prime Minister of Australia," Media Release, May 5, 2023, <https://www.pm.gov.au/media/national-net-zero-authority>.

companies engage with transformation opportunities.⁸² The Australian Renewable Energy Agency supports Australia's transition to net zero by accelerating pre-commercial innovation and supporting improvements to renewable energy and related technologies by providing financial assistance and sharing knowledge.⁸³ Similarly, the Clean Energy Finance Corporation invest in clean energy projects.⁸⁴ Comparatively, the CER is the Australian Commonwealth Government agency and independent statutory authority responsible for the administration of federal climate change legislation that 'reduces greenhouse gas emissions and increases the use of renewable energy' (mitigation).⁸⁵

The CER has administrative responsibilities for the *Carbon Credits (Carbon Farming Initiative) Act 2011* (the Act which sets out the Emissions Reduction Fund), the *Renewable Energy (Electricity) Act 2000* (the Act which sets out the Renewable Energy Target), the *Australian National Registry of Emissions Units Act 2011* (the Act which sets out the National Registry of Emissions Units), and the *National Greenhouse and Energy Reporting Act 2007* (NGER Act) (the Act which sets out the National Greenhouse and Energy Reporting Scheme (NGER)).⁸⁶ The National Registry of Emissions Units is an electronic system that monitors the ownership and location of carbon credit units as issued under the Emissions Reduction Fund.⁸⁷ The Renewable Energy Target is a scheme aimed at reducing GHG emissions in the electricity sector by encouraging the generation of electricity from renewable sources through investment incentives.⁸⁸ It must be noted that although the

⁸² Prime Minister, Treasurer, Minister for Climate Change and Energy, "National Net Zero Authority | Prime Minister of Australia."

⁸³ Australian Government Australian Renewable Energy Agency, "About ARENA," Australian Government Website, Australian Renewable Energy Agency, 2023, <https://arena.gov.au/about/>.

⁸⁴ Australian Government Clean Energy Finance Corporation, "Mission and Values," Australian Government Website, 2023, <https://www.cefc.com.au/who-we-are/about-us/mission-and-values/>; Australian Office of Financial Management, "Australian Government Climate Change Commitments, Policies and Programs: A Guide for AGS Investors," 6.

⁸⁵ Australian Government Clean Energy Regulator, "Our Role," Australian Government website, About the Clean Energy Regulator, accessed March 18, 2023, <https://www.cleanenergyregulator.gov.au/About/Pages/Accountability%20and%20reporting/Corporate%20plans/Corporate%20Plan%202019-23/Our-role.aspx>; Clean Energy Regulator, "About the Clean Energy Regulator," Australian Government website, accessed March 17, 2023, <https://www.cleanenergyregulator.gov.au/About/About-the-Clean-Energy-Regulator>; Australian Government Clean Energy Regulator, "Corporate Plan 2022-26," Government Document (Canberra, ACT: Commonwealth of Australia, n.d.), 6; *Clean Energy Regulator Act 2011* s 11(1).

⁸⁶ Australian Government Clean Energy Regulator, "What We Do," accessed March 17, 2023, <https://www.cleanenergyregulator.gov.au/About/What-we-do>.

⁸⁷ Australian Government Clean Energy Regulator, "The Australian National Registry of Emissions Units," Australian Government website, July 14, 2022, <https://www.cleanenergyregulator.gov.au/OSR/ANREU/The-Australian-national-registry-of-emissions-units>.

⁸⁸ Clean Energy Regulator, "About the Renewable Energy Target," Australian Government Website, June 29, 2022, <https://www.cleanenergyregulator.gov.au/RET/About-the-Renewable-Energy-Target>.

Renewable Energy Target does include mandatory obligations for liable entities, and some form of punishment upon detected violation, exemptions are often sought and granted and the scheme's purpose is to create a market incentive for renewable energy uptake.⁸⁹ Finally, NGER is a framework for reporting and disseminating information regarding GHG emissions and energy produced and consumed by companies.⁹⁰ Although technically a reporting rather than practical initiative and, therefore, neither falling under carrots nor sticks, it must be noted that this latter scheme enacts other mechanisms, one of which, as will be discussed below, is a stick.

Although these initiatives are extensive and may appear to have the potential to deliver practical outcomes regarding GHG emissions reduction, 'To ensure decarbonization outcomes, the carrots of investment need to go hand in hand with regulatory sticks'.⁹¹ The academic literature postulates the need for an approach that incorporates both carrots and sticks for numerous reasons, including that sticks enhance account holding abilities, offer opportunities for ongoing as opposed to one-time leverage, are generally more effective at eliciting swift and immediate action regarding acute issues, can reduce issues of politicisation and inaccuracy because of how they apply to a particular cohort or process equally, and directly target the source rather than involve the placing of bets on technological fixes to whose future and prospective competitive advantages (or limits) are constantly changing and evolving.⁹²

⁸⁹ Australian Government Clean Energy Regulator, "Liable Entities," Renewable Energy Target, May 5, 2022, <https://www.cleanenergyregulator.gov.au/RET/Scheme-participants-and-industry/Renewable-Energy-Target-liable-entities>; Australian Government Clean Energy Regulator, "About the Renewable Energy Target: The Large-Scale Renewable Energy Target (LRET), The Small-Scale Renewable Energy Scheme (SRES)," Factsheet (Commonwealth of Australia, April 2012), 4, 17, <https://www.climatechangeauthority.gov.au/sites/default/files/ret-factsheet.pdf>; Australian Government Clean Energy Regulator, "2021 Exemption Certificates Used by Liable Entities," Australian Government website, Renewable Energy Target, February 10, 2023, <https://www.cleanenergyregulator.gov.au/RET/Scheme-participants-and-industry/Renewable-Energy-Target-liable-entities/emissions-intensive-trade-exposed-published-information/2021-exemption-certificates-used-by-liable-entities>.

⁹⁰ Australian Government Clean Energy Regulator, "About the National Greenhouse and Energy Reporting Scheme," Australian Government Website, National Greenhouse and Energy Reporting, August 23, 2022, <https://www.cleanenergyregulator.gov.au/NGER/About-the-National-Greenhouse-and-Energy-Reporting-scheme>.

⁹¹ Jonas Meckling and Jesse Strecker, "Green Bargains: Leveraging Public Investment to Advance Climate Regulation," *Climate Policy* 23, no. 4 (April 21, 2023): 419, <https://doi.org/10.1080/14693062.2022.2149452>.

⁹² Dari-Mattiacci and De Geest, "Carrots, Sticks, and the Multiplication Effect," 366; Meckling and Strecker, "Green Bargains," 420; Maitreyee Mukherjee, "Carrot or Stick: What Motivates Urban Water Consumption? Evidence from Southern California," *International Journal of Water Resources Development* 39, no. 1 (January 2, 2023): 1–2, <https://doi.org/10.1080/07900627.2021.1969222>; Paul Boudreaux, "Carrots and Sticks, from President Obama's Solyndra and Beyond," *Washington and Lee Journal of Energy, Climate, and the Environment* 4, no. 1 (2013): 46, 47, 48.

‘Sticks’

Although the CER regulates the Renewable Energy Target, the Emissions Reduction Fund, and the Australian National Registry of Emissions Units, these initiatives are voluntary and/or incentivised schemes, subject to exemptions.⁹³ They are first and foremost carrots, with sticks being secondary. Punishment for not consuming the carrot correctly, while may seemingly integrate a carrot and stick approach, does not do so on its own terms and hence, does not rectify the issues associated with a lack of sticks when seeking decarbonisation outcomes.⁹⁴

The only scheme that the CER regulates which is neither incentivised nor voluntary is the *National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015* under the NGER Act.⁹⁵ The Safeguard Mechanism ‘requires Australia’s largest GHG emitters [covering around 28% of national emissions] to keep their net emissions below an emissions limit (a baseline)’.⁹⁶ Australia’s largest emitters are those that produce equal to or above 100,000 tonnes of carbon dioxide equivalence per annum, currently covering around 215 facilities.⁹⁷ The *Safeguard Mechanism (Crediting) Amendment Act 2023* (SMCA Act), has instated several reforms which commenced on the first of July 2023. Two reforms are of particular concern for this thesis. Firstly, safeguard baselines are set to decline at a rate of 4.9% each year until 2030.⁹⁸ Post-2030 annual decline rates will be subject to consultation in

⁹³ Clean Energy Regulator, “What We Do”; Australian Government Department of Climate Change, Energy, the Environment and Water, “Carbon Farming Initiative,” Australian Government website, February 18, 2022, <https://www.dcccew.gov.au/water/policy/policy/carbon-farming-initiative>; Australian Government Department of Climate Change, Energy, the Environment and Water, “Renewable Energy Target Scheme,” Australian Government website, July 29, 2022, <https://www.dcccew.gov.au/energy/renewable/target-scheme>; Clean Energy Regulator, “The Australian National Registry of Emissions Units”; Australian Government Clean Energy Regulator, “Legislation and Regulations,” Australian Government Website, About the Clean Energy Regulator, July 19, 2021, <https://www.cleanenergyregulator.gov.au/About/Legislation-and-regulations>.

⁹⁴ Dari-Mattiacci and De Geest, “Carrots, Sticks, and the Multiplication Effect,” 366; Meckling and Strecker, “Green Bargains,” 420; Mukherjee, “Carrot or Stick,” 1–2; Boudreaux, “Carrots and Sticks, from President Obama’s Solyndra and Beyond,” 46, 47, 48.

⁹⁵ Australian Government Clean Energy Regulator, “The Safeguard Mechanism,” Australian Government website, accessed March 17, 2023, <https://www.cleanenergyregulator.gov.au/NGER/The-safeguard-mechanism>.

⁹⁶ Australian Government Clean Energy Regulator, “Legislation,” Australian Government website, accessed March 17, 2023, <https://www.cleanenergyregulator.gov.au/NGER/Legislation>; Clean Energy Regulator, “The Safeguard Mechanism”; Australian Government Department of Climate Change, Energy, the Environment and Water, “Safeguard Mechanism Reforms,” Position Paper (Canberra, ACT: Commonwealth of Australia, January 2023), 1.

⁹⁷ Australian Government Productivity Commission, “5-Year Productivity Inquiry: Managing the Climate Transition,” Inquiry report, Volume 6 (Canberra, ACT: Commonwealth of Australia, February 7, 2023), 24; Department of Climate Change, Energy, the Environment and Water, “Safeguard Mechanism Reforms,” 11.

⁹⁸ Department of Climate Change, Energy, the Environment and Water, “Safeguard Mechanism Reforms,” 1, 5.

2026-2027 to ensure that emissions reductions will reach net zero by 2050.⁹⁹ Secondly, rather than (as is currently the case) merely being based on the number of days of non-compliance, the scale of exceedance (the quantity of emission above the ‘baseline’) is to be added as a reference point from which civil penalties are determined.¹⁰⁰

With the presence of various carrots and a stick, it would, hence, appear that Australia’s strategy towards GHG emissions reduction is sound. However, before this can be determined with confidence the actual effectiveness of the Safeguard Mechanism needs to be assessed.

The Clean Energy Regulator’s Safeguard Mechanism

This section will first outline the ways in which the CER detects non-compliance. This lays the groundwork for the subsequent section which analyses how effective non-compliance detection and enforcement currently are. This is followed by a section investigating what, if any, potential the CER has, to address identified weaknesses through internal change. As the security implications of excessive GHG emissions are not a standard consequence of corporate misconduct, relevant corporate misconduct must be regulated accordingly.

Detecting non-compliance

Regarding uncovering non-compliance, the CER possesses two primary information sources. The first is the NGER reporting scheme.¹⁰¹ Corporations ‘are responsible for assessing their own obligations under’ NGER.¹⁰² This includes firstly, assessing whether they have an obligation to apply for registration and secondly, once registered, to annually self-report their GHG emissions, as well as energy production and consumption.¹⁰³ Hereafter, an analysis is

⁹⁹ Department of Climate Change, Energy, the Environment and Water, 5, 9; “Safeguard Mechanism (Crediting) Amendment Bill 2023,” n.d., sec. 1c.

¹⁰⁰ The SMCA Act has updated and enhanced the civil penalty under Subsection 22XF(1): ‘The maximum civil penalty will be set at 1 penalty unit per tonne of excess emissions per year...From 1 January 2023, a penalty unit will be set at \$275’ (Department of Climate Change, Energy, the Environment and Water 2023, 52).

Department of Climate Change, Energy, the Environment and Water, “Safeguard Mechanism Reforms,” 52.

¹⁰¹ Rohan Wilkes, “Update on the Commonwealth Government Carbon Safeguard Mechanism - Australian Paper,” *Appita : Technology, Innovation, Manufacturing, Environment* 70, no. 2 (2017): 115, <https://doi.org/10.3316/informit.984359682359383>; Clean Energy Regulator, “The Safeguard Mechanism.”

¹⁰² Australian Government Clean Energy Regulator, “Reporting Cycle,” Australian Government website, National Greenhouse and Energy Reporting, February 2, 2023, <https://www.cleanenergyregulator.gov.au/NGER/Reporting-cycle>.

¹⁰³ Australian Government Clean Energy Regulator, “Corporate Emissions and Energy Data,” Australian Government website, National Greenhouse and Energy Reporting, February 28, 2023, <https://www.cleanenergyregulator.gov.au/NGER/National%20greenhouse%20and%20energy%20reporting%20data/Corporate%20emissions%20and%20energy%20data>; Clean Energy Regulator, “The Safeguard Mechanism.”

undertaken by the regulator to identify relationships, trends, fluctuations, inconsistencies, and risks.¹⁰⁴

From this, and as the second major source of information, if the CER ‘has reasonable grounds to suspect’ non-compliance, it may initiate an audit. Audits may also be initiated on a risk management or information gathering basis.¹⁰⁵ The measures available to auditors by which to assess compliance involve testing the systems, processes, and controls of a facility to determine the level of operational effectiveness.¹⁰⁶ Audits inform whether further compliance and enforcement actions are required and hence if the NGER Act’s investigative powers need to be engaged.¹⁰⁷

Effectiveness; detection and enforcement

Various gaps throughout the CER’s regulatory framework appear to undermine the effectiveness of the Safeguard Mechanism. This is the consequence of various factors, each of which will be discussed in turn. Firstly, although there are benefits to self-reporting, such as reduced costs and enhanced industry awareness, information attained through this process has a higher inaccuracy potential than that attained through independent means.¹⁰⁸ This is for numerous reasons, intentional and unintentional. Regarding intentional inaccuracies, unfavourable information, practices, processes, and outcomes can be excluded, concealed, and/or manipulated, while favourable information exaggerated.¹⁰⁹ Research which has uncovered the propensity amongst Australia’s high emitters to engage in greenwashing

¹⁰⁴ Australian Government Clean Energy Regulator, “Audit Determination Handbook” (Canberra, ACT: Commonwealth of Australia, December 2019), 61, 78.

¹⁰⁵ Australian Government Clean Energy Regulator, “Audit Requirements for Programs Administered by the Clean Energy Regulator,” Australian Government website, Clean Energy Regulator, accessed April 19, 2023, <https://www.cleanenergyregulator.gov.au/Infohub/Audits/Pages/Forms%20and%20resources/Audit%20determination%20handbook/Audit-requirements-for-programmes-administered-by-the-Clean-Energy-Regulator.aspx#141-National-Greenhouse-and-Energy-Reporting-NGER-audits>.

¹⁰⁶ This includes activities such as inspection of records, documents and internal metering systems; observing processes and procedures; re-performing or re-calculating to verify accuracy; seeking out external confirmation; and undertaking enquiry procedures. Findings and reported information can be judged against pre-developed expectations which are established through processes such as trend analysis or comparison against historical information or industry standards, for misstatements to be identified (Australian Government Clean Energy Regulator 2019, 32, 36, 53, 62, 76, 78-79, 81).

Clean Energy Regulator, “Audit Determination Handbook,” 32, 36, 53, 62, 76, 78–79, 81.

¹⁰⁷ The NGER Act holds the CER’s powers regarding the Safeguard Mechanism. The main powers conferred on the regulator include the power to conduct monitoring warrants regarding premises (under which further powers are authorised); the power to issue enforceable undertakings and infringement notices; and the power to instigate civil proceedings (*National Greenhouse and Energy Reporting Act 2007* (Cth) ss 29-46, 59-61, 70).

¹⁰⁸ Alex Scott and Andrew T. Balthrop, “The Consequences of Self-Reporting Biases: Evidence from the Crash Preventability Program,” *Journal of Operations Management* 67, no. 5 (2021): 588, <https://doi.org/10.1002/joom.1149>; Australian Government Australian Law Reform Commission, “Corporate Criminal Responsibility,” Final Report (Brisbane, QLD: Commonwealth of Australia, April 2020), 492.

¹⁰⁹ Scott and Balthrop, “The Consequences of Self-Reporting Biases,” 588.

(being the portrayal of false environmental concern and/or claims, while in reality perpetrating environmental harms) contributes to the substantiation of concerns surrounding, and demonstrates an inclination towards, selective disclosure, concealment, and industry dishonesty.¹¹⁰ Regarding unintentional inaccuracies, endogenous selection biases can also result in performance misrepresentation.¹¹¹ As such, this reduces the likelihood of misconduct identification, in turn, reducing the CER's propensity to have 'reasonable grounds to suspect' non-compliance and hence, making it less likely that an audit will be initiated.

Where auditing does occur, non-compliance detection processes are limited due to the time given to respondents, as well as the fact that audits are based on selective testing.¹¹² As stated by Professor Graeme Samuel in his independent review of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) 'There is little reason for rules if they are not monitored...strong surveillance...is essential to protecting the environment'.¹¹³ This thesis's analysis suggests that 'strong surveillance' is currently not taking place.

Recent research questioning the integrity of Australia's emission reporting scheme and the ability of the CER to detect non-compliance, supports this contention and provides a case for stronger surveillance and, hence, intelligence gathering capabilities.¹¹⁴ In 2021, Dutch scientists used satellite imagery (from the Copernicus Sentinel-5 Precursor satellite

¹¹⁰ Linda Kusumaning Wedari, Christine Jubb, and Amir Moradi-Motlagh, "Corporate Climate-Related Voluntary Disclosures: Does Potential Greenwash Exist among Australian High Emitters Reports?," *Business Strategy and the Environment* 30, no. 8 (2021): 3721–23, 3730, 3733–34, <https://doi.org/10.1002/bse.2836>.

¹¹¹ Scott and Balthrop, "The Consequences of Self-Reporting Biases," 588.

¹¹² For example, an auditing notice written to a corporation is required to specify the type and details of the audit and is often to give the corporation a 'reasonable time' before the audit is undertaken. This provides further opportunities for non-compliance concealment. Furthermore, audit '...engagements are based on selective testing of the information being examined. Because of this, it is possible that fraud, error or non-compliance may occur and not be detected...[it] is not designed to detect all instances of non-compliance with the NGER Act and safeguard legislation, because such an engagement is not performed continuously throughout the period being examined, and because the procedures performed in respect of compliance with NGER Act and safeguard legislation are undertaken on a test basis' (Australian Government Clean Energy Regulator 2022, 12; Australian Government Clean Energy Regulator 2019, 8).

National Greenhouse and Energy Reporting Act 2007 (Cth) ss 73(3), 73A(3), 74(2ba), 74A(2), 74B(3), 74C(3); Australian Government Clean Energy Regulator, "Safeguard Mechanism Production Adjusted Baseline Audit Template" (Canberra, ACT, July 2022), 12; Australian Government Clean Energy Regulator, "Safeguard Mechanism Audit Templates" (Canberra, ACT, December 2019), 8.

¹¹³ Emphasis added. Graeme Samuel, "Independent Review of the EPBC Act -Final Report" (Canberra, ACT: Commonwealth of Australia, October 2020), 147.

¹¹⁴ Pankaj Sadavarte et al., "Methane Emissions from Super-Emitting Coal Mines in Australia Quantified Using TROPOMI Satellite Observations," *Environmental Science & Technology* 55, no. 24 (December 21, 2021): 16573, 16576, <https://doi.org/10.1021/acs.est.1c03976>; Australian Government Clean Energy Regulator, "Safeguard Facility Reported Emissions 2020-21," Australian Government Website, September 9, 2022, <https://www.cleanenergyregulator.gov.au/NGER/The-safeguard-mechanism/safeguard-data/safeguard-facility-reported-emissions/safeguard-facility-reported-emissions-2020-21#2020-21%20Safeguard%20facilities%20data>.

developed by the European Space Agency) to discover that several coal mines in Queensland - including four safeguard-covered facilities - were emitting emissions that were 'significantly higher than reported to the Australian government'.¹¹⁵ It appears that the CER did not detect these reporting inaccuracies, something which is of concern considering the lead Author of the paper allegedly informed the Australian Broadcasting Corporation that the cumulative emissions from the mines were twice as high as the reported figures.¹¹⁶ This occurrence demonstrates how weak surveillance currently renders it unlikely that matters will be referred on further for investigation.

Despite the fact that baselines have heretofore effectively been non-binding, consequentially providing little, if any, cause to instigate investigations under the Safeguard Mechanism, this is set to change as baselines begin to decline.¹¹⁷ As such, it is important to assess other variables that may detrimentally influence the effectiveness of investigations to ensure preparedness for when cause to investigate does increase.

Given the small number of recent enforceable undertakings and prosecutions, it would appear that the CER is likely to be underprepared for the surge capacity that will be demanded of its investigators in the coming years. Over the last 10 years, 24 enforceable undertakings have been issued and five prosecutions have been conducted regarding Renewable Energy Targets, while only three enforceable undertakings have been issued under the NGER Act, and two regarding the Emission Reduction Fund.¹¹⁸ Importantly, the enforceable undertakings under the NGER Act did not pertain to the Safeguard Mechanism, but rather to inaccurate

¹¹⁵ Sadavarte et al., "Methane Emissions from Super-Emitting Coal Mines in Australia Quantified Using TROPOMI Satellite Observations," 16573, 16576; Clean Energy Regulator, "Safeguard Facility Reported Emissions 2020-21"; European Space Agency, "Sentinel-5P," accessed September 26, 2023, https://www.esa.int/Applications/Observing_the_Earth/Copernicus/Sentinel-5P.

¹¹⁶ Steve Cannane, "How Satellites Are Challenging Australia's Official Greenhouse Gas Emission Figures," *ABC News*, December 2, 2021, <https://www.abc.net.au/news/2021-12-03/satellites-are-challenging-australias-coal-mining-industry/100663676>.

¹¹⁷ Productivity Commission, "5-Year Productivity Inquiry: Managing the Climate Transition," 20; Department of Climate Change, Energy, the Environment and Water, "Safeguard Mechanism Reforms," 1–2, 5; *Climate Change Act 2022* (Cth) ss10(1a) - (1b).

¹¹⁸ Australian Government Clean Energy Regulator, "Annual Reports," October 25, 2022, <https://www.cleanenergyregulator.gov.au/About/Accountability-and-reporting/Annual-Reports>.

reporting.¹¹⁹ This did, however, include at least one company with safeguard-covered facilities.¹²⁰

Although not necessarily equivalent to causation, there appears a strong correlation between prioritisation expressed through funding and investigative output in the form of enforceable undertakings and prosecutions. In 2021-2022, Government funding of the CER was reported to have been \$86.9 million, while ‘own source revenue’ was reported to have been \$4.1 million. This comes to a total of \$91 million.¹²¹ As per the CER’s 2021-2022 annual report, only 2% (\$1.82 million) of their \$91 million was spent on auditing *and* compliance across all four primary pieces of CER administered legislation.¹²² 30% of administered expenses went into the Emissions Reduction Fund, whereas 69% went to the Renewable Energy Target provision for refund and large-scale shortfall, and 1% into Renewable Energy Target inspections.¹²³ From this, it is unclear as to what amount, if any, of the compliance and audit funding was directed towards the Safeguard Mechanism. Suffice to say, it is not commensurate with future need.

In summary, a holistic analysis of the CER’s reporting, auditing, and investigative processes, alongside the Safeguard Mechanism’s regulatory capacity, reveals inherent weaknesses and notable gaps undermining its effectiveness throughout the regulatory framework. As such, Australia’s GHG emissions reduction strategy contains a clear weakness; an ineffective stick. This weakness constitutes a potential opportunity for NIC to substantially enhance the Commonwealth’s climate security response. However, first, it must be assessed whether simply bolstering the CER would be sufficient to achieve strategic results. This is to ensure a limited and targeted approach to any enhanced NIC involvement.

¹¹⁹ Clean Energy Regulator, “Current Enforceable Undertakings,” Australian Government website, January 16, 2023, <https://www.cleanenergyregulator.gov.au/About/Compliance-and-Enforcement/Compliance%20and%20enforcement%20action/enforceable-undertakings/Current-enforceable-undertakings>.

¹²⁰ Clean Energy Regulator, “Safeguard Facility Reported Emissions 2020-21.”

¹²¹ Australian Government Clean Energy Regulator, “Annual Report 2021-2022: Accelerating Carbon Abatement for Australia” (Commonwealth of Australia, 2022), 41.

¹²² Clean Energy Regulator, “What We Do”; Clean Energy Regulator, “Annual Report 2021-2022: Accelerating Carbon Abatement for Australia,” 42.

¹²³ Clean Energy Regulator, “Annual Report 2021-2022: Accelerating Carbon Abatement for Australia,” 44.

Potential for CER to address weaknesses through internal change

To enhance Australia's climate security strategy, several aspects of the CER's functions would require change. These will be addressed in turn. Firstly, corporations with large emissions should not be responsible for assessing their own obligations under the Safeguard Mechanism, and reporting regarding these obligations should not be self-conducted, at least not solely so. If partly self-conducted, a stronger and independent verification system must be implemented. This would enhance the accuracy of assessments and reports, hence, increase the likelihood of misconduct identification and subsequent audit initiation.

Although self-assessment and self-reporting comprise the standard approach to regulating corporations, the security implications of excessive GHG emissions are not a standard consequence of corporate misconduct and hence, should be regulated accordingly.¹²⁴

Secondly, the non-compliance detection processes of audits should be enhanced. This could include conducting unannounced audits in addition to or in substitution of the current practice of announced audits. This would reduce opportunities for non-compliance concealment and would provide the auditor with a more realistic insight into how the facility operates. Furthermore, selective testing should be significantly decreased in favour of increasing consistent and uniform testing. Testing should be performed continuously to ensure greater coverage of the information being examined and hence, a greater likelihood that fraud, error, or non-compliance will be detected.

Although it should be noted that selective testing is a common information-gathering technique also used within intelligence collection agencies, intelligence agencies, for example, monitor a whole range of potential and largely unknown prejudices to security.¹²⁵ Conversely, the CER has a register of Australia's highest polluting companies which covers, as mentioned above, around 215 facilities.¹²⁶ Having a finite number of *known* facilities

¹²⁴ Scott and Balthrop, "The Consequences of Self-Reporting Biases," 588; Australian Law Reform Commission, "Corporate Criminal Responsibility," 470–71.

¹²⁵ Office of the Under Secretary of Defense for Research and Engineering Science and Technology Program Protection Office, "Department of Defense Technology and Program Protection Guidebook" (Washington DC: Department of Defense United States of America, July 2022), 41–43, https://rt.cto.mil/wp-content/uploads/TPP_Guidebook_Jul2022_cleared.pdf.

¹²⁶ Productivity Commission, "5-Year Productivity Inquiry: Managing the Climate Transition," 24; Department of Climate Change, Energy, the Environment and Water, "Safeguard Mechanism Reforms," 11.

considerably increases the prospective validity and associated benefits of reducing selective testing.

Thirdly, given the above, an additional information source should be added to the gamut of tools available to the CER in addition to reporting and audits; surveillance powers and capabilities. Not only would this be beneficial to intelligence in and of itself, but it would also contribute to the effectiveness of existing information sources – reporting and audits – through the reduction, if not, elimination of non-compliance concealment opportunities, the enhancement of knowledge relating to actual GHG emission production, as well as a deepening and broadening of test coverage and continuity.¹²⁷

Although the occurrence of non-compliance regarding the Safeguard Mechanism might currently be perceived as low given that most baselines are currently effectively ‘non-binding as they are above current facility emissions’, this is set to change with baselines to continuously reduce to achieve Australia’s recently legislatively enshrined commitment to reach net zero by 2050.¹²⁸ As such, compliance is set to become increasingly difficult rapidly. As the costs to companies associated with compliance increase, so too does the risk of non-compliance.¹²⁹ This is especially the case if detection risks are low, which, as discussed, they are.¹³⁰ Hence, the risk of non-compliance is greatly enhanced, reiterating the importance of enhancing the CER’s surveillance capabilities.

The above stands even before proposals to expand the scope of the CER regarding the Safeguard Mechanism are considered. A recent report released by the Productivity Commission has recommended that the Safeguard Mechanism should be extended to encompass a greater range of facilities in the hope that the ‘scheme will continue to evolve perhaps following the next scheduled review of the SM [Safeguard Mechanism] policy setting in 2026-27’.¹³¹ An expanded scope without enhanced regulatory capabilities would increase the risk of non-detection and ineffective enforcement. Reiterated by this, regulatory

¹²⁷ Michelle Cayford, Wolter Pieters, and Constant Hijzen, “Plots, Murders, and Money: Oversight Bodies Evaluating the Effectiveness of Surveillance Technology,” *Intelligence and National Security* 33, no. 7 (November 10, 2018): 1006–1005, 1012, <https://doi.org/10.1080/02684527.2018.1487159>.

¹²⁸ Productivity Commission, “5-Year Productivity Inquiry: Managing the Climate Transition,” 20; Department of Climate Change, Energy, the Environment and Water, “Safeguard Mechanism Reforms,” 1–2, 5; *Climate Change Act 2022* (Cth) ss 10(1a) - (1b).

¹²⁹ Australian Law Reform Commission, “Corporate Criminal Responsibility,” 35, 171, 207, 333.

¹³⁰ Australian Law Reform Commission, 35, 207, 309.

¹³¹ Productivity Commission, “5-Year Productivity Inquiry: Managing the Climate Transition,” 20.

capacity is set to become increasingly difficult. As such, to not merely ‘keep up’ but to excel, the necessary regulatory mechanisms need to be developed and established *now* to ensure they are efficient and effective when they are urgently required.

The strengthening and expansion of the CER’s surveillance capabilities could take many forms. For example, ground and airborne surveillance powers and capabilities could be developed to compile or verify not only assessments and reports, but GHG emissions estimates such as those conducted by satellite observations.¹³²

Despite the allure in the seeming simplicity of GHG emissions monitoring via satellite observations such as that conducted by the Dutch scientists as outlined above, these researchers noted that satellite observations do *not* possess ‘...the granularity of ground-based measurements and/or monitoring of individual shafts...’.¹³³ This is indicative of the fundamental ongoing challenges of remote satellite observation. That is, despite being able to provide data from across a range of temporal, spatial and spectral resolutions, satellite observations possess numerous limitations such as separating signal from noise, light and cloud sensitivities, and obtaining the required spatial resolution, coverage, and temporal frequency.¹³⁴ As such, although technology is continuously improving ‘remote sensing remains a fundamentally ill-posed problem that needs to be...constrained by...ancillary observations’.¹³⁵ Hence, although employment of satellites by the CER may enhance the agencies response, it is far from a ‘silver bullet’ solution.

As such, other types of more invasive surveillance mechanisms and powers would also benefit intelligence-gathering capabilities. These may include capabilities such as the ability to remotely access computers to verify the integrity of the information provided as well as to enhance the robustness of data analysis and hence, the identification of relationships,

¹³² Cannane, “Carbon Footprint of a Medium-Sized European Country”; Cayford, Pieters, and Hijzen, “Plots, Murders, and Money,” 1006–1005, 1012; Dennis Richardson, “Comprehensive Review of the Legal Framework of the National Intelligence Community,” Recommendation and Executive Summary; Foundations and Principles; Control, Coordination and Cooperation (Barton ACT: Commonwealth of Australia, December 2019), 239.

¹³³ Sadavarte et al., “Methane Emissions from Super-Emitting Coal Mines in Australia Quantified Using TROPOMI Satellite Observations,” 16578.

¹³⁴ Oleg Dubovik et al., “Grand Challenges in Satellite Remote Sensing,” *Frontiers in Remote Sensing* 2 (2021): 2–3, 6.

¹³⁵ Dubovik et al., 2.

inconsistencies, risks, and targets.¹³⁶ Despite this, there are various potential concerns associated with the CER's implementation of particularly these more invasive surveillance mechanisms. These will be discussed in the following chapter.

Returning to the potential ability of the CER to address weaknesses through internal change, fourthly, the government needs to bolster the CER's funding and resources (specifically regarding the Safeguard Mechanism). As GHG emission reductions become more demanding, a greater monitoring and investigative capacity will be required to enforce compliance. Hence, funding and resource increases need to be specifically targeted towards independent assessments and reporting as recommended above, and towards investigations under the Safeguard Mechanism. As funding necessitates a 'lead-in' period to recruit and train staff, preparedness demands that funding and resources be bolstered before they are required.¹³⁷ As GHG emissions will need to have peaked before 2025 to mitigate the worst impacts of climate change, delays in issuing such funding would appear ill-advised.¹³⁸

Although increased funding would be beneficial to all of the points mentioned above, it must be noted that increased funding alone will not ensure strategic effect. Legislation and processes need to change first so that any increased funding would ensure strategic effect; increased funding funnelled into an ineffective system will do little if anything to remedy inefficiencies.

In summation, strategic effect could be enhanced under the CER by ensuring that a stronger and independent verification system was implemented, that unannounced audits and continuous testing could be conducted, that surveillance capabilities be enhanced, and that funding be bolstered. It must be noted that while strategic effect could be enhanced under the CER by implementing stronger surveillance capabilities, as flagged above, this prospect, particularly regarding more invasive surveillance mechanisms, raises several concerns. These will be discussed in the following chapter.

¹³⁶ Cayford, Pieters, and Hijzen, "Plots, Murders, and Money," 1006–1005, 1012.

¹³⁷ Australian National University, "Recruitment Timelines & Costs," Staff Services (The Australian National University), accessed September 27, 2023, <https://services.anu.edu.au/human-resources/recruit/planning/recruitment-timelines-costs>.

¹³⁸ Bruhnke, "CLIMATE CHANGE MITIGATION: CAN THE U.S. INTELLIGENCE COMMUNITY HELP?," 105; IPCC, "The Evidence Is Clear: The Time for Action Is Now. We Can Halve Emissions by 2030.," Newsroom post, IPCC, April 4, 2022, <https://www.ipcc.ch/2022/04/04/ipcc-ar6-wgiii-pressrelease/>.

Summary

This chapter assessed the capacity of existing tools or mechanisms to ensure GHG emissions reduction. During this undertaking, this chapter found that an international capability to ensure GHG emissions reduction is sorely lacking. Further, while domestic capabilities exist, these currently contain notable weaknesses, which need to be remedied in a way that ensures regulation is proportionate to the security threat posed by this specific category of corporate misconduct. It was alluded to that even if various changes were implemented, the CER, alone, would be ill-suited to fill the surveillance gap. Together, these weaknesses, both within the international and domestic realms, present a limited and targeted opportunity for NIC to potentially enact the leverage point (intelligence involvement in assisting GHG emissions reduction) to bolster strategic outcomes and thereby substantially enhance the Commonwealth's climate security response.

CHAPTER THREE: An opportunity for Australia's National Intelligence Community?

As detailed in the introduction, the prospect of Australia developing and implementing a national security response to climate change is becoming increasingly likely. The Albanese government has labelled climate change a national security issue and the Commonwealth has stated that 'protecting Australia's national security in the context of climate change requires...all levels of government...'.¹³⁹ As such, and given that NIC possesses a security mandate, this raises the question as to what role, if any, NIC might play. The pertinence of this question will be reiterated throughout this chapter as the two weaknesses (a lack of a strategic approach in the international realm and merely one, ineffective 'stick' within the domestic realm) identified in the Commonwealth's current threat response are demonstrated to potentially be well-suited to, and remedied by, NIC's capabilities. This presents an opportunity for a targeted and limited, but effective, increase in NIC's involvement.

This chapter will begin the process of assessing whether involving NIC to enact the strategic leverage point is reasonable. If it is found to be reasonable, proceeding chapters will individually and more rigorously assess specific agencies within NIC to investigate which agencies might be best placed to deliver on the leverage point most proportionately. This chapter will proceed as follows; the first two sections will outline why NIC could be well-suited to shoring up the strategic weaknesses within the Commonwealth's current threat response; firstly, regarding potential to reinforce diplomatic efforts and, hence, influence external actors in the international realm; before secondly, regarding the CER versus NIC's suitability to administer invasive surveillance capabilities in the domestic realm. Finally, a brief analysis of various policy and legal questions will be undertaken. These three sections will provide a determination of how reasonable it is to consider increasing NIC's involvement within the Commonwealth's current threat response. Again, it must be stressed that this analysis only provides a brief and introductory overview of the reasonableness of

¹³⁹ Emphasis added. Foreign Affairs, Defence and Trade References Committee, "Implications of Climate Change for Australia's National Security," 98.

NIC's inclusion writ large, not the reasonableness of the involvement of individual agencies. The latter will be covered over the last two chapters, particularly concerning democratic rights and freedoms.

Potential international opportunity

Climate diplomacy, especially focusing on GHG emissions reduction, has been a prominent feature of international relations since the lead-up to the establishment of the UNFCCC.¹⁴⁰ As discussed in the literature review, however, GHG intelligence has remained, at least according to unclassified literature, limited. This is despite the fact that diplomacy and intelligence comprise two sides of the same coin.¹⁴¹ That is, intelligence provides an additional covert source of information that supplements overt sources, bolstering abilities to influence external actors.¹⁴² If 'Good diplomacy goes hand-in-hand with good intelligence', it would appear reasonable to explore the plausibility of involving NIC in an effort bolster international climate mitigation efforts.¹⁴³

Potential domestic opportunity

As alluded to in the previous chapter, the potential for the CER to employ more invasive surveillance capabilities raises several concerns. Firstly, conferring surveillance powers upon the CER may constitute an unnecessary duplication of powers since other agencies, specifically Australia's NIC, already hold these. The powers of NIC, including their surveillance powers will be discussed in greater detail in the following chapters, however, suffice for now to say that their powers include an extensive range of capabilities such as the ability to remotely access computers and employ surveillance devices.¹⁴⁴

¹⁴⁰ Lorraine Elliott, "Climate Diplomacy," in *The Oxford Handbook of Modern Diplomacy*, ed. Andrew Cooper, Jorge Heine, and Ramesh Thakur, Chapter 47 (United Kingdom: Oxford University Press, 2013), 840–44.

¹⁴¹ Daniel W. B. Lomas, "Diplomacy and Intelligence," in *A New Theory and Practice of Diplomacy: New Perspectives on Diplomacy*, ed. Jack Spence, Alastair Masser, and Claire Yorke, 1st ed. (United Kingdom: Bloomsbury Publishing, 2021), 55, 74, <https://salford-repository.worktribe.com/output/1355341/diplomacy-and-intelligence>.

¹⁴² Lomas, "Diplomacy and Intelligence"; Michael Herman, "Diplomacy and Intelligence," *Diplomacy & Statecraft* 9, no. 2 (October 19, 2007): 1–22, <https://doi.org/10.1080/09592299808406081>; John D. Stempel, "Diplomacy and Intelligence," *International Studies Association and Oxford University Press*, March 1, 2010, <https://doi.org/10.1093/acrefore/9780190846626.013.151>.

¹⁴³ Lomas, "Diplomacy and Intelligence," 55.

¹⁴⁴ Jake Blight, "Powers and Functions of Australian Security and Intelligence Agencies," in *National Security Law in Australia* (Federation Press, forthcoming), 12–13.

Secondly and due to invasive surveillance powers being the remit of NIC, employment of these capabilities by the CER could also be viewed as further extending Australia's national security apparatus. Such an extension may have precedent-setting potential - conferring security powers upon any department that might benefit from them. Due to the intrusive nature of such powers and the lack of accountability mechanisms that typically accompanies them, this is not a desirable occurrence in a democratic society. Security powers are necessarily restricted to a few agencies to limit encroachment on democratic values and freedoms.¹⁴⁵

Thirdly, due to their lack of specialisation, experience, and expertise the CER could be perceived as unfit for the administration of surveillance capabilities.¹⁴⁶ Comparatively, various NIC agencies were developed specifically for surveillance purposes and have been operationally active to this end since the Cold War.¹⁴⁷ In the words of the 2020 Independent National Security Legislation Monitor, 'those who are trusted to authorise intrusive search and surveillance powers must be able to understand the technological context in which those powers operate, and their consequences'.¹⁴⁸ The difficulties and sensitivities associated with surveillance would render the development of the necessary capabilities, expertise, and safeguards, not only within the CER but also regarding oversight mechanisms, costly, difficult, and time-consuming.¹⁴⁹ As such and in sum, it appears that perhaps it would be more efficient and effective, hence, reasonable, for the CER to simply collaborate with NIC agencies when such expertise and capabilities are required.

¹⁴⁵ Cayford, Pieters, and Hijzen, "Plots, Murders, and Money," 1002, 1011; David Martin Jones, "Intelligence and the Management of National Security: The Post 9/11 Evolution of an Australian National Security Community," *Intelligence and National Security* 33, no. 1 (January 2, 2018): 13, <https://doi.org/10.1080/02684527.2016.1259796>; Hardy and Williams, "Executive Oversight of Intelligence Agencies in Australia," 315–18; James Renwick, "TRUST BUT VERIFY; A Report Concerning the *Telecommunications and Other Legislation Amendment (Assistance and Access) Act 2018* and Related Matters," 3rd INSLM (Barton ACT: Independent National Security Legislation Monitor, Australian Government, 2020), 34.

¹⁴⁶ Renwick, "TRUST BUT VERIFY; A Report Concerning the *Telecommunications and Other Legislation Amendment (Assistance and Access) Act 2018* and Related Matters," 34.

¹⁴⁷ Blight, "Powers and Functions of Australian Security and Intelligence Agencies," 3.

¹⁴⁸ Renwick, "TRUST BUT VERIFY; A Report Concerning the *Telecommunications and Other Legislation Amendment (Assistance and Access) Act 2018* and Related Matters," 34.

¹⁴⁹ Cayford, Pieters, and Hijzen, "Plots, Murders, and Money," 1002, 1011; Jones, "Intelligence and the Management of National Security," 13; Hardy and Williams, "Executive Oversight of Intelligence Agencies in Australia," 315–18; Richardson, "Comprehensive Review of the Legal Framework of the National Intelligence Community," 95; Blight, "Powers and Functions of Australian Security and Intelligence Agencies," 31.

Policy and legal questions

Costs

Opportunity cost

Discussions in the literature about climate change, security, and costs tend to focus on the opportunity cost to Defence's warfighting capabilities when resources are diverted from preparing for war to humanitarian assistance and disaster relief (HADR).¹⁵⁰ Although the potential opportunity costs of engaging in climate security have yet to be considered across the broader security establishment, such concerns are likely to arise. Hence, it is worth briefly flagging that concerns regarding the opportunity costs associated with bringing in a GHG emissions surveillance capacity within NIC could largely be mitigated by increased funding and resources.

Most effective use of money?

As intelligence agencies are expensive, in large part due to the secrecy that accompanies them, it is important to consider whether the money invested towards a GHG emissions capacity within NIC could perhaps be more efficiently and effectively employed to respond to climate change from other non-security angles.¹⁵¹ For example, extensive security vetting, which alone can cost up to \$15, 280 per person depending on the clearance level, is largely not required (at least not to the same extent) for other departments like the CER.¹⁵² As such the money saved on such security processes could be invested into other climate security action. This is a fair argument, however, one that is misguided for several reasons.

¹⁵⁰ Bergin and Townsend, "A Change in Climate for the Australian Defence Force," 7; Layton, "Keeping the Australian Defence Force in the Climate-Change Fight."

¹⁵¹ Australian Department of Home Affairs, "Australian Security Intelligence Organisation: Entity Resources and Planned Performance," in *Budget 2022-23*, Portfolio Budget Statements (Commonwealth of Australia, n.d.), 169.

¹⁵² Australian Government Defence, "Security clearances – Fees," Website, Australian Government Security Vetting Agency, accessed April 4, 2023, <https://www.defence.gov.au/security/clearances/about/security-clearance-fees>.

Firstly, such arguments frame a response to climate change as a false dichotomy; money could be invested into NIC *or* it could be funnelled towards other departments and agencies. They are a false dichotomy as, because climate change is such a pervasive and multifaceted issue, *all* agencies and departments need to play a part in responding to it. A systemic problem can only be effectively fought with a systemic response.¹⁵³ Funding needs to mirror this if it is to be commensurate with, and effective at countering, the threat. As the Australian Government itself has made clear, ‘protecting Australia’s national security in the context of climate change requires....[a] *whole of government approach*’.¹⁵⁴ In short, all departments need some type of climate change response capacity and hence, the requisite funding.

Secondly, although aspects of NIC’s function are comparatively more costly than other departments, they also possess the most extensive and comprehensive resources by which to tackle issues. For example, the AFP’s budget for 2022-2023 was \$1. 974 billion, with an average staffing number of 7, 355.¹⁵⁵ ACIC’s budget for 2022-2023 was \$512 million, with an average staffing number of 762.¹⁵⁶ ASIO’s budget for 2022-2023 was \$514.1 million.¹⁵⁷ In 2020, ASIO had above 2, 000 staff members.¹⁵⁸ Comparatively, as per their 2021-2022

¹⁵³ Centre for Strategic Futures, and Civil Service College, *Foresight: A Glossary* (Singapore: Centre for Strategic Futures, and Civil Service College, n.d.), 17; Meadows, *Thinking in Systems*, 3–4; Ian Goldin and Tiffany Vogel, “Global Governance and Systemic Risk in the 21st Century: Lessons from the Financial Crisis,” *Global Policy* 1, no. 1 (2010): 10, <https://doi.org/10.1111/j.1758-5899.2009.00011.x>; Peter Ho, “Governing for the Future: What Governments Can Do,” in *Future-Proofing the State: Managing Risks, Responding to Crises and Building Resilience* (Canberra: Australian National University Press, 2014), 60–62; Ian Goldin and Mike Mariathasan, *The Butterfly Defect: How Globalization Creates Systemic Risks, and What to Do About It* (Princeton and Oxford: Princeton University Press, 2014), 28, <https://www.proquest.com/docview/1667935495?parentSessionId=rR2TFVqYahK67FFJ%2FoLAX0NzqfIHFWVLtFqvpxr%2BuKA%3D&pq-origsite=summon&>; Peter Ho, *The Challenges of Governance in a Complex World*, IPS-Nathan Lecture Series (Singapore: WORLD SCIENTIFIC, 2018), 20–24, <https://doi.org/10.1142/10759>; Ian Goldin, “Rethinking Global Resilience: The Pandemic Is Straining Economic and Social Fault Lines: The Only Remedy Is International Cooperation,” *Finance & Development*, September 2020, 6, 9, <https://www.imf.org/en/Publications/fandd/issues/2020/09/rethinking-global-resilience-ian-goldin>; Ali Kharrazi et al., “Redundancy, Diversity, and Modularity in Network Resilience: Applications for International Trade and Implications for Public Policy,” *Current Research in Environmental Sustainability* 2 (December 1, 2020): 2–3, <https://doi.org/10.1016/j.crsust.2020.06.001>.

¹⁵⁴ Emphasis added. Foreign Affairs, Defence and Trade References Committee, “Implications of Climate Change for Australia’s National Security,” 98.

¹⁵⁵ Commonwealth of Australia Attorney-General’s Department, “Australian Federal Police: Entity Resources and Planned Performance,” Portfolio Budget Statements 2023-24, May 9, 2023, 112, <https://www.ag.gov.au/system/files/2023-05/2023-24-AG-PBS-AFP.PDF>.

¹⁵⁶ Commonwealth of Australia Attorney-General’s Department, “Australian Criminal Intelligence Commission: Entity Resources and Planned Performance,” Portfolio Budget Statements 2023-24, May 9, 2023, 91, <https://www.ag.gov.au/system/files/2023-05/2023-24-AG-PBS-ACIC.PDF>.

¹⁵⁷ Australian Department of Home Affairs, “Australian Security Intelligence Organisation: Entity Resources and Planned Performance,” 169.

¹⁵⁸ Commonwealth Parliament, “Chapter 2 - Administration,” Australian Government Website, Parliament House, Australia, accessed October 14, 2023,

annual report, the CER had 352 employees and a budget of \$86.9 million.¹⁵⁹ Departments and agencies that possess greater funding and resources generally achieve greater outcomes. A boost in funding to enhance NIC's climate security involvement would, hence, be justified by the tangible outcomes it would likely engender.

Furthermore, the budgets of the above mentioned NIC agencies pale in comparison to the actual and expected costs incurred due to the increasing intensity, frequency, and concurrency of natural disasters. The cost of merely *two* recent climate events more than doubles the annual budgets of the AFP, ACIC, and ASIO combined; the fallout of the 2019-2020 bushfires cost the Australian *food system* (alone) \$4-5 *billion*, whereas the fallout from Australia's 2022 'rain bomb' event cost \$2.32 *billion*.¹⁶⁰ 'Even under a low emissions scenario, the cost of natural disasters in Australia is estimated to increase to \$73 billion *per year* by 2060'. As the world is currently, however, following a high, rather than a low, emissions pathway this figure is expected to be closer to \$94 billion per year by 2060.¹⁶¹ Relative to the actual and expected costs of natural disasters in Australia, it would appear that for the added robustness NIC could offer Australia's GHG emissions abatement, the extra cost involved with tasking these agencies with a GHG response capacity would be a small price to pay.

Who pays the cost?

Concerns may also be raised regarding where funding for this extra capacity is to come from. Increased funding to federal agencies generally requires increased federal taxes, which amid ever-increasing costs of living, would currently likely be considered politically unfeasible. There are, however, other funding alternatives. Financial penalties issued under the

https://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Intelligence_and_Security/AandENo20/Report/Chapter_2_-_Administration.

¹⁵⁹ Clean Energy Regulator, "Annual Report 2021-2022: Accelerating Carbon Abatement for Australia," 38, 42.

¹⁶⁰ Joshua Bishop et al., "Fire on the Farm: Assessing the Impacts of the 2019-2020 Bushfires on Food and Agriculture in Australia," UNDRR, United Nations Office for Disaster Risk Reduction, 2021, 5, <https://www.preventionweb.net/publication/fire-farm-assessing-impacts-2019-2020-bushfires-food-and-agricultures-australia>; Camille Cadiou et al., "Challenges in Attributing the 2022 Australian Rain Bomb to Climate Change," *Asia-Pacific Journal of Atmospheric Sciences* 59, no. 1 (February 1, 2023): 84, <https://doi.org/10.1007/s13143-022-00305-1>.

¹⁶¹ Emphasis added. Tessa Satherley and Daniel May, "Natural Disasters and Climate Risk," Australian Government Website, Parliament of Australia, Australia, accessed April 23, 2023, https://www.aph.gov.au/About_Parliament/Parliamentary_departments/Parliamentary_Library/pubs/BriefingBook47p/NaturalDisastersClimateRisk; Rene M. van der Zande et al., "Paradise Lost: End-of-Century Warming and Acidification under Business-as-Usual Emissions Have Severe Consequences for Symbiotic Corals," *Global Change Biology* 26, no. 4 (2020): 2203, <https://doi.org/10.1111/gcb.14998>.

Safeguard Mechanism, climate tariffs, and the costs saved in the phasing out of fossil fuel subsidies could be used to fund the costs of expansion.¹⁶²

In summation, and regarding prospective costs, it would appear that NIC's involvement regarding the leverage point appears reasonable. The risks are justified by the benefits.

Proportionality

Whilst there have been calls to expand considerations of proportionality to the collection of foreign intelligence, the current reality is that a double set of standards apply – weaker, if any, safeguards and protections for foreign countries as opposed to various legal safeguards and protections for domestic subjects.¹⁶³ As such, this section will only focus on the apparent proportionality of NIC's involvement in the domestic realm.

To assess whether the burden is proportionate to the legitimate policy objective of national security and law enforcement, this section is broken into three further areas of analysis: 'suitability', 'necessity', and 'balance'.¹⁶⁴ It must be noted that the section on 'necessity' largely relates to content covered in previous chapters (including the impending scale and pervasiveness of climate change-related security issues, the ever-increasing need for strong surveillance, and having assessed whether 'obvious' and 'compelling' less intrusive alternatives exist, for example, in the form of carrots versus sticks) and hence will be kept minimal.¹⁶⁵

¹⁶² Katharine Murphy and Daniel Hurst, "Businesses Lobby for Carbon Tariffs as Labor Says Australia Is 'Back in the Game' on Climate," *The Guardian*, October 12, 2022, sec. Environment, <https://www.theguardian.com/environment/2022/oct/12/businesses-lobby-for-carbon-tariffs-as-labor-says-australia-is-back-in-the-game-on-climate>.

¹⁶³ Francesca Bignami, "Towards a Right to Privacy in Transnational Intelligence Networks," *Michigan Journal of International Law* 28, no. 3 (2007): 663–86; Shirin Sinnar, "SEPARATE AND UNEQUAL: THE LAW OF 'DOMESTIC' AND 'INTERNATIONAL' TERRORISM," *The Michigan Law Review Association* 117, no. 7 (May 2019): 1333–1404; William J. Lahneman, "U.S. Intelligence Prior to 9/11 and Obstacles to Reform," in *Reforming Intelligence: Obstacles to Democratic Control and Effectiveness*, ed. Thomas C. Bruneau and Steven C. Boraz (Austin, UNITED STATES: University of Texas Press, 2007), 73, <http://ebookcentral.proquest.com/lib/anu/detail.action?docID=3443229>.

¹⁶⁴ Danielle Ireland-Piper and Jonathan Crowe, "Whistleblowing, National Security and the Constitutional Freedom of Political Communication," *Federal Law Review* 46, no. 3 (2018): 358–59, <https://doi.org/doi:10.22145/flr.46.3.1>; Australian Government Australian Law Reform Commission, "Traditional Rights and Freedoms— Encroachments by Commonwealth Laws," Final (Sydney, NSW: Commonwealth of Australia, December 2015), 92.

¹⁶⁵ Australian Law Reform Commission, "Traditional Rights and Freedoms— Encroachments by Commonwealth Laws," 82.

Suitability

As outlined in chapter two, increasing GHG emissions surveillance is a suitable response to the security threat presented by GHG emissions. It is suitable for the purpose it seeks to serve given that it would enable accurate tracking and verification of GHG emissions reductions, or lack thereof, and hence, ensure that remedies regarding potential breaches are sought and realised. Furthermore, it would address a gap in Australia's current climate security strategy (surveillance under the Safeguard Mechanism), and the *root cause* of the security threat presented by climate change (inadequate GHG emissions reduction). In short, it would possess 'a rational connection to the purpose of the provision'.¹⁶⁶

Necessity

Australia's harshest surveillance powers lie within NIC's remit. No other federal agencies possess such extreme powers. Despite this, and that the CER was found to be ill-suited to the task of administering invasive surveillance powers, there is the question of whether forming a new agency would constitute a better approach. This consideration has merit; however, it is important to acknowledge the drawbacks of establishing new government departments. Analyses indicate that the direct costs of forming a new department frequently exceed tens of millions of dollars. Furthermore, initial 'bed in' periods, being the initial months to years in which logistical matters alongside departmental objectives, direction, and legitimacy are established, can incur costs associated with reduced staff productivity that can more than double the direct costs associated with department establishment.¹⁶⁷ The time and money invested towards creating a department capable of covertly surveilling GHG emissions is likely to be even greater due to the need to ensure the necessary safeguards, expertise, and oversight mechanisms.¹⁶⁸ As held by Bruhnke, it is estimated that such a capacity, if starting

¹⁶⁶ Ireland-Piper and Crowe, "Whistleblowing, National Security and the Constitutional Freedom of Political Communication," 360; Australian Law Reform Commission, "Traditional Rights and Freedoms—Encroachments by Commonwealth Laws," 13, 82; IPCC, "Summary for Policymakers," 5.

¹⁶⁷ Tim Durrant and Gemma Tetlow, "Creating and Dismantling Government Departments: How to Handle Machinery of Government Changes Well," *Institute for Government*, November 15, 2019, 1, 9, 11, 18, <https://www.instituteforgovernment.org.uk/publication/creating-dismantling-government-departments>.

¹⁶⁸ Cayford, Pieters, and Hijzen, "Plots, Murders, and Money," 1002, 1011; Jones, "Intelligence and the Management of National Security," 13; Hardy and Williams, "Executive Oversight of Intelligence Agencies in Australia," 315–18; Richardson, "Comprehensive Review of the Legal Framework of the National Intelligence Community," 95; Renwick, "TRUST BUT VERIFY: A Report Concerning the *Telecommunications and Other Legislation Amendment (Assistance and Access) Act 2018* and Related Matters," 24; Blight, "Powers and Functions of Australian Security and Intelligence Agencies," 31.

from scratch, could take up to five years to establish.¹⁶⁹ As previously mentioned, GHG emissions will need to have peaked before 2025 to mitigate the worst impacts of climate change, hence, it is precisely such long periods that the world cannot afford.¹⁷⁰

Balance

This section will begin the process of assessing whether NIC's inclusion would be adequate in its balance between serving the public interest pursued by reform on one hand and the potential this has to harm individual rights on the other.¹⁷¹ It is necessary to reiterate that this process will be continued in more detail regarding specific agencies within NIC in proceeding chapters – this is merely a preliminary assessment to gauge if such an endeavour and further investigation is warranted.

Firstly, although this has been implicitly put forth, it is worth reiterating that the domestic weakness which has presented itself and hence, any proposal that will be put forth to fill it, pertains to corporations only and *not* individuals per se.

Secondly, although different risk cultures continue to drive divisive public debate on climate change in Australia, any proposed reform (since it would target surveillance under the Safeguard Mechanism) would not directly interfere with free speech.¹⁷² That is, it would not involve restrictions on speech or political expression regarding climate change, rather it would be focused on aiding the reduction of GHG emissions.¹⁷³

In summation, given the suitability, necessity, and balance, it would appear that NIC's involvement in strengthening Australia's climate security response would be reasonable.

¹⁶⁹ Bruhnke, "CLIMATE CHANGE MITIGATION: CAN THE U.S. INTELLIGENCE COMMUNITY HELP?," 180.

¹⁷⁰ Bruhnke, 105; IPCC, "The Evidence Is Clear."

¹⁷¹ Australian Law Reform Commission, "Traditional Rights and Freedoms— Encroachments by Commonwealth Laws," 13.

¹⁷² Jason Alexandra, "Navigating the Anthropocene's Rivers of Risk—Climatic Change and Science-Policy Dilemmas in Australia's Murray-Darling Basin," *Climatic Change* 165, no. 1 (March 1, 2021): 1, <https://doi.org/10.1007/s10584-021-03036-w>; David Holmes and Cassandra Star, "Climate Change Communication in Australia: The Politics, Mainstream Media and Fossil Fuel Industry Nexus," in *Handbook of Climate Change Communication: Vol. 1: Theory of Climate Change Communication*, ed. Walter Leal Filho et al., vol. 1, Climate Change Management (Cham: Springer International Publishing, 2018), Abstract, https://doi.org/10.1007/978-3-319-69838-0_10.

¹⁷³ Australian Law Reform Commission, "Traditional Rights and Freedoms— Encroachments by Commonwealth Laws," 91.

To be clear this chapter is in no way saying that NIC *should* be involved, only that *it is warranted to further investigate whether* any of its agencies should have their involvement enhanced.

Summary

Laying the foundations to address the third gap identified in the literature review – a lack of strategic approach to climate security within Australia’s intelligence community – chapters two and three have, respectively, first identified weaknesses within Australia’s current threat response regarding GHG emissions, and secondly assessed the reasonableness of NIC’s involvement in enhancing the Commonwealth’s climate security threat response.

This chapter found that NIC could be well-suited to remedy the identified weaknesses through the potential to reinforce diplomatic efforts to influence external actors, as well as regarding NIC’s suitability to administer invasive domestic surveillance capabilities. From the preliminary legal and policy assessment that followed, it appears that this involvement would be proportionate in its approach, while come at minimal relative costs. As such, the investigation will now turn to which agencies within NIC would be best suited to engage the strategic leverage point identified. This process will ensure a deeper interrogation of proportionality considerations.

CHAPTER FOUR: Ability to deliver - Australia's national intelligence agencies *ill-suited to utilise the strategic leverage point identified*

This chapter will analyse and discuss which NIC agencies would be ill-suited to engage the strategic leverage point identified (the role intelligence could play in assisting GHG emissions reduction – having been refined to enactment opportunities of reinforcing diplomatic efforts to influence external actors or administering surveillance capabilities to support the CER) and why. This chapter proceeds as follows, firstly, the current functions of DIO, HA, AUSTRAC, ASIO, ASD, and ASIS will be outlined, before an analysis of how this includes or excludes climate security in general, and then GHG emissions more specifically, will be undertaken. This will provide the necessary context to analyse why these agencies are ill-suited to act on the identified leverage point.

It must be noted that there are distinctions between the agencies listed above. DIO, HA, and AUSTRAC are not able to deliver on the identified leverage point. Comparatively, ASIO, despite its current climate security constraints, has the potential to become involved in matters of climate security and GHG emissions reduction in the future. Despite this, multiple reasons against prospective involvement arise. As such, it is found that ASIO should not be enabled to enact the identified leverage point. Finally, although ASD and ASIS could deliver on the identified leverage point, this is deemed an ineffective approach at this stage.

Cannot deliver

Defence Intelligence Organisation (DIO)

DIO is the Department of Defence's intelligence assessment agency and 'relies on intelligence collected by the foreign collection agencies' in addition to open-source material.¹⁷⁴ DIO is unusual as it is the only core intelligence agency that does not possess a

¹⁷⁴ Hardy and Williams, "Executive Oversight of Intelligence Agencies in Australia," 321.

statutory footing. Its mandate has, however, been made public and includes a broad range of assessment functions relating specifically to Defence policy.¹⁷⁵

Although it is unclear as to whether DIO would be able to address matters of climate security beyond a traditional scope, where the use of force, violence, military aggression, or other forms of *adversarial* interaction is regarded to constitute threats to security, it appears unlikely.¹⁷⁶ DIO would likely only engage with matters of climate security when traditional security threats have their risk multiplied or exacerbated because of it. This indicates that climate change is likely only dealt with in an indirect and incidental manner. As such, the narrower and more specific condition of responding to GHG emissions is rendered improbable. Due to this and its greater tactical focus, DIO would be ill-suited to address the identified leverage point. This is reinforced by the fact that DIO is an assessment agency, rendering any ability to enhance the Commonwealth's current threat response by fulfilling the leverage point unattainable.

Department of Home Affairs (HA)

HA is also not an established statutory authority and as such, its functions are not legislated. Despite this, its core functions, as per Mr Dennis Richardson's review, are 'immigration, customs, and border-related policy and programs' with its intelligence focus being 'on threats to Australia's border, including from terrorists and foreign fighters, illicit goods, visa fraud, people smuggling and human trafficking, and illegal activities in Australia's maritime jurisdiction'.¹⁷⁷

¹⁷⁵ Stated functions include conducting assessments and analysis on 'foreign government decision-making, as well as strategies and plans for the use of national security forces; foreign military and security forces' doctrine and operating concepts; threats posed by potential adversary weapons systems and capabilities; the operating environment in which Australian defence capabilities are, or may need to be, deployed;...international counter-terrorism capabilities and efforts to counter terrorism; threats from weapons of mass destruction and their proliferation; sensitive defence and dual-use equipment and technology of proliferation concern; warning and monitoring of diseases of national and military significance, including pandemics; [and] foreign cyber threats to the Australian Government and its interests' (Australian Government Defence n.d., 1-2).

Australian Government Defence, "Defence Intelligence Organisation Mandate," n.d., 1-2, <https://www.defence.gov.au/about/governance/intelligence-controls>; Blight, "Powers and Functions of Australian Security and Intelligence Agencies," 31.

¹⁷⁶ BAYSAL and KARAKAŞ, "Climate Change and Security," 27, 29; McDonald, "Securitization and the Construction of Security," 578-79; Trombetta, "The Securitization of the Environment and the Transformation of Security," sec. 1, para. 12, sec. 2, para 1; Peoples and Vaughan-Williams, "Securitisation Theory," 98; Pearce and Geddes, "Approaches to the Interpretation of Legislation," 35; Creyke, Hamer, and O'Mara, "Approaches to Interpretation of Legislation," 341, 344; Milevski, "Western Strategy's Two Logics: Diverging Interpretations," 1-2.

¹⁷⁷ Richardson, "Comprehensive Review of the Legal Framework of the National Intelligence Community," 291, 299-300.

As such, HA's intelligence functions may extend to climate security when issues such as immigration and border control are exacerbated due to climate change. However, as this is an indirect and incidental focus, it would appear improbable that HA would or could direct their intelligence functions towards GHG emissions reduction. As such, and although it might be able to play a peripheral role regarding climate security at large, HA would be ill-suited, if not incapable, of enhancing the Commonwealth's current threat response regarding the identified leverage point.

Australian Transaction Reports and Analysis Centre (AUSTRAC)

AUSTRAC is Australia's federal agency responsible for preventing, detecting, and responding to financial crime including money laundering, organised crime, terrorism financing, tax evasion, and child exploitation.¹⁷⁸ AUSTRAC's functions are legislated under the *Anti-Money Laundering and Counter-Terrorism Financing Act 2006* (AML/CTF Act) and the *Financial Transaction Reports Act 1988* (FTR Act).¹⁷⁹ Summarised, AUSTRAC's functions include the monitoring, collection, retention, analysis, and dissemination of information as well as the provision of advice and assistance relevant to AUSTRAC and its efforts to combat the financing of terrorism, money laundering, and other serious crimes.¹⁸⁰

As such, AUSTRAC may be able to play a peripheral role regarding the Safeguard Mechanism where financial crime is a contributing factor. However, as GHG emissions reduction is not directly related to financial crime, AUSTRAC's role would be at best secondary; AUSTRAC could only respond if factors under the Safeguard Mechanism were connected to some type of serious financial crime. This would in itself do little, if anything, to practically ensure the reduction of GHG emissions. As such, AUSTRAC could not fulfil the domestic opportunity pertaining to the identified leverage point.

Should not deliver

¹⁷⁸ Australian Government AUSTRAC, "What We Do," Australian Government Website, Fighting Financial Crime Together, June 29, 2023, <https://www.austrac.gov.au/about-us/what-we-do>; Australian Government AUSTRAC, "Intelligence," Australian Government Website, Fighting Financial Crime Together, June 29, 2023, <https://www.austrac.gov.au/about-us/what-we-do/intelligence>.

¹⁷⁹ Australian Government AUSTRAC, "Legislation," Australian Government Website, Fighting Financial Crime Together, April 18, 2023, <https://www.austrac.gov.au/business/legislation>.

¹⁸⁰ *Anti-Money Laundering and Counter-Terrorism Financing Act 2006* (Cth) ss 210, 212(1); *Financial Transaction Reports Act 1988* (Cth) ss 38(1).

Australian Security Intelligence Organisation (ASIO)

ASIO is a domestic intelligence collection and assessment agency.¹⁸¹ What constitutes ‘security’ is central to the enactment of ASIO’s functions, being legislatively defined within the *Australian Security Intelligence Organisation Act 1979* (ASIO Act) as

‘the protection of, and of the people of, the Commonwealth and the several States and Territories from: espionage; sabotage; politically motivated violence; promotion of communal violence; attacks on Australia’s defence system; or acts of foreign interference;...[and] the protection of Australia’s territorial and border integrity from serious threats...[and] the carrying out of Australia’s responsibilities to any foreign country in relation to a matter mentioned’ above.¹⁸² This, again, arguably reflects, the ‘ordinary’ and ‘traditional’ understanding of ‘security’.¹⁸³ While ‘protection’ forms the central directive that guides ASIO’s legal responsibilities, it only extends to matters defined within the ASIO Acts’ definition of ‘security’.

Current constraints

As GHG emissions, let alone climate change, are not included within the ASIO Act’s definition of ‘security’, ASIO is unable to practically respond to climate change. That is, it is not within ASIO’s current statutory functions to obtain intelligence or make security assessments about climate change or GHG emissions. The ASIO Act’s narrow and traditional definition of security excludes the possibility of considering climate change, except in instances when a traditional security threat has its risk multiplied or exacerbated because of it. This means that climate change and its security threats are, at best, responded to indirectly and incidentally. If climate change is only dealt with in an incidental and indirect manner, the narrower and more specific condition of responding to GHG emissions is rendered unattainable.

¹⁸¹ Hardy and Williams, “Executive Oversight of Intelligence Agencies in Australia,” 320.

¹⁸² *Australian Security Intelligence Organisation Act 1979* (Cth) ss 4, 17.

¹⁸³ Cf. BAYSAL and KARAKAŞ, “Climate Change and Security,” 27, 29; McDonald, “Securitization and the Construction of Security,” 578–79; Trombetta, “The Securitization of the Environment and the Transformation of Security,” sec. 1, para. 12, sec. 2, para 1; Peoples and Vaughan-Williams, “Securitisations Theory,” 98; Pearce and Geddes, “Approaches to the Interpretation of Legislation,” 35; Creyke, Hamer, and O’Mara, “Approaches to Interpretation of Legislation,” 341, 344; Milevski, “Western Strategy’s Two Logics: Diverging Interpretations,” 1–2.

Potential involvement

Although ASIO's current statutory functions do not presently include climate security or GHG emissions, as a domestic intelligence collection agency ASIO holds the potential to deliver practical outcomes regarding surveillance under the Safeguard Mechanism and, thereby, enhance the Commonwealth's response to the threat of climate change. That is, legislation is liable to change.¹⁸⁴ As standards emerge, evolve, and develop over time, an absence of legal standards or statutory functions in relation to an issue is not necessarily indicative of a lack of need for legal standards regarding that issue.

Powers

ASIO holds potential to deliver practical outcomes because, as identified in chapter two, surveillance powers and capabilities are greatly needed by the CER to ensure non-compliance detection and deterrence. ASIO possesses various surveillance powers, for example, regarding computer access, the use of surveillance devices, the interception of telecommunications, the entering and searching of premises, as well as the examination of postal articles.¹⁸⁵

Despite the uncertainties involved with direct GHG emissions monitoring, ASIO could leverage its existing technologies and capabilities to identify attempted non-compliance concealment, verify the integrity of reported information, as well as enhance the robustness of data analysis and hence, the identification of relationships, inconsistencies, risks and targets.¹⁸⁶ This might be achieved through, for example, searching premises, accessing computer data, intercepting communications, or installing traditional surveillance devices.¹⁸⁷ Similarly to the AFP, when intelligence gathered reaches an 'appropriate threshold' ASIO could refer this intelligence to the CER's investigations team for further examination and potential civil proceedings.¹⁸⁸ This collaboration could enhance timely and targeted detection

¹⁸⁴ For example, on the 1st of June 2010, the *Anti-People Smuggling and other Measures Act* amended the ASIO Act's definition of 'security' to enable ASIO to utilise its existing capabilities to respond to what was perceived to be an emerging security threat (Australian Security Intelligence Organisation Australian Government n.d., 7).

¹⁸⁵ Australian Government Australian Security Intelligence Organisation, "With Great Power Comes Great Responsibility | ASIO," 2023, <https://www.asio.gov.au/resources/need-know/great-power-comes-great-responsibility>.

¹⁸⁶ Cayford, Pieters, and Hijzen, "Plots, Murders, and Money," 1006–1005, 1012.

¹⁸⁷ Bruhnke, "CLIMATE CHANGE MITIGATION: CAN THE U.S. INTELLIGENCE COMMUNITY HELP?," 103.

¹⁸⁸ Australian Government Australian Security Intelligence Organisation, "Why ASIO Isn't a Secret Police," Australian Government website, 2023, <https://www.asio.gov.au/why-asio-isnt-secret-police>.

and referral for investigation.¹⁸⁹ As such, were ASIO enabled to engage with GHG emissions (as a security threat) via legislative change, practical outcomes and thereby, enhancement of the Commonwealth's climate change threat response, would be ensured.

What change would be required?

Since what is defined as 'security' is central to the functions and powers enabled in the ASIO Act, the best way to engage ASIO would be to include a new section in the definition of security. Just as terrorism under the ASIO Act corresponds with terrorism offences under federal criminal law, so too could GHG emissions under the ASIO Act correspond to offences under the Safeguard Mechanism.¹⁹⁰ For example, the definition of security could be amended so that '*security* [now also] means':

a) the protection of, and of the people of, the Commonwealth and the several States and Territories from:

(vii) acts that are offences punishable under Subsection 22XF(1) of the *National Greenhouse and Energy Reporting Act 2007*.

As the Safeguard Mechanism only targets Australia's top GHG emitters, the above amendment would ensure a tight and limited remit (for example, ASIO's questioning and detention powers would not apply) towards Australia's most consequential emitters.¹⁹¹

Reasons against

Despite the above, various concerns render enacting this proposed change currently undesirable. Firstly, ASIO possesses few safeguards and low thresholds; ASIO is subject to substantially less judicial scrutiny than law enforcement authorities, possesses few meaningful constraints and controls, for example, regarding the collection, retention, and dissemination of personal telecommunications data and the issuing of various warrants, and

¹⁸⁹ Bruhnke, "CLIMATE CHANGE MITIGATION: CAN THE U.S. INTELLIGENCE COMMUNITY HELP?," 103.

¹⁹⁰ *Australian Security Intelligence Organisation Act 1979* (Cth) s 4.

¹⁹¹ Questioning and detention warrants can only be requested in relation to (a) an adult questioning matter or (b) a minor questioning matter (Blight forthcoming forthcoming, 13; *Australian Security Intelligence Organisation Act 1979* (Cth) s 34B). As an adult questioning matter only pertains to the protection of Australians from espionage; politically motivated violence, and acts of foreign interference, and as a minor questioning matter only pertains to politically motivated violence, it would appear that compulsory questioning powers would not apply (*Australian Security Intelligence Organisation Act 1979* (Cth) s 34A).

Clean Energy Regulator, "What We Do"; Clean Energy Regulator, "The Safeguard Mechanism."

holds various immunities and protections which render challenging ASIO's activities and assessments largely ineffective.¹⁹²

Secondly, ASIO, like Australia's other core intelligence agencies, lacks robust oversight. The oversight mechanisms that apply to other 'ordinary' government departments, including various forms of public, judicial, and parliamentary scrutiny, largely do not apply or are severely limited in the case of ASIO.¹⁹³ Although executive oversight (such as the Inspector-General of Intelligence and Security and the Independent National Security Legislation Monitor) is meant to compensate for these inadequacies, as such mechanisms form part of the same arm of government, 'horizontal' accountability under the separation of powers is undermined. This manifests itself in weak account-holding abilities in the form of recommendatory powers. As such executive oversight, although important, is also problematic.¹⁹⁴

Thirdly, the extreme level of secrecy and immediacy associated with ASIO's powers would largely be unnecessary when applied to the Safeguard Mechanism. Many of ASIO's powers, their associated lack of safeguards and low thresholds, are designed so that the agency can act swiftly against an *immediate* existential threat. As the threats associated with GHG emissions reduction are not immediate, the application of legislation accompanied by low thresholds and a lack of safeguards is not justified. Similarly, such an extreme level of secrecy, where for example, a defendant cannot be privy to the information held against them during a trial, is also unnecessary as the individual in question is not likely to pose an immediate security risk to any members of the public or informants as a result of information exposure.

As such, the lack of safeguards and oversight, as well as low thresholds render ASIO an unjustifiable first line of response in a liberal democratic society. It may, however, constitute a secondary line of response in the future, for example, under circumstances in which first

¹⁹² Ireland-Piper and Crowe, "Whistleblowing, National Security and the Constitutional Freedom of Political Communication," 341–43; Hardy and Williams, "Executive Oversight of Intelligence Agencies in Australia," 315–16, 325, 334; Sarah Sorial, "The Use and Abuse of Power and Why We Need a Bill of Rights: The *ASIO (Terrorism) Amendment Act 2003* (Cth) and the Case of *R v Ul-Haque*," *MONASH UNIVERSITY LAW REVIEW* 34, no. 2 (January 2008): 415, <https://doi.org/10.3316/apaf.958780724611154>; Blight, "Powers and Functions of Australian Security and Intelligence Agencies," 8–10, 12, 14–18, 31–32.

¹⁹³ Hardy and Williams, "Executive Oversight of Intelligence Agencies in Australia," 315–17.

¹⁹⁴ Hardy and Williams, 318–19.

response lines (as will be discussed in the final chapter) were ineffective and/or in instances in which the need to respond has become more acute.

Ineffective at this stage

Australian Signals Directorate (ASD), Australian Secret Intelligence Service (ASIS)

ASD and ASIS are two of Australia's three foreign intelligence collection agencies primarily governed by the *Intelligence Services Act 2001* (IS Act).¹⁹⁵ As such, ASIS and ASD possess similar core functions, which are to be performed '...in the interests of Australia's national security, Australia's foreign relations or Australia's national and economic well-being...'.¹⁹⁶ Here, 'in the interests of' forms the central directive that guides the agency's legal responsibilities, which is taken to concur with its ordinary meaning of bringing advantage to.¹⁹⁷ It is important to note that neither 'security' (or 'national security'), 'foreign relations', nor 'national and economic well-being' are defined. Despite this, the core functions shared by these agencies; the duty to obtain or collect '...intelligence about the capabilities, intentions or activities of people or organisations outside Australia', provide a good indication as to what is considered to provide advantage to, or threaten, Australia's security, foreign relations, as well as national and economic well-being.¹⁹⁸

Potential involvement

As anthropogenic GHG emissions can be perceived as an issue that has implications for 'national security', 'foreign relations', or 'national and economic wellbeing', they have the potential to fall within the remit of the intelligence agencies governed by the IS Act. This is further supported by the fact that GHG emissions are engendered by 'people' and 'organisations' through their 'capabilities, intentions or activities'. The undefined nature of

¹⁹⁵ Hardy and Williams, 319–22; *Intelligence Services Act 2001* (Cth) ss 6, 6B - 7.

¹⁹⁶ Emphasis added. *Intelligence Services Act 2001* (Cth) s 11.

¹⁹⁷ The Writing Center, "A GUIDE TO READING, INTERPRETING AND APPLYING STATUTES," *Georgetown University Law Centre*, 2017, 7; Pearce and Geddes, "Approaches to the Interpretation of Legislation," 45; "Interest," in *Cambridge Dictionary*, March 22, 2023, <https://dictionary.cambridge.org/dictionary/english/interest>.

¹⁹⁸ *Intelligence Services Act 2001* (Cth) ss 6(1a), 6B(1a), 7(1a); Hardy and Williams, "Executive Oversight of Intelligence Agencies in Australia," 319, 321; Blight, "Powers and Functions of Australian Security and Intelligence Agencies," 18.

‘national security’, ‘foreign relations’, or ‘national and economic well-being’ renders these categories open and flexible in the face of new or emerging issue areas.¹⁹⁹ As such, ASD and ASIS possess the capability to practically respond to the threat posed by GHG emissions (regarding people and organisations outside Australia) and thereby potentially deliver on the identified leverage point.

As not merely climate security but also more specifically GHG emissions reduction has the potential to fall within ASD and ASIS’s remits, it must be analysed whether these agencies have the potential to fulfil either of the opportunities identified in chapter three. As these agencies are primarily foreign intelligence collection agencies, opportunities to bolster the effectiveness of the Safeguard Mechanism can be ruled out. This leaves strategic opportunities in the international realm.

As outlined by Bruhnke, foreign intelligence collection agencies could contribute to the mitigation of climate change by ascertaining signatory intentions and thereby accelerating the process of treaty violation detection, by providing a secure means of confidential reporting, and via the deployment of covert GHG monitoring capabilities.²⁰⁰ However, although these capabilities could be deployed, it is essential to consider what tangible impact, if any, their deployment might hold.

Cause for caution

Firstly, there is the potential for foreign intelligence agency involvement to induce the opposite effects desired. International efforts to effectively reduce global GHG emissions depend on cooperation and trust. However, ‘mistrust between nations is the *raison d’être* of intelligence agencies’ and covert intelligence monitoring ‘the antithesis of cooperation’.²⁰¹ As such, rather than alter behaviour, intelligence monitoring could conversely undermine international GHG emission reduction efforts and induce resentment.²⁰² The latter appearing rather likely given that intelligence judgments are difficult to publicly support or explain.²⁰³

¹⁹⁹ Blight, “Powers and Functions of Australian Security and Intelligence Agencies,” 24.

²⁰⁰ Bruhnke, “CLIMATE CHANGE MITIGATION: CAN THE U.S. INTELLIGENCE COMMUNITY HELP?,” 214.

²⁰¹ Bruhnke, 8, 11.

²⁰² Bruhnke, xxii, xxiii, xxvi.

²⁰³ Bruhnke, xxix.

Secondly, deploying these capabilities in service of an international GHG emissions limitation agreement currently does not make sense as the current treaty is essentially non-binding and unenforceable.²⁰⁴ There has, however, been speculation regarding the merit of states imposing their own enforcement mechanisms to abate the GHG emissions of other nations in the absence of a global enforcement authority. For example, GHG intelligence collected by ASIS and ASD could inform the employment of unilateral or multilateral sanctions.²⁰⁵

However, several studies call into question the effectiveness of such an approach and warn of the potential to engender the opposite effects to that desired.²⁰⁶ For example, Falkner, Nasiritousi, and Reischl (2022) find that ‘external carbon tariffs would more likely provoke trade retaliation or legal challenges at the WTO than...’ encourage major emitters to reduce their emissions. Furthermore, they hold that it could undermine the legitimacy, and cause the unravelling, of existing frameworks to address climate change.²⁰⁷ Furthermore, studies have indicated that sanctions, due to costs incurred, have generally negative impacts on overall environmental performance and can impede the transition to renewable energy systems.²⁰⁸ As such, any unilateral or multilateral attempts to enforce GHG emissions reduction appears likely to render little, if any, benefit to an actual reduction in GHG emissions.

Finally, the effectiveness of attaining GHG emissions reduction via the application of targeted political pressure (enabled through the collection of foreign intelligence) also appears questionable. Firstly, although political pressure *may* be punitively successful via the

²⁰⁴ Bodansky, “The Legal Character of the Paris Agreement,” 146; Wewerinke-Singh, *State Responsibility, Climate Change and Human Rights Under International Law*, 52–53.

²⁰⁵ Juan Sesmero and Alecia Evans, “The Potential of Trade Sanctions to Overcome the Small Coalition Paradox: A Review of the Literature,” in *Handbook on Trade Policy and Climate Change* (Edward Elgar Publishing, 2022), 125–44, <https://www.elgaronline.com/display/edcoll/9781839103230/9781839103230.00017.xml>.

²⁰⁶ Robert Falkner, Naghmeh Nasiritousi, and Gunilla Reischl, “Climate Clubs: Politically Feasible and Desirable?,” *Climate Policy* 22, no. 4 (April 21, 2022): 481, 484, <https://doi.org/10.1080/14693062.2021.1967717>; Qiang Fu et al., “The Impact of International Sanctions on Environmental Performance,” *Science of The Total Environment* 745 (November 25, 2020): 1–13, <https://doi.org/10.1016/j.scitotenv.2020.141007>; Achim Hagen and Jan Schneider, “Trade Sanctions and the Stability of Climate Coalitions,” *Journal of Environmental Economics and Management* 109 (September 1, 2021): 1–16, <https://doi.org/10.1016/j.jeem.2021.102504>; Achim Hagen and Jan Schneider, “Small Climate Clubs Should Not Use Trade Sanctions,” *Energy Research & Social Science* 92 (October 1, 2022): 1–4, <https://doi.org/10.1016/j.erss.2022.102777>.

²⁰⁷ Falkner, Nasiritousi, and Reischl, “Climate Clubs,” 481, 484.

²⁰⁸ Fu et al., “The Impact of International Sanctions on Environmental Performance,” 1; M. Hazrati and Z. Malakoutikhah, “An Unclear Future for Iranian Energy Transition in Light of the Re-Imposition of Sanctions,” *Oil, Gas and Energy Law* 17, no. 1 (February 11, 2019): 1, <http://www.ogel.org/article.asp?key=3810>.

invocation of humiliation, disgrace, and fear of political isolation, effective behavioural change is, conversely, far from assured.²⁰⁹ This is particularly the case when action, as opposed to abstinence, is required. The former being more psychologically demanding and politically complicated than the latter.²¹⁰ Secondly, whether political pressure will be successful is case-specific and often depends upon other influencing variables such as inter-state relationships, public opinion, or personality of, and affinity between, leaders.²¹¹

Thirdly, Australia, as one of the most emissions-intensive states in the world (on an exporter or per capita basis), is currently not in a position to be calling out the inadequate emissions reductions of other states.²¹² This could backfire in an instance of ‘the pot calling the kettle black’. For political pressure to be effective, Australia would first need to build up some legitimacy and leadership in the GHG emissions reduction space.²¹³ As such, although GHG emissions intelligence used to exert political pressure may well have some impact, whether this constitutes a point of leverage regarding Australia’s climate security, from which substantial change is engendered, appears doubtful.

Given the ambiguity of whether foreign GHG emissions intelligence could stimulate effective change, as well as a reduced need for precise and accurate knowledge (if states are not being held to an agreement the precision and accuracy of GHG measurements are less important), current international GHG emissions estimates (based off, for example, civilian satellite data) would seem to largely suffice.

²⁰⁹ Katharine Murphy and Katharine Murphy Political editor, “Australia Asks UN to Dismiss Torres Strait Islanders’ Claim Climate Change Affects Their Human Rights,” *The Guardian*, August 13, 2020, sec. Australia news, <https://www.theguardian.com/australia-news/2020/aug/14/australia-asks-un-to-dismiss-torres-strait-islanders-claim-climate-change-affects-their-human-rights>; Asli Ilgit and Deepa Prakash, “Making Human Rights Emotional: A Research Agenda to Recover Shame in ‘Naming and Shaming,’” *Political Psychology* 40, no. 6 (2019): 1300, <https://doi.org/10.1111/pops.12616>; Dustin Tingley and Michael Tomz, “The Effects of Naming and Shaming on Public Support for Compliance with International Agreements: An Experimental Analysis of the Paris Agreement,” *International Organization* 76, no. 2 (February 2022): 1, <https://doi.org/10.1017/S0020818321000394>; Tami Biddle, “Coercion Theory: A Basic Introduction For Practitioners,” *Texas National Security Review* 3, no. 2 (2020): 95, 97, 99.

²¹⁰ Biddle, “Coercion Theory: A Basic Introduction For Practitioners,” 102; Bruce W. Jentleson, “Coercive Diplomacy: Scope and Limits in the Contemporary World,” Policy Analysis Brief (The Stanley Foundation, 2006), 2,4; Bruce W. Jentleson and Christopher A. Whytock, “Who ‘Won’ Libya?: The Force-Diplomacy Debate and Its Implications for Theory and Policy,” *International Security* 30, no. 3 (2005): 53–55.

²¹¹ Gordon Craig, “The Political Leader as Strategist,” in *Makers of Modern Strategy: From Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton, New Jersey: Princeton University Press, 1985), 485, 491–92, 495, 497.

²¹² McDonald, “After the Fires?,” 11.

²¹³ Avner Greif and Jared Rubin, “Political Legitimacy in Historical Political Economy,” ESI Working Paper (Chapman University, 2022), 2 and abstract.

In summation, when the relatively minimal benefit derived from the above approaches of involving foreign intelligence agencies is weighed against the economic investment required to establish and maintain a GHG intelligence capability and the opportunity cost of such an endeavour, it becomes clear that involving Australia's foreign intelligence agencies in the collection of global GHG emissions information is *currently* an ineffective approach.²¹⁴ More efficient and effective ways for NIC to become involved in GHG emissions reduction likely exist, ones which may incidentally serve diplomatic ends to a greater extent. For example, demonstrating *domestic* GHG emissions reduction leadership is likely to be just as, if not more effective at serving diplomatic ends. This is because it would firstly, establish the requisite legitimacy and leadership required to ensure that any future foreign GHG emissions intelligence collected could be effectively utilised to engender desired results, and secondly, would likely encourage other states, particularly close partners, to follow suit.

As such, ASD and ASIS are currently not considered substantially able to enhance the Commonwealth's climate security response. However, factors such as current international treaty arrangements or Australia's poor GHG emissions reduction record are liable to change. If or when these factors change, this determination will need to be reconsidered.

Summary

This chapter has reviewed which agencies within NIC currently would not be able to and should not be enabled to deliver on the identified leverage point, as well as which agencies have been deemed ineffective at doing so at this stage. The agencies unable to fulfil the identified leverage point were HA, DIO, and AUSTRAC. Although ASIO's current remit excludes the potential to become involved with issues of climate security, let alone GHG emissions reduction, a change in legislation would render it possible for ASIO to deliver practical outcomes. Despite this potential to deliver on the identified leverage point and hence, enhance the Commonwealth's climate security response, it was found that this potential should not be acted upon. This is because the associated lack of safeguards and oversight, as well as low thresholds render ASIO an unjustifiable first line of response in a liberal democratic society. It may, however, constitute a secondary line of response in the future.

²¹⁴ Australian Department of Home Affairs, "Australian Security Intelligence Organisation: Entity Resources and Planned Performance," 169; Bruhnke, "CLIMATE CHANGE MITIGATION: CAN THE U.S. INTELLIGENCE COMMUNITY HELP?," 33.

Comparatively, ASD and ASIS, although possessing the functional remit to potentially contribute to issues of climate security broadly and GHG emissions reduction more specifically, were found currently unable to do so effectively and efficiently. This was for numerous reasons, many of which are liable to change in the future, including current international treaty arrangements and Australia's poor GHG emissions reduction record. If or when these factors change, this thesis's determination will need to be reconsidered.

This chapter has gone most of the way to addressing the first and second gaps identified in the literature review by focusing its analysis on agencies other than merely the Department of Defence or intelligence's assessment agencies, and by undergoing a legal review of the agencies' functions and abilities regarding climate security. The following chapter will complete the addressment of the first and second gaps, and so too, the third, by investigating which agencies are suited to enact the strategic leverage point identified and why.

CHAPTER FIVE: Ability to deliver – Australia’s national intelligence agencies *best-suited* to utilise the strategic leverage point identified

This final chapter will assess which NIC agencies could and should engage the strategic leverage point identified, both foundationally and directly. To refer to a distinction made in chapter one, a lack of conceptual clarity *hinders* the identification of leverage points (and therefore strategic outcomes), while the identified leverage point is an example by which to *further* strategic outcomes.

As such, when referring to ‘foundationally’ addressing the leverage point, this thesis is referring to removing the hindrances that impede leverage point identification in the first instance. That is, addressing the underlying lack of conceptual clarity regarding ‘climate security’, that has, and if not further developed will continue, to obstruct the development of other practical pathways forward. By comparison, ‘directly’ addressing the leverage point will, in this chapter, refer to addressing the identified leverage point itself; the role intelligence could play in assisting GHG emissions reduction.

This chapter will again, first, outline the functions of each agency – ONI, AGO, AFP, and ACIC, before analysing whether respective remits allow for climate security and GHG emissions reduction to be included. From here the analysis will turn to why these agencies should be, if they are not already, endowed with the capacity to engage the leverage point identified.

Office of National Intelligence (ONI)

ONI is an all-source intelligence assessment agency that relies on intelligence collected by both foreign and domestic intelligence agencies, in addition to open-source material and information from other government departments.²¹⁵ ONI’s central functions as per the *Office of National Intelligence Act 2018* are to lead, guide, and evaluate the national intelligence

²¹⁵ Hardy and Williams, “Executive Oversight of Intelligence Agencies in Australia,” 322.

community, as well as to provide political, strategic, and economic assessments.²¹⁶ It is important to note these categories; political, strategic, and economic, are undefined. Hence, the broadness of these categories provides the scope for issues of climate security broadly, and even GHG emissions more specifically, to be addressed.²¹⁷

Current constraints

ONI's existing ability to encompass climate security considerations as well as its assessment and leadership functions render it uniquely placed to conduct 'bigger picture' climate security thinking to ensure that NIC's bases regarding climate security are covered. However, as highlighted in the literature review, this is clearly not presently occurring, with ONI focused merely on the *impacts* or manifestations of climate change rather than climate security as a whole.²¹⁸ As such, the lack of conceptual nuance regarding climate security has hitherto impeded ONI's ability to ensure that NIC's bases regarding climate security are covered – responses to climate security have thus far remained reactionary and tactical.

Potential involvement

Although conducting assessments and provisioning advice is an integral and elementary component to enabling practice, ONI, as with other security threats, necessitates a practical partner agency to deliver outcomes. ONI is, therefore, not able to *directly* address the identified leverage point.

However, it may be able to *foundationally* contribute by ensuring further ways in which to understand and conceive of climate security and thereby build a self-sustaining capacity to continuously identify further such leverage points. That is, ONI has the potential to enhance conceptual clarity and through this be better able to guide NIC and ensure that blind spots and biases within NIC (such as the gaps identified in this thesis' literature review) are minimised. Through this, ONI would be able to substantially enhance the Commonwealth's climate security response.

²¹⁶ *Office of National Intelligence Act 2018* (Cth) ss 7, 8, 9; Blight, "Powers and Functions of Australian Security and Intelligence Agencies," 26.

²¹⁷ Department of the Prime Minister and Cabinet, "2017 Independent Intelligence Review" (Canberra, ACT: Commonwealth of Australia, June 2017), 49.

²¹⁸ Office of National Intelligence, "Senate Estimates"; "Finance and Public Administration Legislation Committee" (Canberra, ACT: Commonwealth of Australia, February 13, 2023), Australia, https://www.aph.gov.au/Parliamentary_Business/Hansard/Hansard_Display?bid=committees/estimate/26520/&sid=0008.

What change would be required?

The change required regarding ONI is conceptual. Some minor structural changes may, however, need to be made to allow for a workplace that prioritises the critical re-evaluation and further development of important concepts such as climate security. The secretive nature of intelligence agencies renders it difficult to be more specific regarding recommendations here. However, the establishment of a Climate Security Conception task force within ONI, to liaise with team leaders within the organisation, as well as across NIC and the broader security establishment including emergency management and academia, could aid this process. An ONI-led Climate Security Conception task force, could, for example, identify key issue areas, ensure an integrated approach, and act as a conduit for the effective dissemination of information.

This change should be actioned as it would allow a more effective security establishment, ensured through ONI's leadership and provision of strategic direction regarding climate security. Furthermore, adopting a new way of thinking does not incur any substantial monetary costs and would not require any legal change as ONI's mandate already allows scope for issues of climate security and GHG emissions reduction to be included in its functions.

Australian Geospatial-intelligence Organisation (AGO)

AGO is the third foreign intelligence collection agency, alongside ASD and ASIS, primarily governed by the IS Act.²¹⁹ As such, its functions and ability to address climate security and GHG emissions largely resemble those of ASD and ASIS, which were discussed in the previous chapter. This section will, however, outline some important points of difference.

Current constraints

As previously determined, there are currently several limitations regarding the ability of IS Act agencies to address the leverage point via the opportunity of reinforcing diplomatic efforts to influence international actors. Despite this, there may be domestic opportunities for AGO to administer surveillance capabilities to support the CER.

²¹⁹ Hardy and Williams, "Executive Oversight of Intelligence Agencies in Australia," 319–22; *Intelligence Services Act 2001* (Cth) ss 6, 6B - 7.

Potential involvement

Although AGO is first and foremost a foreign intelligence collection agency, it possesses specific functions which allow it to aid Commonwealth or State authorities in certain instances. AGO is able to provide assistance to Commonwealth authorities with imagery that is *not intelligence* obtained under its foreign intelligence functions.²²⁰ This could potentially include imagery of GHG emissions in Australia. In addition, AGO is able to assist other Commonwealth authorities in the performance of certain functions, relevantly, including ‘safety functions...and environmental protection functions’.²²¹ Furthermore, if managing GHG emissions is conceptualised as a national security function then AGO could provide its full spectrum of intelligence assistance.²²²

As GHG emissions have been identified by the Australian Government as a fundamental part of protecting national security as well as the environment, it is conceivable that AGO would be able to engage in GHG emissions monitoring on one or more of the above bases.²²³ Due to this, and its role of obtaining, among other things, geospatial and imagery intelligence, AGO has the potential to support the bolstering of surveillance concerning the Safeguard Mechanism, particularly regarding data obtained via satellites.²²⁴ This, and/or the expertise of its personnel in satellite imagery analysis, would prove beneficial to GHG emissions surveillance. Through this, AGO would be able to contribute to substantially enhancing the Commonwealth’s climate security response.

What change would be required?

The legislation to allow AGO to perform such a function already exists. The only change required would be to prioritise this undertaking. This change should be actioned as, despite chapter two concluding that satellite surveillance is not a silver bullet solution, the provision

²²⁰ *Intelligence Services Act 2001* (Cth) s 6B(1e).

²²¹ It is important to note that this assistance is subject to several caveats including that assistance needs to be incidental to AGO’s other functions, or capable of being provided by the use of resources not immediately required for AGO’s other functions, or capable of being conveniently provided during the performance of AGO’s other functions.

Intelligence Services Act 2001 (Cth) s 6B(1ea).

²²² *Intelligence Services Act 2001* (Cth) s 6B(c).

²²³ Department of Climate Change, Energy, the Environment and Water, “Annual Climate Change Statement 2022: The First Annual Climate Change Statement to Parliament as Required by the *Climate Change Act 2022*,” 23; Leben, “Intelligence Agency’s 1981 Assessment of Climate-Change Threat Was Remarkably Accurate”; *Climate Change Is a “National Security Issue”, Says PM*.

²²⁴ It must be noted that AGO’s functions extend beyond the capture of satellite images to include collecting and communicating geospatial, hydrographic, meteorological, oceanographic, and imagery intelligence from the electromagnetic spectrum or other sources.

Intelligence Services Act 2001 (Cth) s 6B (1a - ea).

of high-quality satellite data and sharing of highly experienced satellite analysis would bolster less invasive surveillance capabilities and output.

Australian Federal Police (AFP)

The AFP is the Commonwealth of Australia's primary law enforcement agency. Although pertaining to crime, the AFP's functions are numerous and varied.²²⁵ As such, only those potentially relevant to the leverage point will be discussed.

Current constraints

The AFP can only become involved with matters considered a crime. Regarding the identified leverage point, as only civil penalties apply for breaching designated baselines (outlined in chapter two), the AFP only has a secondary or indirect remit regarding the Safeguard Mechanism. This is, however, an enhancement of previous arrangements as the SMCA Act, updated the NGER Act so that sections 134.1, 134.2, 135.1, 135.2, 135.4, 136.1, 137.1 and 137.2 of the *Criminal Code Act 1995* now apply to it.²²⁶ These sections pertain to deception, dishonesty, misleading, and fraud.²²⁷ This means that, once suspected or uncovered by the CER, these matters can be transferred to the AFP or the AFP's assistance can be sought. This is commendable; however, it does nothing to ensure that the CER uncovers the matter in the first instance and as such renders the AFP's ability to engage the identified leverage point unattainable. Despite this, the AFP could be well suited to addressing the leverage point.

Potential involvement

Although the AFP does not currently possess the ability to respond to climate change and GHG emissions reduction in more than an indirect, and hence limited manner (when deception, misleading, dishonesty, and fraud become involved), as a domestic intelligence and law enforcement agency, the AFP holds potential to deliver practical outcomes regarding surveillance under the Safeguard Mechanism. That is, the AFP could deliver on the domestic opportunity to enact the identified leverage point by utilising its comprehensive domestic

²²⁵ "Our Organisation," Australian Government Website, Australian Federal Police, February 1, 2016, <https://www.afp.gov.au/about-us/our-organisation>.

²²⁶ Australian Government Parliament of Australia, "Safeguard Mechanism (Crediting) Amendment Bill 2023," secs. 7, 22NXF, Australia, accessed April 14, 2023, https://www.aph.gov.au/Parliamentary_Business/Bills_Legislation/Bills_Search_Results/Result?bId=r6957.

²²⁷ *Criminal Code Act 1995* (Cth) ss 134.1, 134.2, 135.1, 135.2, 135.4, 136.1, 137.1, 137.2.

surveillance powers to bolster the effectiveness of the CER. This would enhance the Commonwealth's response to the threat of climate change. The following will assess whether legislative change could offer both strategic and democratically proportionate outcomes.

Powers

As the AFP possesses a large range of search and surveillance powers, only the key ones will be reviewed here. The AFP can seek warrants under the *Telecommunications (Interception and Access) Act 1979* and the *Telecommunications Act 1997*. In short, the warrants obtainable allow the AFP to access the content of communications, including stored communications and associated data. Importantly and unlike ASIO, there are statutory obligations to consider regarding the interference this might impose upon privacy and whether this is proportionate to the gravity of the suspected prejudice to security.²²⁸

The AFP also possesses search and surveillance warrants, which not only allow the search of premises, inspection of postal articles, the use of listening and 'sophisticated' surveillance devices, and powers to seize items and use force, but also allow remote computer access. Here 'computer access' pertains to computers as well as computer systems and networks. Importantly, unlike ASIO, the AFP cannot engage in covert searches.²²⁹

Finally, 'controlled operations' powers are held by the AFP. Controlled operations powers provide civil and criminal immunity for authorised officers and allow assumed identities to be adopted. Importantly, again unlike ASIO, the use of these powers is subject to judicial scrutiny.²³⁰

What change would be required?

For the AFP to be able to respond to GHG emissions, the civil penalty under Subsection 22XF(1) of the updated NGER Act would need to be changed to include a criminal penalty. A hybrid civil/criminal scheme would allow the CER to collaborate with the AFP regarding the Safeguard Mechanism, if required. This would be beneficial as the AFP is a well-funded

²²⁸ Blight, "Powers and Functions of Australian Security and Intelligence Agencies," 8–12.

²²⁹ Blight, 12–13.

²³⁰ *Crimes Act 1914* (Cth) s IAB; Dominique Dalla-Pozza and Greg Weeks, "A Statutory Shield of the Executive: To What Extent Does Legislation Help Administrative Action Evade Judicial Scrutiny?," in *Interpreting Executive Power*, ed. Janina Boughey and Lisa Burton Crawford (Rochester, NY: Federation Press, 2020), 196–98, <https://papers.ssrn.com/abstract=3517900>; Blight, "Powers and Functions of Australian Security and Intelligence Agencies," 14.

and well-resourced agency with, as outlined above, access to a range of surveillance and investigative powers which would likely be of assistance to monitoring, investigation, and prosecution success. Furthermore, the ability to initiate criminal prosecutions, allows greater regulatory flexibility and non-compliance deterrence, the latter via reputational and financial penalties.²³¹

Here it is important that Part 2.5 of the *Criminal Code Act 1995* is *not* excluded from any prospective criminal provision (as it is in the EPBC Act).²³² Part 2.5 of the *Criminal Code Act 1995* prescribes how a corporation might be held criminally responsible for an offence.²³³ This is of importance as not only are corporations the principal offenders in matters relating to federal environmental protection, but because the Safeguard Mechanism targets Australia's top GHG emitters and as such, inevitably pertains to companies or corporations.²³⁴ This would ensure that the AFP would have a wider remit by which to pursue criminal emissions production by corporations, namely not only regarding the liability of senior individuals within a corporation who have failed in their oversight and management responsibilities.²³⁵

This is paramount given that as corporations are generally complex and diffuse, it is often difficult, if not impossible, to identify or attribute individual responsibility.²³⁶ This is largely due to the inappropriateness of ascertaining individual responsibility given the power imbalances, hierarchies, and informational siloes which potentially render individuals more susceptible to 'group think' and less able to perceive the consequences of their engagement and hence, more likely to inadvertently participate in illegal activities.²³⁷

Maintaining the civil element, however, would remain important to ensure that the idiosyncrasies of corporation criminal prosecution don't impede effective deterrence due to a (perceived or actual) reduced likelihood of enforcement.²³⁸ This is because corporate criminal

²³¹ Australian Law Reform Commission, "Corporate Criminal Responsibility," 171–72, 182, 196.

²³² *Environment Protection and Biodiversity Conservation Act 1999* (Cth) s 7, 498B(9).

²³³ Australian Law Reform Commission, "Corporate Criminal Responsibility," 34, 219.

²³⁴ Australian Conservation Foundation, "Ten Biggest Safeguard Mechanism Polluters Revealed," Australian Conservation Foundation, September 20, 2022, <https://www.acf.org.au/ten-biggest-safeguard-mechanism-polluters-revealed>; Australian Law Reform Commission, "Corporate Criminal Responsibility," 66.

²³⁵ *Environment Protection and Biodiversity Conservation Act 1999* (Cth) s 493 - 496; Australian Law Reform Commission, "Corporate Criminal Responsibility," 379.

²³⁶ Australian Law Reform Commission, "Corporate Criminal Responsibility," 66, 129.

²³⁷ Australian Law Reform Commission, 125–26, 128–29.

²³⁸ Australian Law Reform Commission, 35, 44, 159, 217.

prosecution engenders its own complications and impediments to successful prosecution. These include, firstly, the long delays associated with corporate criminal trials. This is an issue for various evidentiary and punitive reasons. For example, concerning the former, as years are likely to have passed, the viability of evidence and hence, the likelihood of successful prosecution, fades (for example, the memories of witnesses). Regarding the latter, the entity being charged is likely ‘a different beast’ to what it was, with new employees and executive officers. In such instances, the challenges of successful prosecution are again enhanced while liability is likely to become misplaced.²³⁹

Secondly, the difficulties of criminal proof are accentuated regarding corporate misconduct ‘...given the fundamental requirement of the criminal law that, for the most part, the corporation must not only commit the physical elements of an offence but also have the requisite state of mind’.²⁴⁰ As such, the requisite evidence, for example, corporate culture, is often located within the corporate structure itself, which, as it involves the shared values and norms of an entity, is a difficult piece of evidence to obtain let alone prove in a criminal trial.²⁴¹

Thirdly and substantiating the claims just made, comparatively to the prosecution of individuals, the prosecution of corporations in Australia is ‘extremely rare’. This is an occurrence that does *not* arise as a result of a reduced likelihood of engaging in illegal activity.²⁴² Conversely, academic literature suggests that incentives to offend increase, rather than decrease, in corporate contexts. From this the Australian Law Reform Commission has deduced that ‘significant amounts of corporate misconduct do in fact occur’ and that it is the incoherence and complexity related to corporate misconduct that results in the lack of regulation and enforcement.²⁴³

Fourthly, maintaining a civil penalty averts the complications that arise in the absence of a corporate ‘body’ towards which punishment can be directed.²⁴⁴ That is, as imprisonment is not a viable option, corporate prosecution becomes reliant on fines. As such, criminal and

²³⁹ Australian Law Reform Commission, 44.

²⁴⁰ Australian Law Reform Commission, 33.

²⁴¹ Australian Law Reform Commission, 41, 126.

²⁴² Australian Law Reform Commission, 33, 35.

²⁴³ Australian Law Reform Commission, 34–35, 96–97, 128.

²⁴⁴ Australian Law Reform Commission, 179.

civil penalties become largely indistinguishable in practice.²⁴⁵ Given this and the reduced likelihood of prosecutorial success in a corporate criminal context, a civil component (accompanied by heightened chances of prosecutorial success) is important to ensure that deterrence is maintained.

Despite this, the points highlighted above concerning the difficulty of attributing individual responsibility within corporate criminal settings still stand. As such, in relation to corporate criminal responsibility, the obstacles faced in whichever way the issue is approached, individual or corporate, render the attribution of criminal responsibility regarding corporations difficult in practice. In this context and in line with current practices, it appears necessary and most effective to maintain the civil regulation of corporate conduct to ensure that effective deterrence is not undermined by the inclusion of a criminal penalty.²⁴⁶

The implementation of a hybrid regime would, hence, ensure that where criminal prosecution was not successful, the same intelligence collected via the use of the AFP's surveillance mechanisms could be used in a civil case. This would bolster the practical outcomes of the CER substantially and thereby, enhance the Commonwealth's climate security response.

This change should be actioned as it would ensure both practical and proportionate outcomes. As alluded to above, although the AFP possesses similar powers to ASIO, it also possesses greater safeguards and oversight mechanisms. For example, the AFP is subject to greater judicial scrutiny, possesses greater public transparency, and its powers are constrained by statutory obligations to ensure proportionality.²⁴⁷ Unlike ASIO, the AFP is also subject to various oversight mechanisms including public, judicial, and parliamentary scrutiny. For instance, the AFP, unlike ASIO, is subject to oversight from the Commonwealth Ombudsman.²⁴⁸ As such, the AFP would be able to deliver similar results to ASIO, however, would do so in a way that offered substantially greater protections to democratic rights and freedoms.

²⁴⁵ Australian Law Reform Commission, 36.

²⁴⁶ Australian Law Reform Commission, 35–36, 44, 159, 217.

²⁴⁷ *Crimes Act 1914* (Cth) s IAB; Dalla-Pozza and Weeks, "A Statutory Shield of the Executive," 196–98; Blight, "Powers and Functions of Australian Security and Intelligence Agencies," 8–12, 14.

²⁴⁸ Australian Federal Police, "Risk Oversight and Management," Australian Government Website, Corporate Plan 2015 - 2019, accessed July 8, 2023, <https://www.afp.gov.au/sites/default/files/HTML/Publications/AFP%20Corporate%20Plan%202015-2019/pages/riskOversight.html>.

Australian Criminal Intelligence Commission (ACIC)

ACIC is the Commonwealth's statutory agency responsible for protecting Australia from serious criminal threats.²⁴⁹ ACIC was established under the *Australian Crime Commission Act 2002* with its main functions being to collect, correlate, analyse, and disseminate criminal information, undertake special Australian Crime Commission operations and investigations, as well as provision the Board of the Australian Crime Commission with reports, assessments and advice regarding criminal matters. Importantly, all the functions of ACIC pertain to crime.²⁵⁰ Current priority crimes include cybercrime, financial crime, gangs, illicit drugs, crimes relating to firearms, and terrorism.²⁵¹

Current constraints

Similarly to the AFP, as penalties regarding the breach of baselines under the Safeguard Mechanism are civil, ACIC cannot become involved under the Safeguard Mechanism. ACIC, like the AFP, could only become involved under the Safeguard Mechanism when instances of fraud, dishonesty, and deception were uncovered or if factors under the Safeguard Mechanism were connected to some type of other crime within their remit.

Potential involvement

Despite its current legal limitations, ACIC, as a strategic law enforcement intelligence body, has the potential to engage with the leverage point identified. As ACIC provides strategic support to the AFP, this is largely on the basis of the AFP having been identified as well-suited.²⁵²

Having this strategic support role, ACIC could work with ONI to ensure that practical pathways pertaining to criminal matters are not overlooked as a result of conceptual blind spots (foundationally addressing the identified leverage point). This would in itself aid the AFP, however, ACIC could also offer support by way of bolstering GHG emissions surveillance under the Safeguard Mechanism (directly addressing the identified leverage

²⁴⁹ Australian Government Australian Criminal Intelligence Commission, "About," Commonwealth of Australia, 2021, <https://www.acic.gov.au/about>.

²⁵⁰ *Australian Crime Commission Act 2002* (Cth) ss 4, 7(1), 7A.

²⁵¹ Australian Government Australian Criminal Intelligence Commission, "Priority Crime Themes," Commonwealth of Australia, About, 2021, <https://www.acic.gov.au/about/priority-crime-themes>.

²⁵² Australian Criminal Intelligence Commission, "About"; *Crimes Act 1914* (Cth) s 3ZZUK.

point). As such ACIC could play a supportive role regarding both ONI and the AFP. The following will assess whether legislative change could offer both strategic and proportionate outcomes.

Powers

ACIC's purpose is the coordination of strategic responses to crime, which involves the collection, assessment, and dissemination of strategic criminal intelligence.²⁵³ This differs from ONI, which is involved in all types of strategic intelligence, not merely criminal. Hence, ACIC is uniquely placed with a greater level of specialisation, expertise, and resources with which to conduct criminal strategic intelligence.

It must be noted that the intelligence conducted by ACIC also differs from that undertaken by the AFP. That is, law enforcement agencies, such as the AFP, tend to focus on the collection and assessment of intelligence for its evidentiary value.²⁵⁴ According to Walsh and Harrison (2021), law enforcement agencies tend to perceive intelligence 'as a support rather than core function' and as serving tactical and operational (rather than strategic) ends. This is largely the consequence of needing 'to respond to shorter-term tactical and operational priorities', creating 'a culture where often tactical drag [on intelligence] is almost inescapable'.²⁵⁵ Here, 'mission success' has historically been defined by increased arrests and prosecutions, rather than by the enhancement of strategic understanding regarding emerging risks and threats.²⁵⁶ ACIC's degree of separation ensures that longer-term strategic assessments on emerging criminal threats can be conducted without, or at least with less, 'tactical drag'.²⁵⁷ Hence ACIC is or could act as a type of conduit between ONI and the AFP.

As such, regarding the ability to foundationally address the leverage point, ACIC would be well-placed to aid ONI's conceptual development of climate security and associated practical

²⁵³ Australian Criminal Intelligence Commission, "About"; Walsh and Harrison MBE, "Strategic Intelligence Practice in the Australian Intelligence Community," 666.

²⁵⁴ Walsh and Harrison MBE, "Strategic Intelligence Practice in the Australian Intelligence Community," 667; John P. Sullivan, "The New Great Game: Military, Police and Strategic Intelligence for Global Security," *Journal of Policing, Intelligence and Counter Terrorism* 2, no. 2 (August 1, 2007): 22–23, <https://doi.org/10.1080/18335300.2007.9686895>.

²⁵⁵ Walsh and Harrison MBE, "Strategic Intelligence Practice in the Australian Intelligence Community," 668.

²⁵⁶ Walsh and Harrison MBE, 667; Sullivan, "The New Great Game," 22–23.

²⁵⁷ Walsh and Harrison MBE, "Strategic Intelligence Practice in the Australian Intelligence Community," 662, 667.

pathways from a criminological perspective. This would increase conceptual comprehensiveness and ensure that blind spots and biases were further minimised.²⁵⁸

Whether or not ACIC could directly address the leverage point also pertains to their powers. ACIC possesses a range of coercive powers (similar to a Royal Commission) such as the power to compel individuals to produce evidence, as well as possessing ‘a full range of traditional investigative methods’ such as the use of surveillance devices and telecommunications interception.²⁵⁹ As such, ACIC could also support the AFP regarding the employment of the identified leverage point, via aiding surveillance under the Safeguard Mechanism.

What change would be required?

Similarly to ONI, and regarding foundationally addressing the identified leverage point, one of the changes required is conceptual. However, some legislative changes may also need to be made to aid the process of conceptual re-evaluation and development.

Regarding directly addressing the strategic leverage point, ACIC’s current threat response is limited by the same factors as the AFP, namely that excessive GHG emissions are currently not considered a crime. For ACIC to have the potential to be involved in issues pertaining to excessive GHG emissions, again, the civil penalty under Subsection 22XF(1) of the updated NGER Act should be amended to *include* a criminal penalty. The inclusion of a criminal penalty would allow ACIC’s Board to initiate a response if deemed necessary.²⁶⁰

This change should be actioned as it would ensure that the leverage point is capitalised upon in a democratically proportionate manner. That is, similarly to the AFP, ACIC is subject to a range of different safeguards and oversight mechanisms, including by judicial, parliamentary,

²⁵⁸ Meadows, *Thinking in Systems*, 3–4; Goldin and Vogel, “Global Governance and Systemic Risk in the 21st Century,” 10; Ho, “Governing for the Future: What Governments Can Do,” 60–62; Goldin and Mariathan, *The Butterfly Defect*, 28; Ho, *The Challenges of Governance in a Complex World*, 20–24; Goldin, “Rethinking Global Resilience: The Pandemic Is Straining Economic and Social Fault Lines: The Only Remedy Is International Cooperation,” 6, 9.

²⁵⁹ Commonwealth of Australia Australian Criminal Intelligence Commission, “Operations and Investigations,” Australian Government Website, About, 2021, <https://www.acic.gov.au/about/operations-and-investigations>; Commonwealth of Australia Australian Criminal Intelligence Commission, “Legislation,” Australian Government Website, About, 2021, <https://www.acic.gov.au/about/legislation>.

²⁶⁰ Commonwealth of Australia Australian Criminal Intelligence Commission, “Board,” Australian Government Website, About, 2021, <https://www.acic.gov.au/about/board>.

and public means.²⁶¹ Hence, by supporting ONI and the AFP, ACIC would be able to deliver robust results in a way that aligned with Australia's democratic values.

Summary

As such it is concluded that ONI should contribute to furthering conceptual clarity regarding climate security, while AGO and the AFP should collaborate with the CER on the security threat posed by anthropogenic GHG emissions via GHG emissions surveillance. ACIC should support the actioning of both these opportunities. To realise these opportunities to enact the leverage point, it was recommended that an ONI-led task force be established; the collection and provision of GHG emissions data be prioritised within AGO; and, regarding the AFP and ACIC, that Subsection 22XF(1) of the NGER Act be amended to include a criminal penalty to form a hybrid criminal/civil regime. This would substantially enhance the Commonwealth's threat response, while ensuring outcomes were delivered in a democratically proportionate manner.

²⁶¹ Commonwealth of Australia Australian Criminal Intelligence Commission, "Governance," Australian Government Website, About, 2021, <https://www.acic.gov.au/about/governance>.

CONCLUSION

In conclusion, NIC could substantially enhance the Australian Commonwealth's current response to the security threat posed by anthropogenic GHG emissions. This thesis found that the agencies most suitable for this task were ONI, AGO, the AFP, and ACIC. This was uncovered through the process of first developing some conceptual clarity around the term 'climate security'; that was, understanding climate security as a term that encompasses more than just its manifestations. This led to the uncovering of a practical pathway forward that has hitherto remained overlooked; that NIC may be able to assist GHG emissions reduction. This constituted a strategic leverage point.

From here the analysis turned to how this leverage point might best be employed to ensure strategic outcomes. This was achieved by analysing the weaknesses within the Commonwealth's current threat response. There were found to be two major weaknesses; a lack of a strategic approach in the international realm and merely one, ineffective 'stick' within the domestic realm.

These weaknesses offered potential opportunities for NIC to capitalise on the leverage point. Specifically, these opportunities were whether NIC may be able to enhance the outcomes of climate diplomacy and/or support the monitoring of breaches to specific components of Australia's federal climate change legislation. Due to NIC's existing functions, as well as positive preliminary assessments of associated proportionality at minimal relative costs, it was deemed reasonable to further investigate whether and which agencies within NIC might be best able to deliver on the identified leverage point.

As such, an assessment of each of NIC's agencies and their respective functions was conducted to analyse current constraints that might restrict any potential to address the leverage point, investigate whether future involvement might be feasible and effective, and evaluate reasons for and against possible amendments. Through this process, it was found that DIO, HA, AUSTRAC, ASIO, ASD, and ASIS would be ill-suited to address the leverage point identified. DIO, HA, and AUSTRAC were found unable to utilise the identified leverage point. This was for differing reasons, however, largely to do with the niche and purpose within NIC that each agency holds; DIO as a traditional security-focused assessment agency, HA as an immigration and border control agency, and AUSTRAC as a financial agency.

Comparatively, and despite its contribution potential, it was found that ASIO should not utilise the identified leverage point. ASIO was found to be an inappropriate first line of response in a democracy due to their low thresholds, weak safeguards, and being the subject of minimal oversight. Finally, although ASD and ASIS were found potentially able to incorporate issues of climate security broadly and GHG emissions reduction more specifically into their remits, their potential to aid climate diplomacy to the degree in which substantial change (in the form of GHG emissions reduction) would be engendered was questionable. As more certain, efficient, and effective ways for NIC to assist GHG emissions reduction exist, involving ASD and ASIS was deemed to currently be an ineffective approach.

The remaining intelligence agencies presented the greatest contribution potential. These were ONI, AGO, the AFP, and ACIC. ONI, due to its assessment and leadership functions, was found to be uniquely placed to continue developing conceptual clarity regarding the term climate security and seeking to identify any accompanying leverage points (foundational). AGO was found able to potentially provide Safeguard surveillance support, particularly through its satellite expertise and capabilities (direct). The AFP was found to have potential to administer surveillance pertaining to the Safeguard Mechanism in a way that would be proportionate to the values of a democratic society (direct). Finally, ACIC was found to be able to support both the AFP and ONI in the above endeavours, respectively through their strategic criminal assessment as well as leadership functions, and their surveillance powers (foundational and direct).

As such, regarding ONI, conceptual development is recommended and the establishment of an ONI-led Climate Security Conception task force is suggested. ACIC should support ONI in this endeavour. Regarding AGO, it is recommended that the collection and provision of GHG emission satellite data and analysis to the CER be prioritised. Comparatively, to enable the AFP and ACIC to directly capitalise on the leverage point it is recommended that the legislation under the CER's Safeguard Mechanism be amended, specifically Subsection 22XF(1), to include a criminal penalty in addition to the pre-existing civil penalty to form a hybrid criminal/civil regime. This process, in which civil proceedings could be pursued in cases in which criminal proceedings were not successful, would ensure the necessary

surveillance was undertaken, while enhancing deterrence and the likelihood of penalty success.

As such, this thesis addressed all three gaps identified in the literature review; it focused on the broader intelligence community rather than merely the Department of Defence or agencies with assessment functions, underwent a legal analysis regarding intelligence agencies' climate security response capabilities, and finally identified ways in which NIC could become involved in a strategic approach to climate security and thereby substantially enhance the Commonwealth's climate security threat response.

As of late last year, the United Nations Environment Programme declared that, as a result of a global failure to reduce GHG emissions, there is currently 'no credible pathway' by which to limit global warming to 1.5°C. As such, the world is well underway to ensuring that catastrophic climate change becomes 'the default scenario'.²⁶² With irreversible tipping points and cascades having potentially already been initiated, urgent action is required now.²⁶³ However, states have hesitated to use the extraordinary powers of intelligence and security establishments to effectively counter this existential threat. If not now, when? By then, would it be too late?

Total word count: 19, 510

²⁶² Tessa Satherley and Lizzie Smith, "Climate Action and Natural Disaster Mitigation," text, Parliament of Australia, Australia, accessed April 16, 2023, https://www.aph.gov.au/About_Parliament/Parliamentary_departments/Parliamentary_Library/pubs/rp/BudgetReview/October2022/ClimateActionNaturalDisasterMitigation?fbclid=IwAR3GE7Drb4R5jZmfaWvfV-hYPOY4-FxAU-xLexRkTAuZaHYUJpbGCPENdoE; United Nations Environment Programme, "Inadequate Progress on Climate Action Makes Rapid Transformation of Societies Only Option - UNEP," UN Environment, October 27, 2022, <http://www.unep.org/news-and-stories/press-release/inadequate-progress-climate-action-makes-rapid-transformation>.

²⁶³ Lenton et al., "Climate Tipping Points — Too Risky to Bet Against."

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