



"MORE THAN A DISLIKE": AFFECTIVE POLARIZATION IN DISCUSSIONS ABOUT CLIMATE CHANGE ON TWITTER DURING AUSTRALIAN ELECTORAL CAMPAIGNS

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Executive summary

The thesis investigates affective polarisation over climate change and climate action stance in Australia in *Twitter* discussions involving political candidates before three federal elections in 2016, 2019, 2022. Using the tenets of affective polarisation and digital communication theories, and Laclau and Mouffe's discourse theory as well as Margaret Wetherell approach to affect and discourse, the research interrogated tweets and interactional data with computational and qualitative methods. Guided by the question of how construction of opposing identities in climate change discourses produce negative affect, the research explored themes of discussions, involved user groups, and their discourses.

The results found stable themes in climate change discussions persisting throughout the years: 1) climate change and climate action, 2) economic prosperity, 3) energy transition and technology, and 4) international dimension. In addition, temporary topics changing from election to election influenced the discussions. The discursive groups found in retweet networks have shown users ascribing to different discursive positions sustained closer ties in 2016, while in 2019 and 2022 opposers of climate action distanced from the rest of the network in 2019, and 2022. However, they did not isolate themselves but participated in cross-cutting discussions.

The study develops a view on *Twitter* as an affective-discursive space enabling users to take positions in discourses and to contribute to discursive struggles. In this space, discourses of climate denialism and climate action delayalism clashed with economic modernisation discourses. In the discursive struggle, negativity towards the other was produced through construction of opponents' identities in affective-discursive practices. Opposers of climate action constructed their antagonists as 1) irrational "religious fanatics", 2) threatening with high costs and loss of jobs, and 3) failing to grasp bigger picture, 4) the rich and hypocritic people, out of touch with reality, motivated by selfish economic interests that endanger Australia's national wealth and international standing, and 5) bad parents and children. Users supporting strengthened climate action affectively-discursively constructed their opponents 1) as doing injustice to children; 2) as detached from farmers and their concerns; 3) as a threat to the country causing its problems; 4) threat to the planet. The empirical findings support the idea that meaning-making and affect are intertwined, as the constructions of identities develop justifications for dislike extending beyond factual or policy disagreements.

1. Introduction

The present thesis is inspired by three academic shifts having occurred around the same time ten years ago. First, within the scholarly debate over roots of increased polarisation in the United Stated, Shanto Iyengar, Gaurav Sood, and Yphtach Lelkes (2012) made an important conclusion: while their political views had not undergone changes, American citizens increasingly disliked and loathed the political parties they do not support, that is the society is *affectively* polarised. The explanation suggested by the scholars attributed this to social identity forces predisposing people to positively differentiate a group they identify with and growing identification with either Democrats or Republicans in the population as well as political campaigns vilifying the outgroups.

Second, Kahan and colleagues (2011) made an important contribution to the realm of science communication. They concluded that (dis)belief in human-induced climate change is not associated with individual's intelligence and ability to understand scientific information, as had been considered thus far, but rather people use their cognitive abilities to protect their identity-defining beliefs.

Third, digital communication scholars commenced articulating disenchantment over the Internet and social network sites that place us in informational filter bubbles against our will and knowledge (Pariser, 2011), render users less powerful and divide us rather than democratise and increase participation (Keen, 2012; Morozov, 2011).

The problem I attempt to investigate in my thesis lies in the nexus between these different orientations. In wider terms, I am looking into affective polarisation in climate change discussions on platforms entering the respective scholarly debates.

Since the first mentions, affective polarisation attracted more and more scholarly attention. It was detected in multi-party contexts (Borrelli et al., 2021; Harel et al., 2020; Harteveld, 2021; Kekkonen & Ylä-Anttila, 2021; Knudsen, 2021; Neumann et al., 2021; Nordbrandt, 2021; Yarchi et al., 2021; Yu et al., 2021). Scholars found the dislike towards people with different views on various topics from animal rights to vaccination (Bliuc et al., 2021), including among climate change "deniers" and "believers" (Tyagi et al., 2021). Animosity towards political outgroups may jeopardize cooperation and collective action increasing social distance and presenting risks of discriminatory and violent behaviour (Somer & McCoy, 2018). It makes dialogue between people with different views difficult (McKay & Tenove, 2021; Suk et al., 2021) and is a herald of democracy decline (Stark et al., 2022). While what is good or bad for democracy is debatable, on a practical level, affective polarisation influence views and policy preferences making us prone to "politicize" issues

(Druckman et al., 2021). It produces more differences and perpetuates the dislike. Thus, not surprisingly, political polarisation can be a strategy for creating controversy and delaying policies and progress, especially in relation to environmental issues, implemented by inducing contrarian discourses through organisations involving corporate funding (Farrell, 2016).

Doubts about the reality and human activity related causes of climate change have grown among Western democracies in the late 2000s, especially among voters of right-leaning parties (Whitmarsh & Capstick, 2018). The polarisation results in climate action policy gridlock (van Eck et al., 2020). With the current mediatisation of public life, the divisive role of new media in societies have been interrogated. Scholars supporting filter bubbles and echo chamber hypotheses (Sunstein, 2017) argue digital communication platforms fuel polarisation (for example Ferraz de Arruda et al., 2022). They believe communication with like-minded users without exposure to alternative views increases animosity towards holders of different opinions. But there is an opposing view that online platforms push us to communicate with our outgroups, and challenge conventional centrifugal and centripetal forces of social identity (Törnberg, 2022; Törnberg et al., 2021) due to context collapse (Davis & Jurgenson, 2014). Algorithms of platforms are protected property of the companies owning the popular social media and their workings are not only known to a very limited extent but also are evolving. The debate on the divisive role of social media will likely be ever present. This, however, should only stimulate further exploration and investigation of communication on platforms to map possible undesirable consequences and think of their prevention.

Hence, I decided to explore affective polarisation in climate change discussions on social network sites. My main research question was: How does construction of opposing identities in climate change discourses produce negative affect in political discussions on Twitter? Looking for an answer, I studied interactions related to climate change topics involving politicians on *Twitter* during the last three pre-electoral periods before the elections to the Australian House of Representatives. The Australian context presents a fruitful field to study the topic. Projecting an exemplary readiness to act on global warming challenge until the early 1990s (Taylor, 2014), the country has shifted to being among top-8 nations by the percentage of people denying climate change as of 2020 (Buchholz, 2020). In Australia, the climate change issue, action, policies and institutions, have to overcome "extreme political polarisation and uncertainty" (MacNeil, 2021, p. 164). Views on and knowledge about climate change diverge across the political party and ideology lines (Tranter, 2013, 2021). For the right leaning Liberal and National parties' voters, climate change is far less of a concern than for supporters of the left leaning Labor, and The Greens

parties (Colvin & Jotzo, 2021). Two additional factors supported the decision to choose the context. Firstly, affective polarisation increases with growth in election salience and is mediated by both the strength of identification with a party and opinion polarisation (Hernández et al., 2021). Secondly, *Twitter* was found to be the most polarising platform compared to Facebook and WhatsApp in an earlier study (Yarchi et al., 2021). In this thesis, I don't regard opinion polarisation in relation to climate change as merely a division between climate change "deniers" and "believers". While identity of climate change deniers and its implications for policy opinions are arguably obvious and result in rejecting any need of climate action, having a belief in human-induced climate change must not implicate support of mitigation and adaption strategies. The recent findings of strategies to undermine climate action revealed discourses of delay when solutions are criticized without rejecting climate change science (King et al., 2022). Hypothetically, people may share the scientific consensus but believe that nothing can be done to mitigate the problem. I understand the division across climate change issue as a distance between supporters and opposers of a strengthened climate action regardless of whether it stems from the (dis)belief in the reality of climate change and/or the role of human activity in global warming.

Qualitative discourse approach preceded by computational methods used in this thesis is novel as affective polarisation has been predominantly investigated through quantitative surveys or experimental surveys and quantitative computational linguistic, with few exceptions (for example Boler, 2021; Harel et al., 2020). Discourse analysis is useful to explore conflicting knowledge claims and can "help to explain and account for the vigour of sentiments in relation to a topic" (Buizer & Kurz, 2016, p. 50). This brings advantages of exploratory research and challenges of careful selection of data analysis methods and their combinations. This will be addressed in the following chapters.

The thesis is laid out as follows. In Chapter II, I discuss the **Theoretical framework** combining theorisations of affective polarisation, elements of the Discourse theory by Laclau and Mouffe, affective discourse approach and the relevant tenets of digital communication theory. Next, I present the **Objective and Research Questions** (Chapter III) followed by elaboration on the **Methodology** (Chapter IV) where I also present the Australian case in detail. The findings are provided in the **Results** section (Chapter V) and located in relation to a wider theoretical debate and other empirical findings in **Discussion** (Chapter VI). In the final Chapter VII, I formulate **Conclusions**.

2. Theoretical Framework

Affective polarisation (henceforth also "AP") has been problematized as undermining the deliberative democracy ideal of dialogue that leads to consensus (McKay & Tenove, 2021). With this view, the aim of deliberative democracy is to restore the possibility of a meaningful (i.e. rational) dialogue between opposing groups, returning to a "point of no hostility". Contemporary theorists of deliberative democracy have rejected the view of consensus as of the agreement on reasons positing it is an agreement on a course of actions and have included different cultures of communication (i.e. including emotions) to their conceptualisations (Curato et al., 2017), thus it is important to point out that the agonistic pluralism I employ to look at AP emerged as a direct critique of Habermasian deliberative democracy (Mouffe, 1999). It takes different direction and regards the "point of hostility" as initial state of society. The study employs concepts from the discourse theory developed by Ernesto Laclau and Chantal Mouffe that forms the basis for their normative model of radical democracy or agonistic pluralism, along with the concepts of AP and digital communication theory. In this chapter, I first outline the current theorizations of affective polarization followed by the overview of the main proposition of the Discourse theory, discussion of affect and discourse and how AP can fit the lens. In the end, I discuss propositions of digital communication theory and propose conceptualisation of social network sites as affective discursive spaces.

2.1. Affective polarization

Political scientists conceive affective polarisation as "the extent to which partisans view each other as a disliked out-group" (Iyengar et al., 2012, p. 406). AP is usually linked to the Social Identity Theory (SIT). The SIT (Tajfel, 1970; Tajfel and Turner, 1979) posits individuals prone to categorise themselves and others based on perception of the self and characteristics of others into ingroups or outgroups. Individuals tend to favour their ingroups and discriminate against outgroups (intergroup bias). Even the most arbitrary divisions into groups lead to ingroup favouritism (minimal group bias) - "the tendency to respond more positively to people from our ingroups than we do to people from outgroups" (Stangor, 2014). Therefore, AP consists of three components: 1) identification with a group, 2) ingroup favouritism (like), and 3) outgroup discrimination (dislike). Identities are constructed in negotiations and framing of a group's shared characteristics (Taylor & Whittier, 1992). It involves establishing boundaries between in- and outgroups with symbolic codes of distinction (Eisenstadt & Giesen, 1995). Jasper (2019) point out that identity formation relies equally on thoughts and emotions. He distinguishes emotions from what he calls "affective commitments" that are simple attraction or repulsion. However, they are enduring patterns

of how we relate to the world and form a basis for development of more complex cognitive or emotional patterns such as love, respect, admiration, trust, fear, resentment etc. "Because of their persistence, they are subject to considerable stabilisation through texts, rituals, and the full panoply of cultural aids" (Jasper, 2019, p. 346). Through our imagination we can emotionally connect to a group we identify with, in absence of our fellow members and crossing geographical distances. Similarly, in social cultural psychology tradition, Salvatore et al. (2021) conceive affect as grounding and shaping the hierarchy of generalised meanings constituting worldviews and as a mediator for interpreting experiences.

AP can be better understood if juxtaposed with the concept of ideological polarisation. In their seminal work, DiMaggio, Evans and Bryson (1996) posit the latter as both a state and a process defining it "as the extent to which opinions on an issue are opposed in relation to some theoretical maximum" and "the increase in such opposition over time" (p. 693). Polarisation is usually spoken about in terms of differences in support of two or more political parties as partisanship can inform positions on a variety of topics (Lauka et al., 2018). Ideological polarisation is connected to the content of beliefs and, in some of its forms, can be beneficial for democracy which values diversity of opinions and availability of multiple policy positions (Stavrakakis, 2018). In its turn, AP is grounded in the negative valence of feelings and their strength towards those holding a different opinion and their degree provided neutral or positive affective response to the likeminded. Thus, at least at first sight, the content of belief still plays a role as it related to negative affect and biases. Accordingly, some scholars argue AP is driven by opinion or ideological polarisation (Abramowitz, 2021; Dias & Lelkes, 2021). That is, increasing distance between positions increases negative feelings towards people with different views. However, other scholars (for example Mason, 2015, 2018; Törnberg, 2022) disagree with this argument believing the roots of AP lye in social sorting – alignment of multiple positions on many issues and a decrease in cross-cutting identities. A reverse dynamic between AP and ideological polarisation was also empirically captured in a study by Levendusky & Malhotra (2016): media coverage about polarisation facilitated more moderate issue positions of respondents but an increased affective polarisation. This intuitively goes in line with the inferences of Enders and Armaly (2019), Huang and Kuo (2022), and Wilson et al. (2020) about a stronger relation with perceived polarisation, i.e. distance between issue positions of an individual and their assumed issue position of an outgroup, compared to actual polarisation. In fact, the perceived polarisation as a driver of AP would plausibly explain the asymmetrical nature of AP. Unlike opinion or ideological polarisation where a view on an issue is compared to the other's view on a theoretical spectrum, AP does not suppose

interdependence in any form, including mutuality or reciprocity: one individual/group may be less negative towards the other and thus less polarised. Lastly, there are a myriad of other explanations of how AP occurs. For instance, Almagro Holgado (2021) argues the confidence in belief (i.e. radicalisation) as opposed to belief extremity fuels AP; Enders & Lupton (2021) suggested differences in fundamental values, that can still be shaped or changed under influence of ideologies, predict future polarisation. Nevertheless, all the hypotheses are not mutually exclusive. Hypothetically, an individual's belief can get more extreme, it can concord with other issue positions of the same belief holders while the belief holder would perceive a great division between them and people with opposing views and become more confident in their righteousness adjusting their values. Each and all the possibilities can lead to (an increased) affective polarisation.

A deeper layer of understanding is offered by communication premises for explaining pathways to polarisation as they are dealing with information environments that shape our beliefs. These tenets will be discussed after I introduce Laclau and Mouffe's Discourse theory and see how it interacts with the concept of affective polarisation.

2.2. Laclau and Mouffe's Discourse theory

The Discourse theory of Laclau and Mouffe and their agonistic pluralism model emerged as a reaction to Marxism and structuralism in the early 1980s and further developed in multiple works of the authors (Laclau & Mouffe, 2001; Laclau & Zac, 1994; Mouffe, 1993, 2013, 2018). It provided an alternative and a reaction to Habermasian deliberative model of democracy based on individualist and rationalist assumptions of possibility to reach rational consensus though deliberations in an ideal public sphere giving voice to all affected by an issue under the deliberation (Karppinen et al., 2008). The theory rejects such a possibility arguing instead that conflict or antagonism is inherent in and constitutive of society rendering any social order contingent and hegemonic and any consensus precarious. This brings political dimension into social relations: because no order is naturally given, the societal organization inevitably results from power configuration. Politics in the conventional understanding, according to Mouffe, is "an ensemble of practices, discourses and institutions that seeks to establish a certain order and to organize human coexistence in conditions which are always potentially conflicting, since they are affected by the dimension of 'the political''' (2013, Chapter 1, para 3).

Political decisions always involve a choice between conflicting alternatives. Hence, the societal organisation is brought into being by exclusion of all other possibilities and can always be challenged (Mouffe, 2013). Hegemony starts and ends with antagonisms in the

sense that there is no domination without existence of alternatives and struggles between them to become the objectivity. Antagonisms are ever present in the society and consensus in Habermasian understanding is impossible as any consensus is always provisional, "conflictual" and "by necessity based on acts of exclusion" (Mouffe, 1993, p. 69). "Thus, where there is consensus there is exclusion, and where there is exclusion there is the operation of power and hegemonic struggle" (Worsham & Olson, 1999, p. 165).

The hegemonic struggle takes place in the discursive space which encompasses all social reality, i.e. there is no social outside of discourse, meaning discourse can include not only language but other practices and material objects (Laclau & Mouffe, 2001, p. 109). Importantly, it does not mean that things do not exist outside discourses. They do; however, they acquire meaning only in the discursive space through relation of their signifiers to other nodes or signs. The signs positioned in a discourse are called moments. Outside of discourse, they are elements. Elements are engaged in a discourse through practices of articulation, i.e. establishing relations among elements that changes their identity. Such meaning making results in a "structured totality" (Laclau & Mouffe, 2001, p. 105), which constitutes a discourse. Accordingly, moments are elements, meaning of which was fixed in a discourse by exclusion of all other possible meanings. These excluded meanings constitute field of discursivity. In other words, the field of discursivity presented by all other meanings that a sign has or had in all other discourses (Jørgensen & Phillips, 2002). For example, climate change could be articulated as a problem to tackle or as a hoax or conspiracy against the globe population in the other discourse, similarly fossil fuel can be articulated as a source of wealth for the nation or as a retrograde fuel causing the environmental problem, etc. All possible meanings of signifiers that are left outside of a given discourse belong to the field of discursivity. Jørgensen & Phillips (2002) found this concept requiring elaboration to clarify if it means "a comparatively unstructured mass of all possible constructions of meaning or if it is itself structured by the given competing discourses" (p. 27) and suggested adding another concept to distinguish these two cases. However, describing the field of discursivity as the "surplus of meaning" (Laclau & Mouffe, 2001, p. 111) of a signifier and since meaning can only exist in a discourse, the theory suggests that the concept implies all other ways that a signifier is used in the other discourses. Because discourses strive for hegemony in imposing a meaning, the field of discursivity is pertaining to (other) meanings of the same nodes in competing discourses.

Figure 1 illustrates a meaning making process where elements are articulated in a discourse as moments so that they are given meaning by relating them to the other signs in the discourse while competing discourses relate the signs in a different way producing the surplus of meaning. Another concept that is depicted on the figure but still needs

elaboration is 'nodal point' (Laclau & Mouffe, 2001, p. 112). A nodal point is a privileged signifier around which meaning of other signifiers is fixated. All moments in a discourse acquire meaning in relation to the nodal points. Jørgensen and Phillips (2002, p. 26) give an example of 'body' as a nodal point in medical discourses, in relation to which many other signs acquire their meaning. Similarly, 'climate' or 'climate change' could be a nodal point in the respective discourses as meanings of other signifiers (such as 'fossil fuel', 'coal', 'energy', 'glacier' etc.) are given in relation to it.



Figure 1. The process of meaning making in Laclau and Mouffe's Discourse theory.

The moment of meaning fixation is called 'closure'. It is always temporal, precarious, and contingent. It "leads to a process of struggle among competing discourses that aim to provide a stability of meaning to those nodal points and succeed in the hegemonic struggle. This process of discursive struggles is referred to as antagonism" (Dehghan & Nagappa, 2022, p. 4). However, it does not mean societies must live in constant transition from one hegemonic discourse to the other. Discourses stabilize and become sedimented as a "historical outcome of political processes and struggles" (Jørgensen & Phillips, 2002, p. 36) so that we start treating a part of the social reality as objective. In addition, there are signifiers the meanings of which are hard to fix in discursive struggles as they don't have the respective signified in the material world. Examples of such signifiers are such words as "democracy" or "welfare". Their meaning is an object of discursive competition among different political forces (Laclau & Zac, 1994). These are empty or floating signifiers. Due to the relative unfixity of their meaning in any of the discourses, they help create discursive alliances based on chains of equivalence.

A chain of equivalence constitutes a formation of different discourses/identities that can be together differentiated against something else. To explain it, Laclau and Mouffe (2001) use the example of how a colonizer's power transpires in a colonized country. Colonizers differ in their language, clothing, color of skin from the colonized – these are different contents that are, however, identical in their differentiation from the colonized population: "the differences cancel one other out insofar as they are used to express something identical underlying them all" (p. 127). However, within the equivalence, the differences are not negated, and particularities are preserved. Therefore, all identities are relational and constructed in discourses (Laclau & Mouffe, 2001, p. 111). Identities take an important place in the theory, especially with regards to their fluid nature as the theory rejects fixed subject positions in a social structure. The aim of political forces and discourses is understood as offering attractive subject positions and achieving hegemony in discursive closure.

The antagonistic nature of the social brings another important notion – 'constitutive outside'. It helps construct our political identity distinguishing 'us' from 'them', establishing frontiers defining 'an enemy' (Mouffe, 1993, p. 69). Moreover, all identities exist only in their difference to the constitutive outside that threatens the very existence of the identity, but also brings it into being. That is, 'we' is as is because 'we' is not 'them'. The task of a pluralist democracy is to mediate these relationships between enemies so that antagonism becomes agonism. It means to transform relationships between enemies whose existence negates identity of their antagonists into relationships of adversaries who acknowledge the right to defend each other's position even though their differences are irreconcilable. In this vein, Mouffe stressed the need to articulate political identities through democratic equivalence (1993, p. 84), that is different political forces could form a chain of equivalence by virtue of being committed to democracy as opposed to those who are not. Commitment to shared ethico-political values such as liberty and equality could transform enemies into adversaries fighting for their interpretations thereof (Mouffe, 2013).

Laclau and Mouffe's discourse theory was criticized over the necessity of minimal consensus for the agonistic model to be sustainable while the approach rejects consensusbased democracy (Erman, 2009; Knops, 2007; Vasilev, 2015), and a lack of specific normative orientations that make different political offerings incommensurable without any common point of reference (Geras, 1988; Townshend, 2004). It was a common misreading of the theory that Mouffe had to clarify (Mouffe, 2012). The theory does allow for consensus. However, it is conflictual and can always be challenged as there is no objective social reality, any configuration is possible. A social order is not something that has to be. As for the common point of reference, commitment to a shared value keeps the relationships adversarial. It is, however, unclear how parties could come to the shared commitment.

2.2. Interaction between the Laclau and Mouffe's Discourse Theory and Affective Polarisation

If for deliberative democracy, affective polarization is detrimental and a product of workings of some forces as it undermines the respect to an opponent in deliberations (McKay & Tenove, 2021), Laclau and Mouffe's agonistic pluralism would regard it as integrative part of the social life and its starting point since conflict is inherent in a society. Antagonism implies a "fatal discursive competition" between 'us' and 'them' as between opposite identities that negate each other. Identities and passions are given considerable attention in Mouffe's theorisations and have some overlaps and differences with theorizations of AP.

In line with social psychologists (e.g. Taylor & Whittier, 1992; Eisenstadt & Giesen, 1995), in the agonistic model, identities do not objectively exist but are discursively constructed creating the distinction from the 'others', and are continuously accepted, resisted, reconfigured (Chronaki & Kollosche, 2019). They are never given or fully constituted, there are no "true" or essential identities. Because identities are never given, antagonisms, as a competition for defining identities, are essential for their existence: "the very condition of possibility of the formation of political identities is at the same time the condition of impossibility of a society from which antagonism can be eliminated" (Mouffe, 2013, Chapter 1, last para). This "enemies" mode of relationships between different identities is natural and needs to be transformed into adversarial mode – a task for social institutions in liberal democracies. Importantly, the political identity is ever changeable through "successive acts of identification; acts that will sustain, modify, resist or reject that concrete order" (Laclau & Zac, 1994, p. 37). From this point, ascribing to, i.e. taking a subject position in, a discourse equals to identification (Jørgensen & Phillips, 2002). Identities are overdetermined meaning that several conflictual discourses strive to establish their subject positions. When there is no such a visible struggle between different subject positions, discourses have sedimented and the order became appearing as natural in the outcome of earlier hegemonic struggle (Jørgensen & Phillips, 2002, p. 41). Overdetermination occurs when we have to choose to act as a mother, a climate change activist, a Christian in a situation, maintain Jørgensen & Phillips (2002) exemplifying an election day situation. From this point, naturalization of discourse (absence of cross-cutting identities for a given situation) would correspond to social sorting hypothesis that explains affective polarisation. This means that subject positions offered in one discourse are in relationships with subject positions in other discourses.



Discursive struggles Discursive struggles Discursive struggles



Identity B

Figure 2. Social sorting hypothesis conceptualized through the Laclau and Mouffe's Discourse theory.

Figure 2 presents the situation when such meta-identities *A* and *B* are shaped by the taken *subject position 1* in one discourse, *subject positions 2* and 3 in other discourses that are now influencing each other and "locking-in" the identification of an individual. Signifiers become related in a chain of discourses, naturalizing identities by reducing overdetermination. This can make closure and sedimentation of discourses harder as it would require all discourses in a chain win the struggle with a chain of the constitutive outsides.

In other words, identities are constructed across different discourses creating meanings and knowledge of a variety of social domains. For example, partisanship is associated with climate change concern in Australia (Colvin & Jotzo, 2021). An alteration in identification in one discourse would mean revisiting identifications in related discourses. Assumingly, one of the enablers of emerging meta-identities is identity politics. It is possible only in liberal democracies where many groups, marginalized in other societies, are able to participate in the political life (Heyes, 2020). AP occurs when a number of discourses have interacting identities or create one meta-identities, i.e. use the same signifier for it, are in opposition with a similar set of discourses. This renders greater perceived differences than in the case if antagonists in one discourse had shared positions in other discourses at the same time.

2.3. Affect and discourse

In the normative dimension of the Laclau and Mouffe's theory, one point still needs clarification. If this multiple antagonism is shifted to agonism, would this mean the end to affective polarisation and adversaries must not be treated with negative affect at all? Mouffe acknowledges affectivity of the political and criticizes incapacity of other liberal theories to do so (Mouffe, 2018). According to her, strong collective identities are built around passions and are the result of affective investment. Using the language of Freud's psychoanalysis, Mouffe (2013) suggests passions should not be eliminated from the public life, but the aggressiveness must be acknowledged and contained through "the mobilization of the libidinal instincts of love, in fostering communal bonds to establish a strong identification among the members of a community, thus binding them in a collective identity" (Collective Identities, para 6). For example, different opposing or conflicting groups within a nation can become adversaries if strong national identity is mobilised. However, bonding though a bigger collective identity might be problematic because of inevitable existence of a constitutive outside in line with the logic of Laclau and Mouffe discourse theory. Antagonists effectively form a chain of equivalence based on shared values in difference to a bigger mutual enemy who does not share them.

Mouffe further builds her understanding of affect on the Freud's and Spinoza's theorizations. Affects are conceived as "the qualitative expression of the quantity of libidinal energy of the instincts" (Mouffe, 2018). The same energy produces different affects and supports different affective attachments. Affects make people act in one or the other way under the external impulses, producing a desire and making us act accordingly. Following Spinoza, Mouffe believes that affect can be (re-)directed to different objects. Affects are crucial for encouraging political actions and their role must be accounted for in democratic politics. A successful democracy, from this view, would be achieved when a collective identity supersedes through a chain of equivalence all the conflicting identities and is built through investment of positive affect in it that would transform the initial aggressiveness into something else. Mouffe has not specified how the democratic passions should be developed and how the transition from antagonism to agonism should be made. However, following Spinoza, she argues the antagonistic affect can be replaced by a stronger opposite affect (i.e. love for democracy) able to suppress it.

Still, it is not clear if the suppression of aggressiveness means total elimination of repulsion. As Mouffe added her theorisations of passions relatively lately, there is still room for development. Mihai (2014) believes agonistic emotions can be conceptualised and cultivated. Having analysed Mouffe's utterances about hopes and indignation, she argues agonistic struggles are always led in political terms and avoiding moralism, i.e. depicting the opponents in moral terms like "evil", "bad", "backward" as it contradict agonism's disposition to recognize of the opponent's right to existence.

Apart from uncertainty as to what feelings would be considered adversarial and how they can be achieved, it is not clear if Mouffe deems this transformation of affect happens inside bodies or in the social realm. In other words, does the affective investment that result in identities belong to the social, i.e. discursive? Mouffe's engagement with philosophical conceptualisations of affect and emotions as instinctual energies that precede actions seem to hide them from analytical interrogation. Developments of social psychology suggest that emotions should be included in social analyses. For example, intergroup emotions approach (Mackie et al., 2008; Smith, 1993) proposes emotions are socially shared. It postulates different emotions (fear, anger, disgust to outgroups, pride, satisfaction, or joy to ingroups) lead to different consequences and signify readiness for action. They are "a powerful force for both directing and regulating interactions between social groups" (Mackie et al., 2008, p. 1875). According to Spears (2011), less powerful groups may fear more powerful outgroups, while the latter may feel anger facing threat for their identity from outgroups - these emotional reactions can predict the action tendency such as avoidance or confrontation. In a similar vein, constructivist approaches to emotions (Averill, 1980) maintains that emotions have social functions and can be taught. They do not negate the bodily processes but engage only with emotions' social roles.

Until recently, discourse studies regarded affective processes outside of meaning making conceived as belonging to the realm of thought and knowledge, and did not take affect or emotions into account (Wetherell, 2013). However, I agree with scholars positing affect circulates in discursive practices and is productive as it affects the others and shows how a subject relates to the world (Milani & Richardson, 2021). Therefore, affective investment as part of identity work can be studied in discourses and can reveal power relations and structuring patterns with regards to different groups. Doing justice to the role of affect without dismissing its bodily positioning, Margaret Wetherell (2013) conceptualised affective-discursive practices. They discursively produce relations of proximity and distance, exclusions, attachments and detachments (Wetherell et al., 2015). For the scholar, affect and emotions are ontologically the same, but emotions are a product of cultural patterning of affect. In affective-discursive practices, we create identities relating ourselves to the other and the others to the others. Therefore, meaning making not only pertains to cognition but encompasses an affective dimension that is situating subjects in relation to meaning: "an affective-discursive social practice like righteous indignation, for

instance, or a practice like claiming victimhood, or suggesting that something is unfair, is how ideology functions" (Wetherell et al., 2015, p. 60).

Conceiving discursive practices as affective allows bringing affective polarisation into the discursive space and see it as intertwined with meaning making. Thus, I regard discourses have an affective dimension that is involved in articulation of a relation of a subject to other subject(s) producing affects. The articulations are performed in direct (e.g. in consultations, hearings, demonstrations, protests) and mediatised engagements (in traditional and new media). Digital spaces become increasingly a place of discussion of current affairs and a variety of issues. In the next section I will discuss what role they play in shaping the interactions and their outcomes.

2.3. Social network sites as affective discursive spaces

Digital communication technologies brought about changes into political communication providing more opportunities for participation, empowering social movements (Lievrouw, 2011), and ways to express solidarities (Nikunen, 2019). As Boccia Artieri et al. (2021) argue, digital spaces prompt emotional alignment and amplification that "can mark the polarity of a specific collective group, even simply through a supportive comment, a share or a like" (p. 226). However, the issue with social network sites is that being proprietary, they were not designed to fit and serve any model of democracy but are subsumed to the capitalistic logic of production. The networked media enabled 'communicative capitalism' (Dean, 2009) with platforms capitalising on users' participation while diminishing exchange of reasons and stimulating emotional interactions. The domination of affect and emotion in political and social discourse across networked media leads to emergence of 'affective societies' (Slaby & Scheve, 2019) where affect and emotions become institutionalised. Increased interest in our emotional lives leads to datafication of our feelings (McStay, 2018). According to Boccia Artieri et al. (2021), "Facebook has modulated the reactions to posts over time by introducing the variables 'Love', 'Haha', 'Wow', 'Sad', 'Angry' and 'Hug' next to the 'Like' in order to better measure emotions of users and be able to profile them" (p. 226). The modern platform ecology carries economic incentive to make emotions machine readable to have insights into user engagement with the content and technology as well as to influence the experience (Bakir & McStay, 2018). The infamous experiment on Facebook has shown emotional contagion can occur through platforms without direct interaction and non-verbal cues (Kramer et al., 2014). Investigating how users follow real-life events, Zizi Papacharissi coined the term 'affective publics' to denote the formations of users connected and temporarily united by affect and emotions in how they experience real-life political events on Twitter (Papacharissi, 2016; Papacharissi & de Fatima Oliveira, 2012). Hence, social network sites are "proved useful to cultivate groupbased emotional attachments" (Park et al., 2021, p. 4). Emotions circulating online constitute a social glue for groups (Boccia Artieri et al., 2021). They are therefore a good outlet for cultivating affect or passions; however, those might be hard to sustain. Affective responses on social media are short-lived or, using language of Nikunen (2019), solidarities are 'wasted' (p. 34) with likes of the publications that are quickly forgotten as profiling needs more and more reactions to different content.

In addition, political affective expressions on social network sites are often characterized by polarity that has repercussions of inhibiting less passionate participation in political discourses. Studying political campaigns in Asia, Lim (2017) developed the concept of algorithmic enclaves that embraces users' and algorithmic mutual shaping of discourses that are affective and binary, i.e. representing love or hate towards issues and actors. Affect is crucial for cohesion in such enclaves. At the same time, users with moderate opinions found to be silenced as they fear to antagonise either affective group - this is what Bail (2021) calls "false polarisation". McKay and Tenove (2021) point to mutual reinforcing relationships of AP and social media behaviour denoting it as techno-affective polarisation. Such polarisation could be one of the effects of disinformation campaigns. Fakes are known for their use of negative emotions (Damstra et al., 2021) and usually target specific groups more than others (McKay & Tenove, 2021).

Generally, scientific thought holds that people may polarise through two main (but not only) pathways. The first way ascribes polarisation to echo chambers (Sunstein, 2017) or filter bubbles (Pariser, 2011) when people network with like-minded users or receive congenial information due to algorithmic selection respectively. Castillo-de-Mesa et al. (2021) studied discussions around migration under the *#OpenArms* hashtag on *Twitter* through network analysis algorithm and confirmed the echo chamber hypothesis. Nevertheless, both concepts have been criticised by other scholars who argue such informational isolation in the modern media ecology may happen only in rare and extreme cases, and most people do encounter a variety of content even if just to develop counter arguments (Bruns, 2019). This point is furthered by a study of Wojcieszak, de Leeuw, et al. (2021) who examined twelve months browsing data of slightly more than a thousand participants from the US revealing that partisan media accounted for less than 2% of the web visits history. Also, Beam et al. (2018) found no evidence that congenial information on Facebook drives affective polarisation.

Alternative explanation of polarisation lies in a way we process information which contradicts our prior beliefs and attitudes via selective perception (Festinger, 1962) making

it fit our existing position; selective retention (Klapper, 1960) forgetting information that is incompatible with our attitude; or confirmation bias (Wason, 1960) assigning less weight or validity to it; and motivated reasoning (Taber & Lodge, 2006) finding counter arguments to rationalise experienced dissonance. Indeed, Bail et al. (2018), for instance, concluded that opposing views exposure on social media can increase affective polarisation. Törnberg (2022) argues social media algorithms forcing us to interact outside of our bubbles drive affective polarisation as cross-cutting identities are erased due to sorting. On the other hand, Amsalem et al. (2021) found depolarising effect of heterogenous discussion networks.

In sum, both – homogenous and heterogenous information environment – can increase affective polarisation. Therefore, congeniality with the existing views is not sufficient to predict it as otherwise any disagreement in views would lead to affective polarisation, which is not the case.

At the same time, scholars have even more mixed views as to whether, why, and how digital communication polarises users. For Bliuc et al. (2021), ease of connection and communication with like-minded people that facilitates forming of ideological camps, low entry barriers and possibilities to reach larger number of people compared to offline contexts, and anonymity that allows for voicing opinions that would be socially unaccepted in offline context are conducive for polarisation. Bryson (2020) argues that online media environment erodes moderates and polarize even persons uninterested in politics when they are exposed to online information. Still, there is no consensus regarding the relationships between online platforms and polarisation in society. Wilson et al. (2020) sees it as one of the factors. Nordbrandt (2021) found no relation between social media use and levels of polarisation. Beam et al. (2018) found Facebook may have a depolarizing effect. Yarchi et al. (2021) found depolarizing effects of WhatsApp, intergroup hostility on Twitter, but diversity of interactions, opinions, and emotions of Facebook.

This diversity of research results might point out that affective polarisation is contingent upon specific contextual features and may vary across technological features of platforms, countries, issues, and identities. Afterall, communication networks do not change, but amplify social trends (van Dijk, 2020). Converging the digital communication studies with the tenets on discourse, affect and the knowledge of polarisation, the way I suggest looking at social media is as follows. Social network sites are affective discursive spaces where agonistic and antagonistic discursive processes are possible, predicated on their users' practices shaped by the sites' affordances and the wider social contexts.

2.4. Summary

To summarise the conceptual framework, the study regards affective polarisation as a state occurring in affective discursive spaces (social network sites) in result of affective discursive practices that produce discourses where articulation of identities positions them in a way producing negative affect and repulsion in antagonistic struggles with other discourses (**Figure 3**). The discourses are the result of the affective discursive practices whereas social network sites enable the users to carry out the practices creating the discursive space by using their affordances. In these discourses identities are constructed through affective investment intertwined with meaning making. When the affective-discursive construction affects an identity in a way that subjects it to repulsion or negativity, affective polarisation emerges from such affective-discursive production. When the affective-discursive space by roduction directed at eliminating a competing discourse and negating identity, it is antagonistic. When the affective-discursive production is in competition with a discourse but does not negate the identity and the right of the discourse to exist, it is agonistic.



Figure 3. Conceptual framework.

The overview of the main concepts I used in the study is in the **Table 1**. While the study generally uses the language of Laclau and Mouffe's discourse theory, not all its elements were equally important to answer the research questions and meet the research objective that I outline in the next section.

Table 1. Main concepts and their explanations

Discourse	Social order emerging in affective-discursive practices of meaning making.
Affective polarisation	Discursively articulated negative affect towards identity in discursive struggles through placement of the identity in a discourse producing repulsion, indignation, or negative emotions.
Equivalence/Difference	Establishing relations of solidarity or opposition with regards to identity.
Identity	Identification with discursively constructed subject positions.
Antagonism	Discursive struggle directed at negation of the other and their discourse.
Agonism	Discursive struggle where the right of other discourse(s) to exist is not negated and the other subject positions are not described in moral terms.
Agonistic pluralism	A state when different discourses co-exist without negating each other in adversarial relationships of respect based of a shared value.
Affective discursive space	A social network site enabling agonistic articulations of meaning producing discourses and affect, predicated on their users' practices shaped by the wider social contexts and the sites' affordances.
Affective discursive practices	Practices of meaning making that produce affect by relating different identities between each other.

3. Research objective and research questions

The objective of the research is to study affective polarisation over scientific issues qualitatively and see what "sits behind a dislike" produced towards others through relating subject positions in affective discourses circulating on a social media platform in a specific context. I am preoccupied not with the amount of negativity or level of affective polarisation within different groups towards the others, but how repulsive identities are discursively articulated and how discursive production is linked to negative affect. Therefore, my first research question is:

RQ: How does construction of opposing identities in climate change discourses produce negative affect in political discussions on Australian *Twitter*?

To answer the question, I chose to study *Twitter* discussions about climate change involving politicians in Australia before three elections in 2016, 2019, 2022. Since the affordances of the platform enables discursive expressions through retweets, this allows looking at the groups formed in the practices and the interaction structure. In addition, it is useful to see what topics are brought in the massive datasets of *Twitter* discussions to situate the discourses of groups within the contents of a wider discursive space. Therefore, the following subquestions must be answered first:

SQ1: What topics did climate change discussion consist of on Australian Twitter in preelectoral periods in 2016, 2019, 2022?

SQ2: What user groups were formed in climate change discussions on Australian Twitter in pre-electoral periods in 2016, 2019, 2022?

Answering the subquestion will provide overall context for deep analysis of tweets by the user groups. Synthesis of the findings will support the second objective of the research which is to discuss the potential of *Twitter* platform as a space for agonistic pluralism.

4. Methodology

The study has an exploratory and interpretative nature and is a case study analysing *Twitter* discussions in which candidates to the Australian federal elections were mentioned during three pre-electoral periods in 2016, 2019, and 2022. The arguments to deem this case suitable were grounded in the assumed likelihood of AP in the "natural" setting:

- In Australia, climate change risk perceptions diverged across party lines (Colvin & Jotzo, 2021) and the political debate on the issue is believed to be toxic (MacNeil, 2021). The country was among the top countries by the percentage of people refusing human cause of climate change in 2020 (Buchholz, 2020).
- 2) The pre-electoral periods are conducive for affective polarisation to transpire as AP increases with election salience (Hernández et al., 2021).
- 3) Interesting change has happened during the latest elections when the centre right Liberal party associated, among others, with climate denialism (Bruns et al., 2021) has lost considerable number of seats to the independents who were campaigning for climate action.
- 4) The presence of AP over climate change issues on *Twitter* has been proven in an earlier study on English tweets (Tyagi et al., 2021), and *Twitter* has been found the most polarising platform compared to *Facebook* and *WhatsApp* in another study (Yarchi et al., 2021).
- Considerable number of Australians 11,6% of population use Twitter (Social Media Stats in Australia, n.d.).

The introduction into the case is available in <u>Section 4.6</u>. In addition, the choice of the case was influenced by the perceived importance of climate change attitudes division for the country as inferred from media and civil society attention to this topic as well as practical considerations. One of them concerns the language skills of the researcher. As Australia is an Anglophone country, the data is accessible without translation. The other consideration concerned the data availability and advantages related to this. As I had a research stay with the Digital Media Research Centre (DMRC) of the Queensland University of Technology (QUT), I had an opportunity to collect a subset of data that was already gathered and cover seven-year timeframe with three sets of tweets to see dynamics. The research was conducted from July till December 2022, out of which three months I spent with the DMRC QUT in Brisbane, Australia.

The methodology was chosen with consideration of both – the theoretical implications and the nature of the data. Laclau and Mouffe's discourse theory did not provide details as to

how the analysis must be done (Jørgensen & Phillips, 2002). It encompasses the whole social space and does not distinguish discursive from non-discursive. However, focusing down on *Twitter* space allows application of the concepts for analysis of tweets and other discursive events such as mentioning or retweeting. The study applied a mixed methods approach combining quantitative and qualitative methods with corpus linguistics and network analysis preceding the qualitative reading of tweets.

Social network sites are generally characterized by information overload (Bawden & Robinson, 2020). Analysis of massive data derived from interactions in such spaces requires making decisions during research process to narrow down the attention to qualitatively explore phenomena. One of the ways to help the researcher make the decisions is the so-called distant reading of the data with corpus linguistic and network analysis methods. I elaborate on each applied method in <u>Section 4.2</u>. Terms "distant" and "close" reading are borrowed from the digital humanities (van de Ven, 2016). Distant reading transfers the actual reading task of the data to the machine that provides analytics to the researcher and requires developing "an eye" for producing useful interpretations of the provided results (Hai-Jew, 2017). It helps direct the researcher to where it will be the most interesting given the phenomenon under study to zoom in for close reading, choosing representative cases.

Corpus linguistics is the study of language use, through analysis of massive amounts of textual data, a corpora (Stefanowitsch, 2020). It has been previously used in combination with discourse analysis (Baker et al., 2008; Dehghan & Bruns, 2022; Dehghan & Nagappa, 2022). It usually complemented critical discourse analysis and discourse historical approach where discourses are seen as social practice of use of language (Fairclough, 2013). In my research, corpus linguistics was used to demarcate affective discursive space in terms of topical construction of climate change discourses. It has shown what signifiers are involved in the meaning making in the discussions, what social domains, groups, events, were spoken about on the platform in Australia. It, however, does not render the depth of the meaning making and is not capable of revealing other practices, other than use of language, afforded by the affective discursive space. The corpus linguistic results rather provided the thematic background that needs to be accounted for when looking at discursive struggles unfolding in the discursive space. To study the latter, a practice approach where needed. Further, I looked at retweeting and mentioning as group formative practices and interrogated the discourses of the groups qualitatively. Combining these approaches requires interpretations of descriptive results from corpus linguistics with use of additional sources and using theory language for interpretations is of importance (Baker et al., 2008). As Laclau and Mouffe's theory regards the whole social world as belonging to

discursive space, where signs, material objects and institutions have meaning, corpus linguistics might seem unsuitable to apply with the discourse theory, because it engages only with the use of language. However, the object and field of study – *Twitter* – presents opportunities to apply the theory as it, although not ideally, but represents communicative structures across a society (Dehghan & Bruns, 2022). The nature of data offered by *Twitter*, and social networks sites at large, provide various methodological challenges that are resolved by novel computational methods (Dehghan et al., 2020). Namely, quantitative computational methods and social media analytics help also down sampling massive datasets by informing the researcher's selection of subsets for qualitative analysis. As such, the results of corpus linguistics or network analysis are relative and not generalizable as would be expected for quantitative methodologies.



Figure 4. Methodological pathway of the study.

The computational methods provide descriptive results that still require interpretations by a researcher and form a basis for further qualitative analysis of the data. For these purposes, I extensively used other secondary sources, such as other studies, media articles, and grey literature to better use the insights from computational methods. The methodological pathway is schematically represented on **Figure 4**. At each of the points, I returned from

data to conceptual framework to ensure the concepts have analytical power needed to answer the research question and subquestions.

In sum, corpus linguistics allowed to map the terms in which climate change was conceived providing wider context to further analyse discursive struggles with Laclau and Mouffe's approach. It, however, did not provide insights on the relationships produced in the process of meaning making. Laclau and Mouffe's approach was taken to interpret the interaction structure created by agents in discursive acts of using material affordances of *Twitter* to amplify certain discourses and forming user groups. Combined with the concept of affective polarisation, it also provided a lens for qualitative reading of the tweets by each group. Laclau and Mouffe's approach provides concepts to look at the empirical material, however, is not instructive as to how to deconstruct a slice of social reality for the analysis. Therefore, I relied on characteristics of *Twitter* data and applied computational methods to map the affective-discursive struggles (network analysis) before performing deep manual reading.

4.1. Data collection

I retrieved the data presenting climate change discussions on *Twitter* from three data sets containing tweets from the candidates to the Australian House Representatives, their retweets and tweets mentioning the candidates from any user. The lists of candidates and their accounts were compiled manually by the team of the QUT DMRC who then collected the data using Twitter API during electoral campaigns of three federal elections respectively. This is done in a systematic study of use of social media in election campaigns since 2013. The detailed description of principles and tools for the data capture are outlined in Bruns and Moon (2018), Bruns, Angus and Graham (2021), and Bruns et al. (2022). In Australia, elections are called by the Governor-General not later than every three years and the date is set by the Executive Council (the government) according to their discretion. Therefore, the campaigning periods for three elections varied. The number of days for which the data was collected each of the years varies too. Nevertheless, the gathered data is consistent in following the same logical sequence of election flow across all three datasets: it started two days after closing of electoral rolls and ended a day before polling (inclusive). The resulting sets contained 832.360 tweets gathered from 25 May to 1st July in 2016; 1.346,016 tweets gathered from 20 April to 17 May in 2019; and 3.301.623 tweets gathered from 20 April to 20 May in 2022.

I filtered each dataset using keywords in the form of regular expressions that are related to climate change starting with intuitively derived terms such as 'climate', 'greenhouse',

'warming' etc. The first list of keywords was then amended following reading through the resulting 1100 tweets in each of the datasets (3x100 from election candidates, and 3x1000 from other users, including retweets) to check for erroneous results and identify possible additional keywords. After resolving the spotted issues through adjusting the search term string, reading through was repeated on 600 tweets from each dataset (3x100 from election candidates, and 3x500, excluding retweets). In the end, 26 keywords, consistent across the datasets, were applied to filter out the climate change debate in the electoral campaigns (the list of the keywords is in <u>Appendix 1</u>).

The resulting corpora included 31.069 tweets (3,73% of the overall dataset) of 2016, 91.801 tweets (6,82%) of 2019 and 161.109 tweets (4,88%) of 2022.

Year	2016	2019	2022
Period (dd.mm – dd.mm) of time of the published	25.05 -	20.04 -	20.04 -
tweets	01.07	17.05	20.05
# of days covered	38	28	31
# of tweets collected	832.360	1.346.016	3.301.623
# of tweets related to climate change topic	31.069	91.801	161.109
Proportion of climate change related tweets among the overall set	3,73%	6,82%	4,88%
# of climate change related tweets published by candidates	959	1.855	3.935
Proportion of climate change related tweets among the overall tweets by candidates	3,11%	9,79%	7,04%
# of climate change related tweets published by non- candidates (the rest of users)	30.110	89.946	157.174
Proportion of climate change related tweets among the overall tweets by non-candidates	3,75%	6,78%	4,84%

Table 2. Information about the datasets

4.2. Methods

The distant reading of the *Twitter* data for each electoral campaign included calculations of the most frequently used terms and hashtags, collocations and keywords analysis, and network analysis. Corpus linguistics was used for answering the SQ1, social network analysis for answering the SQ2. The interactions of and between resulting groups of users and their tweets were qualitatively analysed to answer the RQ (**Figure 4**).

The most frequently used terms and hashtags, collocations and keywords were calculated using *R* language and *RStudio* software (RStudio Team, 2022). The full code sample for analysis of data over one electoral period is available in <u>Appendix 2</u>. Further, the methods are outlined in the order as they were deployed in the study.

Top terms and hashtags

As initial look at the data, 15 most frequent terms and hashtags were calculated in R with *dplyr* (Wickham et al., 2022) and *stringr* (Wickham, 2022) packages. Hashtags were pulled as a separate list as they serve as annotations that provide, among others, topical markings for the tweets (Zappavigna, 2015). This gave the first glimpse on what is being talked about in the corpus as well as informed terms for further collocation analysis.

Collocations analysis

Collocation analysis is widely used in lexical semantics, including to study the relations between the senses of the words (Stefanowitsch, 2020). In this study, the analysis was performed to find out associations between different signifiers with the "climate change". This gave the first glimpse on the topical structure of the climate change talk in the datasets and on the signifiers that are involved in construction of meaning of climate change in electoral discourse. Collocation analysis is based on the premise that words in a speech are not distributed randomly but are restricted to several considerations. Apart from the considerations related to the rules of language, there are topical considerations that predicate the word choice "so it is probable that co-occurring content words will come from the same discourse domain" (Stefanowitsch, 2020, p. 216).

On a technical level, collocations in texts analysis are the words that occur close to each other more frequently than others within a defined window in a given corpus with statistical significance. To perform the analysis, the collections of all climate change related tweets for each electoral campaign were exported from Tableau to .csv table. In these collections, retweets were excluded as they would not contribute to semantic information but rather skew computational calculations. The resulting corpora included 8.919 tweets of 2016 electoral campaign, 27.425 of 2019, 47.588 of 2022. Further analysis was conducted using *R*. First, bigrams, i.e. two words that co-occur next to each other, were calculated using the *quanteda* package (Benoit et al., 2018) preceded by tokenization of words, deletion of numbers and URLs, and transformation of uppercase letters to lowercase. The resulted tables of bigrams were sorted by z-standardized lambda score in descending order. In text analysis, lambda score shows the probability that two words occur next to each other and is association strength measure (Puschmann & Haim, 2019). The first 100 bigrams with the

strongest association were looked at closely to gain understanding of the topical construction of the climate change debate in electoral discourse.

Further, the collocates at the sentence level for the term "climate" and its strong collocates were looked at. The first several strongest collocates excluding the usernames were taken for more detailed analysis and categorised by topics ("coal", "reef", "renewable" for 2016 tweet collection; "coal", "policy" for 2019 tweet collection; "carbon", "solar", "coal" for 2022 tweet collection). The collocates were calculated following the workflow outlined in Schweinberger (2022) with minor modifications required due to the nature of the textual data from *Twitter*. First, dots were added in the end of each tweet using a function from stringr package followed by sentence tokenization. The corpus was then cleaned from the stopwords and extra words that do not contribute to the topical constructions such as "r" (i.e. "are"), "u" (i.e. "you"), "can", "us" etc., from numbers, punctuation, and URLs, and turned to lowercase with tm package (Feinerer et al., 2008). Subsequently, a document term matrix was created from the corpus with Matrix package (Bates et al., 2022) and collocations were calculated. To calculate the collocation strength, the function developed by Wiedemann and Niekler (2017) was used that renders single number that is a function of mutual information, dice, log likelihood measures. The collocates with association strength lower than 30 were not taken into the analysis.

Social Network Analysis

Social network analysis helps explore relationships between actors and reveals the social structure of the studied environment (Haythornthwaite, 1996) – be it professional ties, economic connections, co-citations or social media interactions. For the latter, it may reveal from the patterns of connections whether there is a community among accounts contributing to a discussion with postings and how closely they are integrated (Bruns & Snee, 2022).

The network analysis gave insights into the size of the network at large and of mentions and retweet networks, as well as the interaction patterns through computational division of the networks into community clusters and looking at accounts that attract the most interactions through retweets and mentions.

Network analysis was performed through network visualizations with help of the *Gephi* tool following the preparation of data in *Tableau*. Network visualization requires qualitative interpretation and does not produce "objective and absolute results in its own right" (Bruns & Snee, 2022, p. 32).

The overall, retweet and mention directed networks were created with usernames or user IDs as nodes and mentions and retweets as edges with their weight depending on the number of times a user retweeted or mentioned another user. Although the data comprises of the talking with politicians, i.e. exclusively the tweets mentioning the electoral candidates or retweeting them, it is not only the candidates who are on the receiving end of the networks structure as tweets could mention multiple actors at the same time as was often the case with the *Twitter* replies in a thread. Also, a tweet could be addressed to anyone else but have a candidate mention by virtue of its content.

The network structures were visualized using *Force Atlas 2* algorithm (Jacomy et al., 2014) based on assumption that connected nodes are attracted to each other while nodes without connection experience repulsion. To explore different community clusters (user groups) within the networks, *Modularity*¹ function was run with different resolution measures. The workflow generally followed the guidelines outlined by Bruns & Snee (2022).

It was decided to further study discourses of different retweet groups in the communication networks assuming retweets contributing to dissemination of discourses mean support thereof and identification with them. The identified user group information for each node (account) was connected to the tweets through user accounts in *Tableau* where all the tweets produced by users in respective groups were filtered and exported for further qualitative analysis in *Atlas.ti*.

Qualitative analysis

Although computational analysis engages with quantities, it was always intertwined with qualitative analysis to help interpret the results. For this, I used secondary sources and, when required, screened the respective tweets or looked at text surrounding the investigated terms, often unsystematically facilitated by *Google Search*. In the case of network analysis, I reviewed profiles of the users. Thick descriptions were then produced, and iteratively reviewed to generate the relevant insights. After interpreting the computational results, the original tweet sets of each group of each year was taken in random order for deep qualitative reading.

Following the interpretative gist of the research, each tweet was coded to identify emergent patterns. Affective polarization was used as a sensitizing concept giving "a general sense of reference and guidance in approaching empirical instances" (Blumer, 1954, p. 7). In the

¹ The function is based on Vincent D Blondel, Jean-Loup Guillaume, Renaud Lambiotte, Etienne Lefebvre, Fast unfolding of communities in large networks, in Journal of Statistical Mechanics: Theory and Experiment 2008 (10), P1000

process of research, sensitizing concepts can be refined, or given up if the data suggests the researcher to take another direction (Padgett, 2004). Purposive use of AP in this way also increases reflexivity by making me be constantly aware of my preconceptions. The focus was on identification of discourses that are drawn on in discussions about climate change and how users construct identities and produce (negative) affects according to conceptualisation of AP. The tweets were processed manually with open and focused coding and memos were written during the process of analysing them. The memos and coded tweets were iteratively read several times to understand the patterns present in each set of tweets.

Qualitative analysis is aimed for studying phenomena in-depth to understand meaning making and, for discursive approaches, how it creates "truths" (Buizer & Kurz, 2016) acknowledging there is no objective truth and appreciating ambiguities of human experience. Thus, the task was not to identify the amount of affective polarisation, but to see what meaning making processes are behind it. However, for the purpose of trustworthiness, 612, 785, 800 of tweets were analysed qualitatively for 2016, 2019, 2022 respectively, out of which 230, 340, 361 tweets were identified as representative of affective polarisation.

4.3. Quality of research

As was briefly mentioned, interpretative studies account ambiguities of human experiences trying to understand rather than dismiss them in inevitable simplification in case of quantitative model testing. Therefore, criteria of validity, reliability, generalizability are not applicable for this type of research. The quality of research is thus ensured by trustworthiness and requires conducting research in a way that it can be trusted by those reading the outputs. This can be achieved through presenting logic of argumentation, producing adequate amount of details in "thick" descriptions and engaging with alternative explanations as well as through consulting other sources to check consistency of interpretations (Schwartz-Shea & Yanow, 2012). To ensure trustworthiness, I aimed at presenting the results in a way that would reveal my analytical approach. In addition, I doubted myself extensively and consulted many sources referred to in the results to ensure the plausibility of my analytical view. Another technique to address doubt used in this study is to search for and present negative case that deviates from the emergent pattern in the data (Schwartz-Shea, 2014). In addition, the trustworthiness implies reflexivity and accounting for a researcher's positionality.

4.3.1. Positionality

In qualitative research, it is important to be aware of how the researcher is positioned with regards to what she is studying (Throne, 2012). Researcher identity is influencing the research along all the process from the access to data and their interpretation.

I received access to the data by virtue of being a DCLead programme student and having an opportunity to undertake research stay activities with the DMRC QUT. This could not be possible under other circumstances, unless I would have collected the data myself through *Twitter* API upon successful application – what would require a bigger timeframe of the research.

What is more important is to account for how positionality of the researcher may influence her interpretations. Although *Twitter* allows to witness and participate in online social life in any country from any point of the world, I was not familiar with the polity and politics of Australia before undertaking the master's programme. Even though I took time to familiarise myself with the context through reading books and articles and simply observing everyday life, my outsider's status inevitably affected my interpretation of the data, especially when users employed allusions or sophisticated linguistic strategies in conveying the meaning. When encountering such tweets, I asked Australian colleagues how they would understand the text, several times their interpretations differed to some extent from mine. Apart from consultations with locals, I extensively used secondary sources and Google Search to look for background information and news that were discussed during the campaigns on *Twitter*. Therefore, the search engine algorithm was my research companion and offered me additional information that was deemed relevant by its blackboxed workings. Nevertheless, being outsider without prior knowledge and preconceptions (in my home country, there is even a common joke about the ignorance of any events in remote Australia) also mean more openness to any insights the data has to offer.

4.4.2. Ethics

Using *Twitter* data for social research is quite common, however, still there is no consensus as to what is the best practice of applying principles of no harm, informed consent, and protection (Webb et al., 2017). Twitter data can be considered secondary data because it is solicited through *Twitter* under the agreement with users. In this vein, tweets can be thought of as private data on public display (Gold, 2022). The concerns that users' consent to contribute to research activities is not indeed informed as they tend not to read terms and conditions (Webb et al., 2017) could be eased because data processing for research

activities by universities is the least privacy concern for users as the study by Williams, Burnap, and Sloan (2017) done in the UK context.

The possibility to withdraw public status of the tweets and profiles poses another dilemma of how to protect the informants when publishing tweets as an illustrative example in research papers. Even with anonymized tweets, users can be pinpointed through simple searching the text of the tweet. I used the utmost reflexivity and consulted recommendations and workflow of Williams, Burnap, and Sloan (2017). The general principle they follow is to seek opt-in consent from the users that seem private individuals, especially those with perceived vulnerabilities while publishing data of public figures and organisations without seeking consent. Given that Australia is a liberal democracy where public figures and politicians' communication are subjects to scrutiny, Australian users mentioning candidates in pre-electoral period can expect interest to their postings. Therefore, since discussions involved politicians, the tweets to illustrate the analysis were taken without asking for consent. However, the content of the tweets for illustrative examples were considered for its potential to incur any harm before final decision of choosing an example. Usernames of the authors were excluded from example tweets.

Additionally, I applied reflexivity as to who could be affected from my research and in what way because I attempted to avoid a minimal intrusion into political life of the other country. While the concerns usually grounded with regards a change in political behaviour of the respondents of surveys (Piccio & Mattoni, 2020), still any discourse analysis is "a kind of political intervention" (Jørgensen & Phillips, 2002, p. 49) and the analyst herself cannot escape discursive structures.

4.3.3. Limitations

The study has several limitations in addition to some limitations connected to the scope of the research, the decisions that had to be made in the process narrowed the study of affective polarization to one of its levels. Namely, due to characteristics of the data, it was possible to analyse polarization predominantly (if not only) on the level of elites, and with regards to polarization of masses towards the elites. Although it was purposive so as the conditions of the strongest AP were in place to allow for its qualitative exploration, it is nevertheless still a limitation that has to be taken into account when implicating from the results. In addition, the choice of qualitative methods to study affective polarisation is tricky since, as was mentioned earlier, most of the previous studies followed quantitative tradition, whereas discursive approaches started including affect in analysis recently. However, the conventional tools to study AP through surveys were a subject of critique for risks of measuring incorrect proxies due to proximity of different questions that invoke different

identities and tendency of respondents to express commitments rather than their states (Almagro Holgado, 2021) as well as for possibilities of interpretations of questions that were not intended by researchers (Klar et al., 2018). Computational analysis would be far from perfect as machines are not yet good in reading sarcasm or irony or understand allusions to employ computational analysis.

In addition, astroturfing practices were spotted several times during quick manual reviewing of the tweets – when one account posted similar but not identical tweets dozens of times. When this occurred, I took only one tweet into analysis. However, since the tweets were not identical, there was no possibility to spot all such cases computationally and this might have skewed the corpus linguistic results. However, since the results are consistent throughout seven years and concord with secondary sources as well as considering the analysis of considerable amounts of collocates and bigrams and checking them manually in tweets for categorisation, the potential influence of astroturfing cannot be detrimental to the results. Also, many tweets from previous years were deleted or accounts were suspended since 2016, 2019, thus the qualitative analysis did not include what happened, but rather what is rest from the conversations.

4.4. Introduction to the case

In an overview of the major issues facing Australian society prepared for the 45th parliament members elected in 2016 by experts contributing to the Parliamentary Library, climate change is dubbed "a polarising and highly political issue" (Hanna, 2016, p. 105). Indeed, by that time, the climate change policies had been an object of struggle in the Australian parliament despite popular support (Copland, 2020). In 2011, adoption of The Clean Energy Act (2011) – a second attempt to introduce a mechanism for emissions reductions, an emissions trading scheme, and a number of institutions to facilitate climate action – saw a great opposition and deployment of anti-elitist sentiment to frame it to the public (Copland, 2020). The emission trading scheme widely called by its opposers as "carbon tax" was subsequently abolished by the successive government in 2014 together with the climate policy infrastructure. However, the Clean Energy Regulator (CER), Clean Energy Finance Corporation (CEFC), Australian Renewable Energy Agency (ARENA), and Climate Change Authority (CCA) were saved with a limited role of financing green projects – to have some climate action just not to irritate those constituencies of the Liberal National Coalition holding the power who are concerned with climate (MacNeil, 2021). The subsequent policies, according to MacNeil:

"...evolved as a series of small, piecemeal funding arrangements that will easily allow industries like coal, gas, mining, ruminant livestock, and other high-emitting sectors to remain at the heart of the Australian economy over the medium term, and pose no threat to the carbon-intensive, day-to-day lifestyles of average Australians" (2021, p. S179).

Australian investigative journalist and author focussing on environmental conflicts Maria Taylor (2014) historically traced how the climate change issues were thought of and treated in Australia and argues that uncertainty with regards to climate change response replaced strong readiness for tackling global warming the country had had until mid-90s, "which was closely linked to a changed daily narrative for public consumption that was crafted by political leaders and the mass media" (p. 2). She maintains that some scientists expressing uncertainty also played role in this process started initially by the energy industry. The narrative of global responsibility for action transformed into economic story of the exceptional role of fossil fuels for prosperity of the country (Taylor, 2014). Energy, or specifically coal, sector players enjoyed structural power, especially because the industry has been important for Australia's established international position (Stutzer et al., 2021). The net exports of energy, including coal, LNG, and uranium accounted for 70% of total energy production. Australia takes the second place among coal trading country with 19% of the global sales share (IEA, 2020).

Interests of fossil fuel industry clash with environmentalists and communities striving to keep their habitat intact. The analysis of *Twitter* data within the study revealed references to two controversies connected to new coal mine projects and opposition against them. The first is connected to the provisional approval of coal exploration in New South Wales in 2015 given to the Chinese *Shenhua* company (Press, 2015), however the project was subsequently cancelled the same year. The second instance is represented by the Carmichael Coal Mine ("Adani Mine") in Queensland state and the campaign against it. The story of the mine began back in 2010 with the first proposal of coal exploration in the area by the Indian *Adani Group* and has since been opposed and legally challenged by environmental activists (Somerville & Ames, 2020). In 2017, the campaign against the Adani mine was evaluated by *The Guardian* as the biggest since 80-s (Murphy, 2017). In 2019, the situation attracted the UN involvement that called upon the Australian authorities to thoroughly consider the voice of indigenous groups before giving "green light" to start the project (Robertson, 2019). Soon after 2019 elections and the contestations, the Adani mine project was approved in June 2019 (Stutzer et al., 2021).


Figure 5. Graph generated from the World Values Survey Time Series Data (Haerpfer et al., 2022) showing Australians choice of the statement on what should be the government priorities.

Despite the influence of industry lobby on narratives and politically induced uncertainty, more Australians have been choosing protecting environment over economic grows since 1994 until now, as captured by in time series of the *World Values Survey* (Haerpfer et al., 2022) with 34% respondents prioritizing economy on average over the five time series (**Figure 5**).

Climate action has been a campaigning issue during the last two elections. Before the elections in 2022, 76% of Australians indicated climate change would be important for them when they would vote (Bradley et al., 2022). In result of the elections, the Liberal and National Coalition (henceforth "the Coalition") has lost their "safe" seats to independent candidates whose platform included climate action. Some of them received half of funding for their campaigns from a crowd-sourced foundation *Climate 200*. The foundation was established by one of the richest persons in the country and green technology enthusiast Simon Holmes à Court (Wahlquist, 2022) allowing the Australian Labor Party (henceforth "ALP", the "Labor") to win the majority in the House of Representatives and form the government. This change was explained by an election study as "mainly driven by younger, urban and more well educated Coalition voters in 2019 changing their vote away from the Coalition, with the Labor party able to maintain their support across most demographic groups, apart from those outside of capital cities" (Biddle & McAllister, 2022, p. 12). The shift of power from the Coalition who held the government since 2013 to the Labor was expected during the 2019 federal elections when they were dubbed "climate elections" in

media. Then, the issue was the most salient for the voters compared to the previous elections, but against all reported opinion poll results the government did not change (Cameron & McAllister, 2019).

The Liberal Party of Australia in coalition with the National Party and the Australian Labor party have been main parties in Australia since 1940s (Johnson, 2020). The political system in Australia is designed to produce stable majorities in the House of Representatives (lower house) with preferential voting system for the party candidates in each electorate (Bruns et al., 2021). This means that a candidate that won a seat is not necessarily the most popular candidate as the preferences are distributed until one of candidates in the electoral division gains the majority of votes. The party that wins 75 plus one majority of seats in the lower house form the government and its leader becomes the Prime Minister. The last 15 years saw a political instability as the government leaders were changed repeatedly not only due to the elections but also in the result of internal discord within parties (Bruns et al., 2021; Johnson, 2020). Also, the voting in Australia is compulsory that makes the election outcome dependent on a few swing voters that support different parties from elections to elections and are the main target of pre-electoral campaigns (Bruns et al., 2021).

The main political forces – the Coalition, the ALP, and The Greens and some minor parties – have an established stance with regards to climate change. The Coalition and "other minor right-leaning parties have tended to question or reject the scientific consensus on climate change" (Bruns et al., 2021, p. 8). Accordingly, views on and knowledge about climate change diverge among the population across the political party and ideology lines (Tranter, 2013, 2021). For the Coalition's voters, climate change was a far less of concern than for supporters of the Labor, and The Greens parties, according to the study by Colvin & Jotzo (2021). In addition, the authors detected a distinctive cohort divide with younger population more concerned with the issue and concluded that a new generation of more progressive climate action-oriented people may have emerged.

5. Results

This section presents the results of corpus linguistic, network analysis and qualitative analysis for each electoral period in chronological order. I first present the topical composition of climate change discussions that emerged from categorising the most frequently used signifiers in connection with climate issues (SQ1). Then, the retweet interaction networks are analysed. From the network analysis, user groups are identified (SQ2). I conclude each subsection with the results of qualitative analysis of tweets by the groups showing how discursive construction of different identifications produce negativity (RQ).

5.1. Climate change discussion and affective polarisation on Australian Twitter in 2016 pre-electoral period

The climate change discussion on Twitter in 2016 pre-electoral period in Australia touched upon topics of 1) climate change and climate action, including their impacts, 2) energy transition and technology, 3) economy, 4) international dimension (Table 3). Analysis of bigrams and collocates and further qualitative reading of the tweets revealed these topics are intertwined and climate and climate change influence the meaning of signifiers in the respective discourses. Discussions around energy transition and technology concerned coal mining, and fossil fuel at large, and renewable energy, namely solar power. The economic theme comprises with the nodes pertaining to the available market mechanisms (e.g. 'trading scheme', 'carbon tax' bigrams and the respective collocates of 'coal'), industries ('fuel industry', 'coal industry' bigrams and 'tourism' collocate of 'reef'), and people's livelihoods ('electricity prices', 'create jobs' bigrams"). As was mentioned, Australia has a strong fossil fuel industry and benefits from its exports of coal, intertwined with the history of environmental campaigns against fossil fuel projects. In this context, discursive struggle between subjects favouring climate action embodied in elimination and phasing out production and use of fossil fuel energy and those willing to preserve the status quo was expected. The Twitter was used by environmental activists in this period campaigning against use of coal, as captured by 'stop', 'adani' collocates of the term 'coal'. During the 2016 pre-electoral period, the Greenpeace, the Nature Conservation Council, GetUp initiative and others' #climatefizza campaign slogan read "Choose the Reef, Not Coal" (McIlroy, 2016). The slogan alludes to one of the important signifiers which meaning was contested in climate change and climate action topic discussions - the reef. The Great Barrier Reef was an important node that acquired a new meaning and has become a spatial representation of climate change in the dataset and greatly influenced and was influenced

by the international dimension ("UNESCO report", "national disgrace" bigrams). It was also a signifier subjected to contestations by the different groups.

Themes	Bigrams and collocates
Climate change and climate action	Bigrams : climate change, global warming, save reef, climate action, real action, action climate, protect great, direct action, save great, energy target, climate policy, direct inaction, take action, reduce emissions, biggest threat, open letter, environment minister, end fossil.
	Collocates of 'climate' : change, climatechange, action, policy, carbon, denier, climateaction, deniers, science, csiro, warming, scientists, save.
	Collocates of 'coal': climatechange, carbon
	Collocates of 'reef' : climate, save, change, climatechange, protect, carbon, protection, saved, saving, emissions.
Negative impact of climate change	Bigrams : great barrier, barrier reef, coral bleaching, reef dying, worst environment, water quality
	Collocates of 'climate': reef, gbr, threat
	Collocates of 'coal': reef, barrier,
	Collocates of 'reef' : barrier, great, dead, bleaching, dying, bleached, danger, gbr, coral.
Energy transition and technology	Bigrams : renewable energy, coal mine, new coal, fossil fuel, clean energy, coal mining, solar panels, solar power, coal-fired plants, solar farm.
teennology	Collocates of 'climate' : coal, solar, renewables, mine, renewable, fossil, mines, power, fuel, mining, energy.
	Collocates of 'coal' : mines, mine, gas, csg [coal seam gas], seam, mining, fracking, transition, fired, solar, port, renewable, ground, digging
	Collocates of 'reef': renewables, renewable, solar, energy, coal
Economy	Bigrams : carbon tax, fuel subsidies, jobs growth, electricity prices, fuel industry, carbon price, price carbon, power bills, trading scheme, fuel companies, create jobs, tax government, economic plan, coal industry.
	Collocates of 'climate': tax.
	Collocates of 'coal' : exports, tax, approving, ets, approved, port, demand, land, miners, export.
	Collocates of 'reef': billion, tax, fund, tourism
International	Bigrams: un climate, un report, national disgrace, UNESCO report.
umension	Collocates of 'climate': report.
	Collocates of 'coal': India.

 Table 3. Bigrams and collocates calculated for 2016 dataset categorized by themes

The Great Barrier Reef was a newsmaker together with the Coalition's Minister for the Environment and Water Greg Hunt in the pre-election period in late May-June 2016. At that time, the reef was going through its largest bleaching event. In the meantime, the government requested to delete any references of Australia from the UNESCO report about the climate change impact on the most popular natural heritage sites in the world (Slezak, 2016). This was later explained as an attempt to prevent harm to tourism industry (Slezak, 2016). By far, the controversy around the reef was the main environmental topic discussed before the elections, and even the ALP did not campaign on the new climate package with plans to introduce the two sectoral emission trading schemes. It was due to tough political contestations surrounding the topic involved in the change of government in 2013 and subsequent abolitions of part of climate action policies and infrastructure (Pearse, 2018).

Of interest for qualitative exploration are any contestations among user groups as to the ways of thinking about climate change within this wider discursive space and what surplus of meanings are produced for the signifiers and how these construct identities and subject positions differently. Affordances of *Twitter* allow users to take subject positions and contribute to the struggle of a discourse for hegemony by re-tweeting and increasing visibility of certain discourse while excluding the others. The retweet network structure of discussions of the topics revealed central position of climate change action advocating accounts. Retweeting comprises 41,45% of all connections between accounts in the dataset. Modularity resolution 1.5 rendered more than two and a half thousand communities. Seven of them comprising about 65% of the network were down sampled for further qualitative exploration (**Figure 6**).

Based on the profiles of the most retweeted accounts within the clusters, the groups were labelled as follows:

- Retweeters of climate activists (covering 25.59% of interactions) including users who retweeted climate action and renewable technologies promoters and initiatives such as *GetUP*, *Solar Citizens*, *Australian Youth Climate Coalition*, *LEANAustralia* (Labor party affiliated organisation) and others.
- 2. Retweeters of Greens (9.35% of interactions) including users who retweeted accounts of The Greens party members.
- Retweeters of media celebrities (7.61% of interactions) including users who retweeted accounts of popular authors and journalists (not specializing on environmental issues).
- 4. Retweeters of Labors (7.18% of interactions) including users who retweeted accounts of Australian Labor Party members.

- 5. Retweeters of fossil fuels fighters (6.65% of interaction) including users who retweeted accounts of initiatives devoted to eliminating fossil fuel use such as *350Australia*.
- 6. Retweeters of Greenpeace (4.81% of interactions) including users who retweeted the account of the Australian Pacific branch of *Greenpeace* organisation.
- 7. Retweeters of Coalition (3.96% of interactions) including users who retweeted the account of the National Liberal minister for environment Greg Hunt.



Figure 6. Retweet network of climate change discussions on Twitter in Australia in 2016 preelectoral period. Node size is adjusted by weighted in-degree, i.e. the most retweeted accounts are the biggest.

As seen from the composition of the groups' most retweeted accounts, some groups are favouring accounts of main parties' members. Noteworthy, the Liberal and National Party did not provide a lot of opportunities for retweeting. They published as many as 55 tweets about climate change in total. The number of users who retweeted each party or non-

candidate accounts from each of these groups (Figure 8) also indicates general preference for a party or no such preference. For example, among Retweeters of Greenpeace and Retweeters of media celebrities, almost none retweeted any of the parties; more Retweeters of Greens (N=205) retweeted the Greens party compared to Labor party (N=23) and other tweeting in 2016 pre-electoral period.

Party	Climate change
The Nationals	0.952%
Independent	1.221%
Liberal Party	1.527%
Labor Party	2.354%
The Greens	5.825%
Other accounts	2.867%

Figure 7. Proportion of climate change related tweets within original

parties; Retweeters of Coalition retweeted only Liberal and National parties; while among Retweeters of fossil fuels fighters and climate activists, more users retweeted the Labor party compared to the other parties.

Crown	Dartica		interactions of grou	55 with parties, 20	10	
Group	Parties					
	Other accounts	0.10	1,664			967
Retweeters	Independent	218				
of climate	Labor Party	316	705			
activists	Liberal Party	62	1,468			
douvioto	The Greens	96 374				
	The Nationals					
	Other accounts	137 115				
	Independent					
Retweeters	Labor Party	65				
of Coalition	Liberal Party	121 141				
	The Greens	<u>_</u>				
	The Nationals					
	Other accounts	424 19	7			
Retweeters	Independent					
of fossil	Labor Party	136				
fuels fighters	Liberal Party	430				
radio ligittoro	The Greens	60				
	The Nationals					
	Other accounts	351 78				
Retweeters	Independent	_				
of	Labor Party	050				
Greenpeace	Liberal Party	350				
	The Greens					
	Other accounts	500	0.40			
		560	243			
Potwootors	Independent	126				
of Croope	Liberal Party	519				
of Greens	The Greens	205 202				
	The Nationals	203 202				
	Other accounts	412 200				
	Independent	412 203	<u>, </u>			
Retweeters	Labor Party	130 281				
of Labor	Liberal Party	304				
accounts	The Greens	49				
	The Nationals					
	Other accounts	643	08			
	Independent	040	30			
Retweeters of media celebrities	Labor Party	56				
	Liberal Party	641				
	The Greens					
	The Nationals	i				
		0 200 400	600 800 1000	1200 1400	1600 1800 2000	2200 2400 2600
		0 200 400	000 000 1000	Number of user	1000 1000 2000	2200 2400 2000
				Number of user	8	
mention						
retweet						

Figure 8. Number of users from each group retweeting and mentioning a party or other accounts in 2016

The Liberal National party that was in power was mentioned by the greatest number of users from each group. On the user level, power configuration seemingly drives user engagement on Twitter, same as on tweets level (Bruns & Moon, 2018). However, the qualitative reading of the tweets produced by the groups have shown that, apart from Retweeters of Greens, there was a variation in expressing support or opposition to a political force within the groups formed by interactions.

Discursive construction of identities in the discourses of 2016 was linked to negotiation of political identities and concerned contestations around: 1) meaning of climate change and adequate climate action predominantly through negation (what does not count as climate action); 2) meaning of the ability of politicians to represent the view and act accordingly. Based on articulation of climate change and climate action, the six of seven groups - Retweeters of climate activists, Retweeters of fossil fuel fighters, Retweeters of media celebrities, Retweeters of Greens, Retweeters of Labor accounts, Retweeters of Greenpeace - comprised proponents of advancing climate action. Retweeters of Coalition produced opposing discourses, predominantly denying existence of problems.

Discourses of climate action proponents

Affective discursive practices of users of the climate action proponents' groups produced distrust or disbelief, shame in discourses of blame, disappointment and shock in construction of antagonistic identities. Apart from shame, all other affective productions were involved in disarticulations of discourses connected to negation of the right to make claims regarding climate change as the claim-makers were regarded as not truly committing to tackle the problem. In addition, identities of politicians were related to children or future generations identities distancing them from the groups and producing repulsion.

Here is an example of a reply tweet to the announcement of plan to save the Great Barrier Reef by the Labor party producing distrust:

labor's plan to approve Adani's coal mine was it @Mark_Butler_MP @AustralianLabor @billshortenmp? You have zero credibility.

The tweet from one of the Retweeters of Greenpeace immediately disarticulates the publication of the Labors and produces distrust ("You have zero credibility"). For the user, the political force cannot be entrusted climate action or "saving the reef" because of the perceived intention to allow the coal exploration in Queensland ("*labor's plan to approve Adani's coal mine was it*"). Therefore, the tweet negates the ability of the actor to act in accordance with the view of the desired way to save the reef encompassing prohibition of the coal mine in the area ("You have zero credibility"). The utterance produces distrust for the party as the meaning of climate action is expressed as not shared and the announced plan is dismissed.

The Great Barrier Reef was the main signifier for the groups used in discursive coproductions of national shame. The shame was directed at the government, prime minister, and minister of environment, so that it is not the event itself is shameful, but the identities of the politicians. For example: Great Barrier Reef is dying on your watch @GregHuntMP, you& #auspol are a threat to Aus national interests

This is the tweet of one of the Retweeters of climate activists, that also quoted the tweet of Greg Hunt that reads that the government is tackling climate action without incurring additional costs while the Labor would drive the prices for electricity. It immediately disarticulates the climate change action mention of the quoted tweet shaming the minister ("on your watch") representing him and other politicians as threatening the national interests. The "dying" of the reef is constructed as their fault. The problem, in this way, is refocused from the space to subjects producing affects of shaming and differentiating the minister and his fellows from the rest of Australia who are supposed to be ashamed but not responsible for the event. The Retweeters of fighters of fossil fuels used hashtag #onyourwatch across the data set to the similar effect. Even simple mentioning of the politicians in the tweets about reef implicated their responsibility for the situation:

Yet another example of Australia becoming a bandit country over #climatechange: [link to the news about UNESCO report and the Great Barrier reef] @GregHuntMP @TurnbullMalcolm

The retweeter of Greenpeace constructs Australia as a "*bandit*" country, a wrongdoer with regards to the Great Barrier Reef situation. Mentioning the prime minister's and minister of environment's accounts signals that it is to their attention, it is *them* must deal with it. Shame about the removal of the Great Barrier Reef from the UNESCO report was produced and circulated in all the climate action proponents' groups. Here are the examples of the shaming tweets produced by Retweeters of Labor accounts (1), Retweeters of media celebrities (2), Retweeters of Greens (3) that included the links or quotes of the news:

- 1) Shame @TurnbullMalcolm @GregHuntMP
- 2) He hasn't fooled anyone, how shameful is this exposè on Hunt's GBR coverup?
- 3) Disgraceful @GregHuntMP Throw these vandals out of govt! #climatechange #auspol

The national disgrace sentiment was accompanied by the pledges for climate leadership that the current government reportedly failed to ensure:

@TurnbullMalcolm We need a tough leader with vision on #climate not a sad sorry coalition riddled with #deniers

The party in power described in this tweet by a retweeter of climate activists as lacking vision and belonging to the force eroded with deniers – something that "*We*" don't need. Articulating something that is needed, and that the reality does not meet in "expectations

vs reality manner" produces disappointing affect and exclusion: if something is not needed, it must be get rid of. Moreover, it negates the Coalition as failing to meet the expectations. The (in)ability of the Coalition to tackle the climate change issues was discursively constructed in disarticulations of the Coalition candidates discourses of climate action in replies to their tweets. Here is the response to the announcement of building a solar thermal plant in Port Augusta described by Greg Hunt's tweet as "fantastic news for jobs in South Australia":

But it's not coal, so it can't be that amazing right?

In this tweet, the retweeter of Greens alludes to favouring the coal industry by the government criticized during the campaign by the political opponents and environmental activists (recall "*Coral, not Coal*" campaign). This example of trolling implicates that the author of the announcement would be happier if the jobs created were generated from coal development: as it is not a coal, "*it can't be that amazing*". It recontextualizes the original tweet returning it to the climate action debate where coal mining and environment are in discursive difference to each other, while initially, the tweet was focused only on the economy ("*jobs*"). Such response affects the identity of the Coalition candidate placing it in a position where his utterance cannot be taken seriously but met with giggling or disbelief.

Other tweets from Coalition were subjected to disarticulations in replies too. The announcement of one billion fund to protect the reef was criticized by inadequacy of the sum or the wrong source of the money taken from the Australian Clean Energy Finance Corporation:

- Oh, so there's no new money @GregHuntMP? Rather you're taking money from clean energy investment & putting it in to protecting the reef...
- Which is like investing in ambulances rather than preventing the accidents @GregHuntMP. #climatechange #GreatBarrierReef #ausvotes #auspol [pile of poo emoji]

The tweet (2) is a reply to the tweet (1) by two different users retweeting fighters of fossil fuels. This an example of a "participatory" disarticulation of Coalition discourse about "saving the reef". The second user elaborates on the first user tweet highlighting the incompetence of the government in handling the situation by failing to address the root cause of it (*"like investing in ambulances rather than preventing the accidents*"). The attitude towards it is amplified using the emoji. The utterances produce disappointment of the described actions with "*Oh*", ellipsis, the emoji, and the metaphor drawn from emergency discourse. Similar participatory disarticulation and affective production are found in the reaction to

Greg Hunt's tweet about that the Great Barrier Reef was about to be on a list for endangered sites when the Labor party was in power, and under the Coalition "*It came off the 'watch list*". A retweeter of media celebrities quoted the tweet writing:

1) I'm a little speechless at this slice of Australian politics. From the minister for environment. Impressive spin.

And received a response from the other user:

2) Yes: exactly that. It's effectively bragging that they've made it easier to damage the reef.

The tweet (1) is disarticulating the original tweet picturing it as a manipulation ("*Impressive spin*") that makes the user shocked ("*a little speechless*"). The manipulation is uncovered in response (2) to the initial disarticulation ("*It's effectively bragging that they've made it easier to damage the reef*") providing justification to the produced shock.

The disbelief in the ability of the Coalition to tackle climate change was also produced through mocking:

@TurnbullMalcolm biggest joke of the century. Every1 knows the liberal party doesn't believe in climate change

This is a reply to a tweet by a media outlet quoting the prime minister as saying that a strong economy would enable the country to fulfil international obligations to tackle climate change. The reply from a retweeter of Labors disarticulates the saying, and negates it as something not to be taken seriously ("*biggest joke of the century*"), refuses the party's ability and entitlement to climate action ("*the liberal party doesn't believe in climate change*") presenting it as common knowledge. The latter statement produces dissonance between the two tweets. The reply pre-emptively offers to resolve it with humour by perceiving the prime minister's words as a joke.

Throughout qualitative reading of the tweets by climate action proponents, the government members' identities were the main subject of discursive construction in affectively polarised tweets. As it was seen, the Labor party was also a subject to negativity to a lesser extent. The national identity was articulated in the discussion of the Great Barrier Reef with the feeling of shame. Another identity that was constructed discursively in climate change discussions 2016 and, as will be seen, in the next electoral years is children, youth or future generations. In the campaign, the prime minister posted a picture featuring babies and wrote "everything we want for our children and grandchildren, depends on a strong economy". The users retweeting climate change activists disarticulated the discourse:

- 1) more coal mines, fossil fuels subsidy, decimating those pesky renewables, sacking scientists. Future kids will worship u?
- 2) Too bad for our children and grandchildren your plan for new coal plants will destroy #GBR tourism jobs. #Election2016
- 3) If the future of our children mattered to you why did you not mention climate change once.

In these reply-tweets a repulsion is produced by articulating the future that children would not be happy with: "Future kids will worship u?", tweet (1); "Too bad for our children and grandchildren", tweet (2). These tweets contest the meaning of the (good) future for children and exclude other possibilities for caring for it. The antagonistic discourses relate the future of children to climate action and is truly provided for only through tackling climate issues: "why did you not mention climate change once", tweet (3). With this "truth", the current actions by the government ("more coal mines", "decimating those pesky renewables", "sacking scientists", "plan for new coal plants") are detrimental for future generations.

Most of the analysed affectively polarised tweets were antagonistic. In several negative cases, identities were constructed producing negativity, but not negating the other. In the next example, a retweeter of Labor accounts gives positive evaluation to the other party:

ALP has a lot of work to do to catch up to @Greens on climate & health policy - how will you respond @billshortenmp

The positive differentiation of The Greens against the ALP suggests affective polarisation towards the latter – it signals someone is better, placing the ALP in disadvantage. However, the utterance is agonistic as it requests response from the party leader, not negating but stimulating the right to express his view. It is aimed at producing an urging affect, to give impulse to the recipient to act to resolve the suggested statement. The unsatisfaction with the Labors' policy expressed by the user is diagnostic.

Discourses of Retweeters of Coalition

Retweeters of Coalition constructed different "truths" about climate change and climate action. They 1) negated the reality of climate change; 2) argued that the existing climate action measures are adequate. Much affective practices were directed at disarticulating the opposing discourses producing repulsion and disbelief in a "scam". This produced exclusion based on the climate stance and constructed unattractive repulsive identities through constructing them as incompetent or spendthrift.

For part of the users, climate change meant a scam. The meaning of climate change, not the party affiliation, mattered for evaluations of politicians. In the following tweet, the user expresses hope that Greg Hunt and Turnbull Malcolm will not be elected:

Truly hope to see both him & @TurnbullMalcolm unseated to stop green, politicised science that is #climatescam

In this instance, the user is willing to stop climate action discourse, presenting it as "*green, politicised science*" and a scam, by exclusion of the politicians.

Retweeters of Coalition discursively constructed Labors as making life more expensive:

Thanks @TurnbullMalcolm & @GregHuntMP for lowering CO2 emissions for low cost

This example tweet was accompanied by a picture with comparison of money spent on emissions reduction showing that Labor spent more money and reduced less emissions than the Coalition. It is a disarticulating reply to the criticism of the Coalition for climate inaction. The user expresses grattitude to the Coalition for "*lowering CO2 emissions for low cost*" producing positive affect. Climate change is not rejected, but the tweet makes pledges for more action and calls-out of the government for inaction unjustified and the Labor's policy options worse in all senses – more costly and less effective – placing the party in unattractive light.

Relating Labors to higher costs were also done by bringing the "carbon tax" into discussion:

"There will be no carbon tax under a govt I lead"" Another LIE from Electricty Bill

In this example the leader of opposition is called "*Electricity Bill*" alluding to the higher electricity prices that allegedly will be in place if the emission trading scheme is introduced. Presenting the Labor's leader as consistently deceitful ("*Another LIE*") with emphasis on the word "lie" discursively produces repulsion and distrust for such an identity.

The users rejected the Great Barrier Reef bleaching event as a point of concern. In reply to the tweet calling out the government for removing the reef from the UNESCO report, one of the Retweeters of Coalition wrote:

great barrier reef is fine!

The user added a link to the article presenting the "evidence" that contradicted the scientific report on the state of the reef, implicating that identification with discourses of "saving the reef" are wrong. The exclamation mark is affect-producing. However, as an author of the book on history of the mark Florence Hazrat argues in an article, there are different views

on how it is used in internet communication – from shouting to expressing sincerity or as a social smile (Hazrat, 2022).

However, there was a negative example among Retweeters of Coalition that did not fall under any of the described discourses, but implied pro climate action stance of the user:

Huh? What? Oh it's only 37% dead? How did he save the #GBR while doing NOTHING about #climatechange?

This is a reply to the Liberal party member's tweet where he mentions that Greg Hunt saved the reef. The user rejects that the reef is saved ("*Huh? What?*") but decides to agree on it adjusting the meaning ("*Oh it's only 37% dead?*") for further disarticulation of the statement made in the original tweet ("*How did he save the #GBR while doing NOTHING about #climatechange?*"). Instead of simply stating that the reef is not saved, and Greg Hunt did not save it, the reaction is affective as it mimics the thought process of encountering something that does not make sense ("*Huh? What? Oh…*") and stresses "nothing" with capital letters producing repulsion.

In summary, the discussion in 2016 of climate change issues was related to economic, energy technology and international affairs domains. The prominent theme was the controversy around the health of the Great Barrier Reef. The retweeting practices amplified positions of climate change organisations and activists (Retweeters of climate activists, Retweeters of fossil fuels fighters, Retweeters of Greenpeace) that cumulatively covered more than 35% of retweeting interactions. The groups formed through retweeting displayed prevalence of retweeting a certain party or non-party accounts. Retweeters of the Coalition comprising less than 4% of the retweet network constructed contrarian discourses to a strengthened climate action, while bigger group of the rest of users preferred more ambitious climate action. The groups disarticulated competing discourses and constructed opposing identifications through their understanding of climate change issue and needed action. In articulations of antagonistic political identities, the users produced shame, shock, distrust, disbelief, exclusions, and repulsions. When expressed or implied climate change stance was not used as self-explanatory for articulations of such identifications, relating the identities to economic burden (in case of Retweeters of Coalition), and Australian national identity and identity of children or future generations were used.

5.2. Climate change discussion and affective polarisation on Australian Twitter in 2019 pre-electoral period

In 2019, the climate change discussion on Twitter before elections in Australia concerned the same array of themes as in 2016: 1) climate change and climate action; 2) energy

transition and technology; 3) economy; 4) international dimension. However, the bigrams and collocates belonging to climate change and climate action have included more signifiers of negative environmental impact and weather events ('planet dying', 'destroying nature', 'floods increase', 'cyclones', 'reef') while 'wind', 'nuclear energy' appeared in the energy transition and technology topic together with 'solar' increasing diversity in the discussion of sources of energy (**Table 4**). Some collocates and bigrams that could not be unequivocally categorized to one of the themes revealed campaigning against approval of the Adani Mine (e.g. 'stop adani', 'adani mine', 'galilee basin', 'stopadani') and the discussions of the so called "watergate scandal" ('Watergate', 'Cayman Islands') when the LNP's Barnaby Joyce was criticised for buying overpriced rights for water at 80 billion AUD in 2017 from a company founded by a party fellow and registered at the offshore Cayman Islands (Slattery, 2019). Like the Great Barrier Reef in 2016, the Adani Mine has become discursively related to climate change during the election period that was timed just before the final approval of the coal exploration.

Themes	Bigrams and collocates
Climate change and climate action	Bigrams : climate change, global warming, climate policy, action climate, [climate] change policy, planet dying, man made, real action, levels atmosphere, listen scientists, co2 levels, great barrier, carbon emissions, climate emergency, cyclones increase, climate action, planet put, destroying nature, environment minister, floods increase, co2 emissions, emissions reduction, truth co2, global emissions, reef foundation, reached ppm, atmosphere reached, Paris agreement, planet dirty, ice age.
	Collocates of 'climate' : change, action, policy, climatechange, emergency, carbon, real, deniers, inaction, emissions, policies, hoax, reef, denier, science, climateactionnow, denying, climateaction, barrier, cyclones, denial, believe, climateemergency.
	Collocates of 'coal' : climate, change, deforestation, carbon, climatechange, nature, action, warming, emissions, policy, destroying.
	Collocates of 'policy' : climate, truth, ppm, change, levels, atmosphere, reached, fart [used in the sense of emissions].
Energy transition and technology	Bigrams : renewable energy, fossil fuel, coal mine, solar panels, entire fossil, electric cars, mine entire, fired power, power stations, clean energy, coal mining, base load, fossil fuels, battery storage, nuclear power, wind farms.
	Collocates of 'climate' : coal, solar, renewables, power, mine, renewable, fossil, panels, energy, mining, industry, wind, fuel, gas, oil, fired.
	Collocates of 'coal' : mine, fired, power, gas, oil, stations, dirty, mining, plants, thermal, ore, iron, burning, burn, station, build, powered, nuclear.

	Table 4.	Bigrams	and colloc	ates calcula	ted for 2019	9 dataset	categorized	by themes
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	Collocates of 'policy': coal, fossil, solar, mine, fuel, panels, wind.
Economy	Bigrams : carbon tax, fuel industry, Cayman Islands, fossil industry, power prices, cost inaction, electricity prices, fuel industries, power bills, coal industry, carbon credits, trading scheme, dirty money, franking credits, tax fail, carbon price.
	Collocates of 'climate': cost, costings, cheaper.
	Collocates of 'coal' : export, industries, profit, exports, industry, miners, cost, shut, exporting, lobby, costings, sell.
	Collocates of 'policy' : cost, costings, costing, costed, uncosted, costs, cuts, reduction, gdp, wages, economist.
International	Bigrams: emergency morning, UK parliament, China India
	Collocates of 'coal': China, India, Britain

The retweet network generated from the discussions comprises 32,16% of all the interactions. With Modularity at resolution 1.0, it clusters into 175 communities. Six biggest groups were taken into the further analysis (**Figure 9**).



Figure 6. Retweet network of climate change discussions on Twitter in Australia in 2022 preelectoral period. Node size is adjusted by weighted in-degree, i.e. the most retweeted accounts are the biggest.

The network has a polarised retweeting interaction structure with one group keeping distance from the rest of the network. Following investigation of the most retweeted accounts, the groups were identified as follows:

- 1) Retweeters of Green tech businessman and media celebrities (covering 22,8% of interactions) including users who retweeted a businessman and green tech enthusiast Simon Holmes à Court, an independent candidate for Kooyong division (New South Wales) Oliver Yates, communication professionals and other popular Twitter users.
- 2) Retweeters of Coalition (19.1% of interactions) including users who retweeted accounts of the Coalition members and Sky News journalists. Structurally, the group is polarised against the others, i.e. the users did not retweet accounts from the rest of the network, or did not retweet the accounts that retweeted the rest of the network, or did so much fewer times compared to the rest of users.
- 3) Retweeters of Labors (11.92% of interactions) including users who retweeted Labors members' accounts and some TV programmes accounts.
- 4) Retweeters of Greens (11.52% of interactions) including users who retweeted The Greens members' accounts, the Greenpeace Australian Pacific branch, and campaigning initiative against allowing the Adani Mine.
- 5) Retweeters of opinion leaders and independent candidates (10.71% of interactions) including users who retweeted a religious leader, journalists, and independent candidates.
- 6) Retweeters of climate activists (6.65% of interactions) including users who retweeted School Climate Strike movement's account, 350 Australia initiative, journalists, and popular Twitter accounts.

Retweeting and mentioning of different parties or non-party affiliated accounts supports the provided identitification as more users retweeted the respective parties or other accounts within the groups compared to the rest of political forces (Figure 11). For example, 1058 Retweeters of Figure 7. Proportion of climate change Labors retweeted their respective party while four of *related tweets within original tweeting* them retweeted accounts of the Coalitions' Liberal in 2019 pre-electoral period.

	Climate change
The Greens	14.07%
Independent	9.59%
Other accounts	4.81%
Labor Party	4.71%
Liberal party	2.73%
The Nationals	0.85%

party, 156 – independent candidates accounts, 98 – The Greens. More Retweeters of Coalition favored the Liberal party (635) through retweeting compared to Independent candidates (67), Labors (77) or The Greens (19). None from the groups retweeted candidates from the Coalition's National party, however the candidates hardly tweeted about climate change as the propotion of such tweets in their communication on *Twitter* accounted for 0.85% only (**Figure 10**). The least retweeted political force by the groups that were identified as retweeting predominantly non-candidate accounts was the Coalition: 25 users from Retweeters of climate activists, 22 users from Retweeters of Green tech businessman and media celebrities retweeted the Liberal party candidates.

				Intera	ictions of g	groups wi	th parties,	2019				
	Independent											
	Labor Party	5	46									
Retweeters of	Liberal Party	e	685									
activiste	Other accounts		872	590								
00111313	The Greens											
	The Nationals											
	Independent		1,191									
Detweeters of	Labor Party			2,069								
Coalition	Liberal Party	63	5	1	,350							
accounts	Other accounts			2,198				1,93	6			
accounte	The Greens	298										
	The Nationals											
Deterrations of	Independent	61	6	974								
Retweeters of	Labor Party		883		1,7	715						
businessman	Liberal Party				2,892							
and media	Other accounts				2,735					2,274		
celebrities	The Greens	244	342									
	The Nationals	353										
	Independent	223										
Potwootors of	Labor Party		754									
Greens	Liberal Party	ī	744									
accounts	Other accounts	_	1,013		872							
	The Greens		794	407								
	The Nationals											
	Independent	<mark>156</mark> 243	3									
Potwootors of	Labor Party		1,058		884							
Labor	Liberal Party		958									
accounts	Other accounts		1,086		997							
	The Greens											
	The Nationals											
	Independent	534	5	587								
Retweeters of	Labor Party	238	493									
opinion	Liberal Party		1,095									
leaders and	Other accounts		1,178		985	5						
independents	The Greens											
	The Nationals											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500	5000
							Number o	f users				
Mention Type]											
mention												
retweet												
L	1											

Interactions of groups with parties, 2019

Figure 81. Number of users from each group retweeting and mentioning a party or other accounts in 2019.

Qualitative reading of the tweets produced by the identified groups revealed that five of the groups supported increased climate action and led discursive struggle against the *status quo* with the incumbent government and disarticulating their tweets. These groups comprise Retweeters of Green tech businessman and media celebrities, Retweeters of Labors, Retweeters of Greens, Retweeters of opinion leaders and independent candidates, Retweeters of climate activists. Analysis of their discourses will be further presented altogether as discourses of climate action proponents that were contesting and contested by the opposing discourses of Retweeters of Coalition.

Discourses of climate action proponents

Discourses of climate action proponents structured social reality in relation to climate change and the need for climate actions. Their discursive-affective meaning making practices produced the reality where 1) climate action was an emergency; 2) failing to act on climate change will impede progress and worsen positions of Australia in the world; 3) climate action means stopping all fossil fuels projects; 4) climate action means care for children and good parenthood; 5) climate action means supporting farmers; 6) climate inaction incurs larger costs than action (as an opposing discourse to Coalition's discourse that climate action, namely Labor's plan, would cost enormous money).

Apart from identities of political forces and candidates, farmers, children and parents' identities, and the national Australian identity were invoked with regards to climate change and climate action. The identities of political forces were constructed as doing injustice to children, in detachment with future generations producing repulsion while climate action was related to good parentgood. Political actors discursively constructed as lacking climate action were presented in affective discourses of blame as a threat to Australia, holding it back, the cause of its problems in detachment from the country producing disgust, repulsion and exclusion of anyone who does not want to take help the planet.

Climate action proponents excluded any possibility of new fossil fuel exploration due to the "reality of climate emergency". A retweeter of opinion leaders and independents wrote:

Labor just announced \$1.5B for gas in QLD and NT. We are in the middle of a climate emergency and we can't be opening up any more coal, oil or gas fields if we are going to hand over a sustainable environment to our children and grandchildren.

This tweet excerpt relates climate action to caring for the future generations ("*if we are going to hand over a sustainable environment to our children and grandchildren*"). Therefore, the Labor's plan for investing in gas extraction is rejected as harmful for "*our children and grandchildren*" making climate change and climate actions issues of parenthood and responsibility before the future generation. In this light, the ALP is placed in detachment and difference to them, as harming children. Characterisation of the situation as "*the middle of climate emergency*" produces alert predisposing to limitations of economic activity "*we can't be opening up any more coal, oil or gas fields*". In the backdrop of the *School Climate Strike* movement, climate change was articulated as a youth's concern while those who fail to deliver climate action were opposed to this group:

And the Coalition keeps patronising & reprimanding the young for their concern about climate change & the environment. I hope the young are

the solution because it means any politician who supports action will be voted in & those who refuse to take action will be voted out

This tweet by a retweeter of opinion leaders and independents produces solidarity with the youth as the Coalition is presented as doing injustice to them "*patronising & reprimanding*" for their views about climate change. The solidarity extends to hope that the young will prevail and be decisive for organisation of the society as "*any politician who supports action will be voted in & those who refuse to take action will be voted out*".

Acting on climate was articulated as eventual complete ban of fossil fuels and shift to renewable energy. Any perceived distraction from the course was a basis for affective discourses of rejection. For instance, in reply to the tweet by the Labor's leader Bill Shorten stating "*this election is all about climate change*" a retweeter of Labor accounts wrote:

So shut down coal exports immediately, and launch a ten year phased shutdown of coal power plants in Australia. We have plenty of sunlight, this should be easy for us.

The user articulated the meaning of climate action via prohibiting fossil fuels as logically stemming from Shorten's statement producing the sense of urgency ("immediately") and effortlessness of the task ("*We have plenty of sunlight*"). In reply to this tweet, a retweeter of Coalition opposed:

Stop coal exports? Imagine how many people would LOSE their jobs, and how it would affect the economy. You have got to be kidding me. STOPPING coal exports would do nothing, because China would buy it from somewhere else and we would LOSE MONEY.

Disarticulating the previous tweet and articulating the new meaning of stopping coal exports, the retweeter of Coalition presented it in terms of losses ("*how many people would LOSE their jobs*", "*we would LOSE MONEY*") without desired effects ("*STOPPING coal exports would do nothing*") as the problem is repositioned outside of Australia ("*China would buy it from somewhere else*"). Disarticulation is also produced a repulsion through expression of an unpleasant surprise ("*You have got to be kidding me*"). This utterance was further disarticulated by the retweeter of Labor ascribing the lack of understanding of good parenthood to the interlocutor:

If you believe money is more important to me than my children's future, you clearly need a better understanding of motherhood. Australians die of heat related causes every year already - global warming is going to make that worse. Much worse. Money can't bring back the dead.

In this tweet good parenthood related to climate change rearticulated through care of their health ("Australians die of heat related causes every year already") that cannot be more

important than "*children's future*" for a mother. The interlocutor and their economic concern is presented in exclusion from understanding of good parenthood. However, as a negative case, the children and parenthood were invoked in tweets that did not expressed negative affect towards others:

[Name] you are not a fan of the Greens I fully get that and respect your perspective. Me, I have 4 children and am fighting for a liveable climate. (...)

In this excerpt of a tweet by a retweeter of Greens, having children is presented as an obvious reason to support climate action presented in terms of struggle ("*fighting for a liveable climate*"). This is an example of agonism where respect to the other view on the preferred political party is expressed. While the appeal to parenthood is rather used to justify own position.

The identity of Australia and Australians in the discussion were constructed as suffering from coal and gas industry and lobbyists and lack of climate action:

The gas cartel and coal mob are fleecing Australians with the help of Shorten too, I might add. DIGUSTING that you plan to give the #fracking gas cartel a further \$1.5b totrash our country Bill Shorten & Labor. Disgusting!! #auspol #AusVotes19 #qldpol #ntpol #nswpol

Describing the fossil fuel industry in criminal terms as "*cartel*", "*mob*" that fraudulently takes money from the nation and "*trash*[es] *our country*", the retweeter of climate activists positions it in difference to Australia and in equivalence to the Labor party producing a repulsion ("*DIGUSTING*", "*Disgusting!!*"). The tweet blames the political force and the industry for "*fleecing*" Australians. Australia is constructed also in comparison with the other countries as lagging behind due to actions of a group:

Shut the fuck up, will you Angus!!! EVERYWHERE in the western/rich/civillised world EV selling/production/use rates are tripple (or more) than in Australia. You stupid fucking morons of the #LNP are holding us up and we WILL be left behind! Also #ClimateCatastrophe anyone??

A retweeter of Labors published the above tweet quoting the Coalition's Angus Taylor as he tweeted about idea to introduce euro standard for vehicles: "*If you can't afford to pay more for your favourite car you can't afford Bill Shorten*". In the affective response, the user articulated Australia as not belonging to "*western/rich/civillised*" world where electric vehicles proliferating. The Coalition is positioned as an obstacle to progress catching up with the world resulting in inevitable being "*left behind*" (capitalized "*WILL* be"). Not only the insults, but such discursive positioning of the LNP in the social reality of Australia affects repulsively. The sense of being "*held back*" is discursively constructed in relating Australia to climate change:

What has been the cost of 6 wasted years with Liberal Party climate deniers and destroyers holding Australia back? Investment in renewables blocked. Climate impacts worse. Your mob has been a climate disaster. We can't afford another day of this

The above tweet by a retweeter of Greens disarticulates the discourse of high costs of climate policy by the Coalition and produces affect in a similar manner to the previous tweet. Representation of the LNP party as "*climate deniers and destroyers*" and criminal "*mob*" positions it as an evil doer to Australia ("*holding Australia back*") imposing costs on the nation in terms of time ("*6 wasted years*") and environmental damage ("*climate disaster*"). In such discourses, the LNP positioned not as part of Australia but a threat or a cause of its problems excluding the party from Australians:

Why is it that the NATS always side with the coal, gas and cotton industries over farmers, the environment and the Australian community. The state of our rivers is a tragedy and your mob is to blame

In this tweet, a retweeter of Labor accounts positions the National party ("*NATS*") together with "*the coal, gas and cotton industries*" on one side, and the "*farmers, the environment and the Australian community*" – on the other side. The exclusion of the industries and the party from Australian community and discursively created opposition again articulated through presenting the National party ("*your mob*") as criminals causing a "tragedy".

Discourses of Retweeters of Coalition

Retweeters of Coalition discursively constructed climate change as a "scam" or as a natural event that humans cannot alter and climate action or changing current policy as too costly and detrimental for economy and jobs and/or producing no effect on emissions due to actions of other countries. Thus, the users produced a mix of denialism and delayalism (King et al., 2022) both rejecting human-made climate change and criticising the available solutions. The climate action proponents in such discourses were represented in a way that produced repulsion as unwise, irrational or lacking critical thinking and blinded by idea, hypocritical, threatening the well-being due to the incompetence, or useless due to failure to grasp a bigger picture.

In one of the conversations a Retweeter of Coalition gave the following characterisation of a speech promoting climate action by independent candidate Zali Steggall:

Catechism of the climate, the call to repent, rather than a policy, from a preacher who has taken no action herself.

The user places the expression of climate change concern by the candidate in the realm of faith describing it in religious terms and calling the candidate "*a preacher*". He adds a negative characterisation "*who has taken no action herself*" implying hypocrisy producing repulsion. After being referred to the climate action policy of the candidate in disarticulation of the discourse by a retweeter of opinion leaders and independents, the user responds:

Yet @zalisteggall_wants to cut C02 more than Paris Agrmt but has no costings upon which to have formed that view.

Here, the user resorts to another discursive strategy pertaining to the group: underscoring the lack of calculations of the climate policy suggesting this is what it should be formed on. In the response, the retweeter of opinion leaders and independents articulates the meaning of the lack of costings as less important compared to helping the planet as helping is a part of national identity:

Correct no detailed costing. Just the science around climate change and what the world needs to do. So in #warringahVotes its inertia from @TonyAbbottMHR or action from @zalisteggall. Yes it will have a cost. But happy to pay that and help the planet. Helping out is Australian

The tweet excludes anyone who does not want to "help out" from being Australian and returns the climate policy from the realm of faith to "*the science around climate change*". Representation of the climate change and climate action as a matter of belief made it easy to encapsulate the pledges for climate change as pertaining to a particular group, a minority, not the whole society:

There's no doubt climate change is real & we must take sensible action to deal with it. But we shouldn't put Green religion ahead of the wellbeing of families & people's jobs. You don't improve the environment by damaging the economy <u>#WarringahDebate</u> <u>#AbbottvSteggall</u>

This is a tweet from the Coalition candidate Tony Abbot whose account was retweeted by users within the group acknowledges the reality of climate change and the need for action and uses "*Green religion*" in the next sentence. Without elaboration of the term, the signifier is empty (lacking the referent) so that anything could be articulated as "Green religion", i.e. damaging economy, jobs, and people's wellbeing as logically stems from the tweet. Thus advocates for more ambitious climate action are by implication "bad guys" who intent to damage "*the wellbeing of families*". In addition, questions of religion are belonging to private life in a secular state and liberal democracies safeguard freedom of consciousness,

whereas "[to] put Green religion ahead of wellbeing" could be interpret as to extend a religion of a group to the whole society.

A high cost of climate action for the nation was a widespread discourse in the disursive struggle with proponents of climate action:

Where are your costings for you climate hoax policy Why aren't you telling us what it costs? Are you scared you'll lose the election if anyone finds out the trillions of debt your going to saddle the Australian worker with You're despicable human garbage

In this tweet addressed to the Labor party non-articulation of the climate policy cost is interpreted as hiding it rather than the lack of the calculation. The "lies" are aggravated as is based on another lie "*climate hoax*" implying the rejection of the reality of climate change. The Labors are represented as a threat fo Australian workers who are going to be burneded by "*the trillions of debt*". Such representation of "lying politicians masterminding economic hardships against workers" produce repulsion amplified with a concluding insult "*You're despicable human garbage*".

Finally, negativity towards proponents of climate actions were produced in a discourses of delay, in which proposed climate solutions were constructed as unreliable or ineffective. In the following tweet excerpt, the user criticised renewable energy sourses:

So the solution to climate change is to rely on weather (which changes every day) to generate our electricity? Have you leftists even thought this through? China is *by far* the biggest carbon polluter. Paris agreement gives them a free ride. Windmills won't solve that, not even

The tweet presents transition to renewable energy sources an unreliable and not thought through by "*leftist*" representing them as blinded by ideology, lacking of rationality. It also "exports" the problem to China – "*the biggest carbon polluter*" authorised by the international treaty. In this reality, Australian build-up of renewable technology does not "*solve that*". The truth about useless solutions of shifting from coal to renewable technologies renders any proponents of the transition as failing to grasp the bigger picture and involved in useless efforts:

We *will* supply, even if Adani never happens, which either way doesn't particularly bother me. What does bug me is if #StopAdani succeeds, the rent-a-crowd will pat themselves on the back, for no meaningful difference where it matters - actual CO_2 emissions.

Will they return to do something about Labor's plan for gas extraction across the top end? Probably not (we actually need that gas). Meanwhile

our bulk coal exports will rise into places like Vietnam. And the protesters will be none the wiser.

The user talks about coal supplies that would continue, according to the constructed reality, with or without opening of the Adani Mine. The concern ("*What does bug me*") is produced towards advocates for prevention of the coal mine development. They are negatively constructed as "*the rent-a-crowd*", people who protests for money without regardind a cause, who will celebrate an illusionary achievement ("*pat themselves on the back, for no meaningful difference where it matters*"). The protesters and their actions are useless because the exports will not be reduced, but redirected "*will rise into places like Vietnam*", inconsistent as they would "[*p*]*robably not*" return to protest against the Labor's intent to extract gas, and unwise.

To summarise, in 2019 pre-electoral period, the topical composition of climate change discussion persisted. Climate change and climate action topic included more signifiers of weather disasters and stand along with economy, energy transition and technology and international dimension. In addition, actual events – the Adani Mine approval, and the Climate Strike – also transpired in the discursive affective practices of the users. The retweeting interactions rendered six groups with close within ties. One of them had the weakest between ties and was at the distance to the rest of the groups. This group retweeting the Coalition accounts produced contrarian discourses to the rest of the groups who articulated the need of strengthened climate actions. The proponents of climate action affectively represented their antagonists as harming children, threatening Australia, and holding it back in discourses of blame and exclusion producing repulsion and disgust. Their discursive opponents represented them as unwise, irrational, hypocritical, threatening the well-being of families producing repulsion in affective discursive practices.

5.1. Climate change discussion and affective polarisation on Australian Twitter in 2022 pre-electoral period

Mapping of climate change discussions on Australian Twitter in pre-electoral period of 2022 revealed the stable themes throughout the three elections (**Table 5**): 1) climate change and climate action, 2) energy transition and technology, 3) economy, and 4) international dimension. Apart from signifiers that can be considered a part of climate change and action discourse (e.g. 'net zero', 'emissions'), the meaning making encompassed relating climate change to the nodes signifying energy technology (e.g. 'coal', 'solar', 'turbines'), other nations (e.g. 'China', 'Ukraine'), economic realities (e.g. 'jobs', 'taxes').

Table 5. Bigrams and collocates calculated for 2022 dataset categorized by themes

Themes	Bigrams and collocates
Climate change and climate action	Bigrams : climate change, climate action, net zero, global warming, world climate, sea level, [net] zero dead, climate policy, emissions reduction, climate crisis, reduce emissions, zero emissions, great barrier [reef]
	Collocates of 'climate' : change, action, carbon, zero, net, emissions.
	Collocates of 'coal': carbon, action.
	Collocates of 'carbon': footprint, emissions, neutral.
Energy transition and technology	Bigrams : fossil fuel, renewable energy, coal gas, coal mines, new coal, fuel industry, power stations, solar wind, solar panels, electric vehicles, fired power, wind solar, power plants, clean energy, base load, nuclear power, regional coal, coal mine, coal mining, electric cars.
	Collocates of 'climate' : coal, solar, renewables, fossil, power, energy, renewable, gas, fuel, mine, wind, panels, fuels, mines, electricity.
	Collocates of 'coal' : mine, gas, mines, fired, power, stations, mining, plants, miners, dust, oil, transition, thermal, burning, electricity, powered.
	Collocates of 'solar' : panels, wind, batteries, turbines, power, farms, battery, roof, panel, energy, charge, nuclear, night, electric, farm, rooftop, grid, home, windmills, car, install, sun, electricity, charging, house, powered, system.
	Collocates of 'carbon': capture, coal, storage.
Economy	Bigrams : carbon tax, electricity prices, cost living, taxpayer funds, higher taxes, fuel companies, billion pay, trillion dollar, carbon credits, interest rates, coal industry, high electricity, subsidies top, coal communities, power prices.
	Collocates of 'climate': tax, prices.
	Collocates of 'coal' : iron, ore, industry, building, jobs, export, prices, workers, miner, working class.
	Collocates of 'carbon' : tax, credits, taxes, price, credit, abandon, introduce, weaken, mechanism, increase, introduced, pricing, budget, reduce, scheme.
International dimension	Bigrams : take lead, lead world, national security, Pacific islands, use WEF, Solomon Islands.
	Collocates of 'coal': regional, exports, China, Ukraine.

The rest of the bigrams and collocates are related to anti-corruption demands ('federal ICAC', 'integrity', 'ICAC' 'integrity commission') and demands or programmatic campaign points related to welfare (e.g. 'aged care'), and human rights ('human rights'). However, these themes are rather juxtaposed to climate change issue than have any relationships in

meaning making inside the topic. For example, here is a reply in two tweets to a Coalition candidate's post about him communicating with voters:

You really have nothing else do you - you can't talk about anything else because you've managed to screw everything else up - the fact your so called strong economy has given record debt, inequality, rocketing house prices, stagnated wage growth...

Higher uni fees, worse education ranking we have had, rubbish nbn, appalling aged care, Great Barrier Reef endangered (except you bribed them to take it off the list), worse human rights record....

In this example, different signifiers from different discourses form a chain of equivalence based on that they are all constructed as something the candidate has nothing to say or even has no right to say ("you can't talk about anything else because you've managed to screw everything else up"). Although the tweets mention the Great Barrier Reef that has been a signifier in climate change debate since 2016, the particularities in the chain are preserved so that all other nodes are not influenced by it: "rocketing house prices" and other signifiers are not brought to construct a truth about climate change.

Retweet network covering 33.65% of all the interactions regarding climate change issues involving candidates revealed a polarised structure. The modularity algorithms at resolution 1.0 produced 162 communities. The following six biggest communities were investigated in further analysis (**Figure 12**):

- Retweeters of Coalition (covering 13.53% of retweeting interactions) including users who retweeted accounts of the Liberal and National party candidates. It is structurally polarised to the rest of the groups and is at a distance from them.
- Retweeters of Labor (covering 18.4% of interactions) including users who retweeted Labor candidates and former ALP members, media celebrities, political activists and an active user whose profile advocates for climate action.
- Retweeters of Independents (covering 19.08%) including users who retweeted two independent candidates, celebrities, a scientist, users actively advocating for climate action, but also one ALP member.
- Retweeters of Independents (covering 9.3%) including users who retweeted three other independent candidates, account of Climate 200 foundation and an author writing about the climate change.
- 5) Retweeters of Greens (covering 7.84%) including users who retweeted The Greens candidates and representatives of two climate change institutions. This group is marginally distanced from the rest.

 Retweeters of other elites (7.21% of interactions) including users who retweeted Simon Holmes à Court, businessman and founder of *Climate 200* foundation, and popular Twitter accounts.



Figure 92. Retweet network of climate change discussions on Twitter in Australia in 2022 preelectoral period. Node size is adjusted by weighted in-degree, i.e. the most retweeted accounts are the biggest.

This network structure and further qualitative analysis revealed existing antagonistic relationships of discourses in climate change discussions between the Retweeters of Coalition who deny climate change is a problem *per se* or its urgency and are against more ambitious climate action and the rest of the groups standing for accelerated climate action

and form the chain of equivalence in their hegemonic struggle.

Interestingly, while the rest of political forces kept the proportion of their tweeting about climate change the same compared to 2019, the Coalition's National party increased it more than by two percentage points from 0.85% to 3.01%, and the Liberal party – by more than three percentage points from 2.73% to 6.37%. Assumingly, they had to

	Climate change
Greens	14.88%
Independent	10.34%
Labor Party	4.24%
Liberal Party	6.37%
National Party	3.01%
Other accounts	4.84%

Figure 103. Proportion of climate change related tweets within original tweeting in 2022 pre-electoral period counterbalance discourses of climate advocating teal independents that threatened their seats (Wahlquist, 2022).

On a user level, in all the groups but Retweeters of Coalition, many users retweeted independents, but marginal number of users retweeted the Liberal party, and none the National party, whereas the Retweeters of Coalition hardly retweeted independents and retweeted only Liberal party (**Figure 14**). This finding supports the identified groups in terms of their political preferences. The tendencies do not change this year – among those belonging to a network group based on the retweeting of the party candidates, more users retweet their respective party favouring its discourses compared to the rest and many users mention the Coalition accounts.



Figure 11. Number of users from each group retweeting and mentioning a party or other accounts in 2022.

Analysis of discourses of Retweeters of Greens, two groups of Retweeters of Independents, Retweeters of Labors, and Retweeters of further elites will be further presented altogether as discourses of Climate action proponents. Retweeters of Coalition produced the antagonistic discourses. Their identification for the analysis remains unchanged.

Discourses of Climate action proponents

Tweets of Climate action advocates represented climate change issue as 1) a catastrophe threatening the future generations and Australia's place in the world; 2) as a sign of crisis of elites and failure of representation of Australian people's interests by the politicians in power who have ties with fossil fuel industry; 3) can jeopardize the international standing of the country. Talking about climate change and the need for climate action as a common knowledge, the identities constructed in the discourses were placed in relation to the perceived climate action position while repulsion was produced through positing them as a threat to the country, planet, children in discourses of blame, disappointment an exclusion.

The urge for climate action made any articulations of what is considered inaction repulsive, unacceptable:

The capital letters and unpleasant feelings expressed through bodily condition statement ("*feeling physically ill*") affected by the words of the LNP politician amplifies the representation of climate issue as a catastrophe that needs urgent action. The Coalition member presented as failing to grasp the reality to climate change and being harmful to the planet, producing physical repulsion. Without climate action, hardships await Australia in the future:

Australia will become a wasteland under Tim and his mob. More bushfires, floods, extended droughts and low fertility soils, a dead Great Barrier Reef, more extinctions. Our hope is for an extinct LNP on 21 May and a Fed ICAC to claw back funds given to mates.

In this example, the responsible for the potential apocalyptic future ("*bushfires, floods, extended droughts and low fertility soils, a dead Great Barrier Reef, more extinctions*") are articulated as criminals ("*Tim and his mob*"). In this affective discourse of putting a blame, the Coalition is represented as a threat to the land and thus deserving to become "*extinct*" and brought to account for their power abuse in by an anti-corruption agency that is yet to be created ("*a Fed ICAC*"). The negativity is expressed to the opponents by virtue of their

(potential) guilt in putting all the country to hardship while their identity is constructed as an enemy threatening the nation. They are constructed as responsible for the climate catastrophe with use of hashtags *#LNPClimateCriminals*, *#COALitionClimateCriminals*. Climate inaction in the discourses lead to dire consequences both internally and in international dimension:

Australian's lead the world in emissions per capita. China, India & the United States of emergency will pivot quickly & we will be left behind.

Such truth regime urges action without narrowing possibilities for the solutions. However, in the discourses, solutions are perceived as transition to new technologies that would keep economic growth pertaining to Industrial fatalist and Keynesian Greens discourses that favour preserving economic growth whether through investments or state regulation respectively (Anshelm & Hultman, 2014). The following tweet illustrates the technological optimism and belief that climate action would also mean economic growth:

But what your failing to acknowledge that by switching to renewables we create so so many more jobs for miners etc without destroying the planet in the process

Renewable energy technology is conceived by the retweeter of other elites as an economic driver creating "*so so many more jobs*" and as neutral for the global environment ("*planet*") presenting, as this tweet illustrates, "win-win" situation.

Although the climate action proponents, by the network structure, formed the chain of equivalence against the Retweeters of Coalition producing antagonistic discourse and establishing the same truth regime, the relationship within the chain are not always agonistic. Identity of Labors are affectively constructed by part of the users as preventing the desired social order in all other groups:

If that's true then they can't vote for you. Australians need innovative leadership to match, and to overcome the disaster that's occurring. They won't get that leadership from a party in the pocket of fossil fuel donors. There's no time for climate deniers like you. #auspol

In this reply to a tweet of the leader of Labors, the ALP is represented by the retweeter of Greens as incapable of ensuring the leadership to tackle the climate catastrophe due to being financially dependent on and corrupted by fossil fuel industry ("*a party in the pocket of fossil fuel donors*") and "*climate deniers*" – what within the given regime of truth means someone threatening the desired social order. The identity of the leader of ALP is constructed fails to provide "*innovative leadership to match, and to overcome the disaster that's occurring*" that is needed, producing disappointment. Such affectively polarised

tweets often equalised the ALP and LNP in their affiliation to fossil fuel and present a subdiscourse of crisis of representation of voters' (climate action) interests by the major parties. For example:

When Australia's climate future is sold off to foreign fossil fuel companies, neither party are patriots IMO.

The tweet from a retweeter of Labors equalises the ALP and LNP and represents them as acting against the country's interests selling the "*climate future*" to foreign fossil fuel industry. They are both a threat to Australia failing to represent the nation's interests. The unacceptability of identifications with identities represented this way in a discourse urging for climate change is clear as it would mean standing against the country and being not "*patriots*", producing exclusions.

The only group that is not criticised or negatively represented in the discourses are independent candidates. The Greens were negatively represented for former deeds of voting with the liberal government against introduction of an emission trading scheme by the Retweeters of Labor and was once portrayed as unable to make the needed action happen by the Retweeters of Independents. One of them wrote in a tweet:

[...]

I would love to see climate action and yet Labor acknowledge the need but propose to do sweet bugger all about it.

The greens seem impotent.

The tweet producing disappointment portraying Labors as indifferent to climate change as they "acknowledge the need" for climate action but offer absolutely nothing ("sweet bugger all") to address it, while the Greens are presented as less powerful, unable to act ("impotent"). The tweet is tricky as to whether it produces agonistic or agonistic identities. Both parties are constructed as not acting about climate change but for different reason. Can powerlessness as characteristic of The Greens be a basis and a sign for negation? The user acknowledges they share the value with her "would love to see climate action" and don't convey full confidence in the capabilities of the party (they "seem impotent"), the tweet produces disappointment. But The Greens are not seen as enemies, in my view, as one cannot be blamed for powerlessness, whereas Labors know about the need, could act, but do nothing in the constructed reality. The party is presented as doing a lip service about the issue, somebody that cannot be trusted on actions. In my view, such construction could negate the concern for climate action as shared by the party even though it "acknowledges" the need for climate action. The identity might be constructed as antagonistic; however, the fact of acknowledging seems to be not doubted. Not having offers on climate action can be

attributed to a lot of other reasons apart from the lack of climate concern. Therefore, the Labors identity is constructed as agonistic and producing disappointment.

In agonistic utterances, politicians are often affected with urge to change their position, discursively putting them in the powerful positions:

Those children and working families have a bleak future if Labor still supports new fossil fuel projects. Please change your party's stance and give us all a fighting chance. [...]

In this example, the identities of children and working families are drawn on as they were brought by the leader of ALP Anthony Albanese's tweet about cheaper medical insurance that provoked the illustrated answer to a politician. The retweeter of Independents conditions the good future of children and families on (dis)continuation of launching new fossil fuel projects putting Labors in a position that will do harm to them, but can prevent it. The user requests to "give us all a fighting chance" putting herself and other climate action advocates in a position of dependency on the political force that is capable to give "a fighting chance". Such entitlement speaks for agonistic relations. The user not only respects the right for the discourse but puts the adversary in a position of authority. However, she requests to change the discourse practically negating it presenting the ALP as a threat to children but leaves a chance of "saving face" to the party.

Discourses of Retweeters of Coalition

Discourses of Retweeters of Coalition falls under what Anshelm and Hultman (2014) call climate scepticism characterised by considering climate concerns alarmism and a strive to preserve status quo. They created representations of climate change issue and proponents of climate action as 1) threatening to ordinary workers with job losses or high costs carried by the ordinary people; 2) irrelevant issue that is of concern for the wealthy who are out of touch with reality; 3) irrelevant in comparison with other countries and can undermine the nation's global and regional standing; 4) an untruth to promote unreliable or harmful renewable energy technology for the sake of certain economic interests. The identity of climate action proponents constructed in the discourses of climate change within the group as the rich who are out of touch with the ordinary people's reality, bad parents and children, hypocritic, standing for someone's economic interests, threatening livelihoods of workers and ordinary people, and dismissing the country's interests jeopardising the national wealth and standing. Such affective-discursive constructions produced repulsion and exclusion.

The job losses in coal mine industry are presented as a self-evident consequence of the transition to renewable energy within the climate action plans proposed by Labor and independent candidates. Thus, the latter are constructed as a threat to workers' identity:

He's the hope of the conservatives.

@mattjcan is visiting the Hunter to tell coal workers about the threat to their jobs if @AlboMP wins with his sky high emission targets & help of climate fanatic Independents. If the coalition listened to his policies they'd walk it in.

In this tweet by a Sky News contributor, the Labors' leader and independent candidates posed as a direct threat to the workers as the meaning of new emission targets suggested by Labors are made through its relation to jobs, which would be lost consequently. The ALP policy, that has been later put in place, included increase of emissions reduction by 15 percentage points to 43% by 2030 (Australia Submits New Emissions Target to UNFCCC, n.d.). This way, the Labors' identity is presented as existential threat to workers. Independents are represented as their accomplices and as "fanatics" – someone who does not think or act rationally but is obsessed with an idea. The National Party senator for Queensland Matt Canavan appears as a friend of workers warning them about the threat. Moreover, he is a potential saviour ("the hope") for the conservatives who would win the election easily if "listened to his policies". Such representation of the senator makes him different from the rest of "conservatives" so that the offered truth implies existence of the conservatives that fail the political force in winning the elections. The political context suggests that the author implies the Coalition heterogeneity with regards to the views on climate action. Matt Canavan openly opposed net zero 2050 target while Scott Morrison confirmed the government's commitment (Smith, 2022). In addition liberal candidates in city electorates competing with the independents included climate action in their platform (Crowe, 2022). This tweet produces a variety of affects – repulsion and sense of threat to independent candidates and the ALP's leader, sense of alert due to the constructed threat to workers, and hope directed at Matt Canavan. Along with the loss of jobs, Labor and Independents are represented as increasing costs of living through imposing a "carbon tax" - a name for a carbon credit scheme that is used by Retweeters of Coalition - that will be laid on shoulders of consumers. Out of 413 mentions of the term, it was used by the group 242 times while other groups often used it to disarticulate this meaning.

The total misunderstanding of workers or "ordinary people" by Labors and independent candidates is discursively constructed through underscoring irrelevance of the climate change issue comparing to the other hardships the people are going through:

Today I met a man who lost his business due to lockdowns. He had to remove his children from their school and was also unable to visit his dying father in WA. I asked his biggest election concern. With tears in his eyes he looked at me and said "Climate change and a federal ICAC".

In this tweet, the Coalition candidate Daniel Lewkovitz ridicules the platform of independent candidates campaigning for climate action and creation of federal commission to investigate high level corruption constructing unrealistic identity of a male Australian in a dire situation whose family is suffering because of the economic situation but still is most concerned with climate change and corruption while his father is dying, and children don't have access to education. The image of a white male hard worker, a battler, who sustains his family against all adversity is historically engraved in Australian identity and heroicised in movies (Lloyd, 2003). Concern for climate change makes the man a bad parent and a bad child at the same time, as not caring for his children and his father, producing a sense of absurdity towards climate change concern. This grotesque picture highlights the distance of those advocating for climate change and anti-corruption institutions from the realities of ordinary people that must provide for living, making climate action a concern for the rich. In the following example, a user disarticulates a discourse in their reply to the tweet by the independent candidate Allegra Spender where she criticises the Coalition candidate Dave Sharma for persuading voters to put the right-wing populist United Australia Party as second preference doubting his climate action commitment:

Could be worse...he could be preferencing a champagne socialist that wants to regulate/tax coal and iron ore mines and their workers out of existence. Sorry, I've probs interrupted you quaffing chardonnay and snorting foie gras!

The user creates identification of "*champagne socialist*" – a term denoting a hypocritical person who states their socialist beliefs but maintains a lifestyle of elites or upper class – and suggests in the end of the utterance that the candidate is interrupted "*quaffing chardonnay*" and eating a luxury delicacy implying that the candidate is a "champagne socialist". Again, this makes climate concerns belonging to the rich who are an existential threat to workers with their suggested regulation. The negativity expressed towards climate action proponents with regards to their implied hypocrisy producing repulsion is a pattern seen within the discourses in this group:

Why does @AlboMP need a private jet ? increasing a carbon footprint Have Qantas stopped flying first class to Perth.

The tweet is a reply to the Labor leader posting of a video of him setting off to Perth for campaigning. It refers to the luxurious life of the candidate by use of private jet and suggesting there might be the first-class alternative (not affordable to everyone) and disarticulates his climate action platform by showing the candidate does not live up to lowering emissions promise in his everyday life.

The transition to renewable energy as a proposed climate action is represented as imprudent action dismissing the national wealth and undermining the country's international standing for the sake of private economic interests:

Only the naively arrogant can believe Au must set an example by being first over the cliff. We have huge wealth under our feet but, instead, Teals/Greens/ALP want us to pay Chinese & Eu industry & mercenary billionaire investors for "renewables"

The example is illustrative how the nation is thought of as losing by refusing fossil fuels ("*huge wealth under our feet*") and giving the advantage to other countries and economic interests of the rich. Comparison to other countries and especially China is another dimension of the discussions as Solomon Islands signed the treaty with China allowing the latter to have a naval base in their seas in the period (Graham, 2022) making it a point of discussion and analysis in the context of Australia losing its power in the Pacific region. The illustrative tweet produces repulsion through representation the advocates of renewable energy as naïve and arrogant and leading the country to be "first over the cliff", threatening all the nation.

Such a populistic discursive strategy opposing elites and ordinary people (Mudde, 2004) describing them as a threat to workers and the whole country, hypocritic and arrogant is antagonistic to advocates of climate action and transition to renewable energy portraying them as an enemy and mobilising negative affect by virtue of their unwise, hypocritic, and threatening to workers and the country, repulsive identity in the discursively created regime of truth.

To summarise, in 2022 pre-electoral period, Australians conceived climate change issue through the same topics as in the previous periods: climate change and climate action, energy transition and technology, economy, and international dimension. The retweeting interactions formed polarised network structure with users retweeting the Coalition accounts sustaining distance from the rest of the network. The group produced antagonistic discourses to those of proponents of more ambitious climate action and *vice versa*. The latter constructed identities in relation to the perceived climate action position while repulsion was produced through positing them as a threat to the country, planet, children in affective discourses of blame, disappointment an exclusion. Their antagonists constructed identities of climate action proponents as the rich who are out of touch with the ordinary people's reality, bad parents, and children, hypocritic, standing for someone's economic interests, threatening livelihoods of workers and ordinary people, and dismissing the country's interests jeopardising the national wealth and standing. Such affective-discursive constructions produced repulsion and exclusion.
6. Discussion

The aim of the research was to investigate affective polarisation in climate change discussions on *Twitter* to see how construction of identities in discussions about climate change produces negative affect in Australia and discuss the potential role of the platform in facilitating agonistic or antagonistic engagements and affective polarisation. The main research question concerns how construction of opposing identities in the discussions produce negative affect. For this, I first looked at the main topics that the discussion comprised of and discursive coalitions – groups of users formed in the result of discursive practices of retweeting thought of as favouring certain discourses while possibly excluding the others.

The results revealed stable construction of discourses related to climate change through engagement of topics of climate change and climate action policies, economic prosperity, energy transition and technology, and international dimension embraced by comparisons with other countries and discussions of Australian geopolitical standing. Within these stable themes, temporary subtopics were observed in 2016 and 2019 as a result of discussing of current affairs or issues that became pressing in the timeframes. The Great Barrier Reef, its health status, and measures to protect it was a topic for Australian Twitter discussions in 2016 and associated with controversy of removal of its mentioning from the UNESCO report on the world natural heritage impacted by climate change by the request of the government. In 2019, the temporary high-profile issue was approaching final approval of the Carmichael Coal Mine in Queensland and the School Climate Strike. These topics gathered "affective publics" (Papacharissi, 2016) that reacted on real-life events. In 2022, there was no climate related current affairs that would steer the discussion within and between the discursive groups throughout the climate change discussion, as revealed by the corpus linguistics methods. Users grouped around identifications with preferred discourses and retweeted some groups of users crafting "crowdsourced elites" (Papacharissi & de Fatima Oliveira, 2012) of environmental organisations and activists, politicians, media and journalists accounts, opinion leaders, and popular *Twitter* accounts. The users' affective-discursive practices of retweeting revealed the affective publics that identified with the climate change activist and environmental organisations and initiatives dominated in 2016 in discussions of the Great Barrier Reef. By far, there was no other topics on climate agenda in the elections (Pearse, 2018). The events around the reef were used by the climate activists to promote their causes on *Twitter* along with smaller groups that favoured partisan tweeting. In the subsequent elections the climate change activists accounts did not play the same role in pre-electoral discussions while the space of interactions was taken by the politicians and those favouring their discourses. By 2022, the *Twitter* environmental activists constituted the smallest group, on the backdrop of increasing proportion of tweets on the topic by the established political forces. In 2019 and in 2022, the groups were structurally polarised as retweeting networks revealed.

Qualitative analysis revealed the structural polarisation and discursive struggles are grounded in climate stance while different parties were subjected to criticism in pro-climate action groups and party members who articulated the climate issues were discursively ostracised in the polarised groups of Retweeters of Coalition. The counter argument to this point is that the discussions could reflect internal tensions and competition for leadership within the Liberal National coalition. However, the emergence of "Moderate Liberals" in some divisions where climate change is more of a concern to voters, and the success of independent candidates in those divisions speak for prevalence of climate action stance over partisan identification. In addition, the data have shown users preferring the Labor party in their retweeting also criticized the party candidates over the policies on climate. This goes in line with the research that found that opinions on issues perceived to be of importance outweigh partisanship (Hobolt et al., 2021).

Users' affective discursive practices have shown that each group preferred a particular political force when the most retweeted accounts were partisan profiles, based on the numbers of users in each group who retweeted and mentioned a political force, its candidates or other *Twitter* accounts. Still, the groups were not echo chambers, in which users communicate only with like-minded (Sunstein, 2017). The finding suggests, if the platform promotes polarisation, it is rather underpinned by motivated reasoning mechanisms (Taber & Lodge, 2006) and cross-cutting encounters (Törnberg et al., 2021). Users mentioned their outgroups and, to much lesser extent, retweeted them as well as replied to their tweets disarticulating and re-articulating the discourses. The possible role of the platform in polarisation processes is an important point of discussion.

Dehghan & Bruns (2022) argue polarisation in online communities on *Twitter* is a result of users' choice in using affordances of the platform. Without disregarding algorithmic curation of the content users encounter in their feeds, the scholars suggest polarisation should be regarded as social problem, not stemming from technological configuration. My study's findings from network analysis of interactions in climate change discussions over three election period and further qualitative reading of the tweets produced by the groups point out that when the overall retweet network sustained closer ties between users in 2016, their tweets were still producing conflicting affective discourses. Users had cross-cutting interactions as well as encounters with the like-minded. However, the way they interacted

in those engagements could hardly be attributed to affordances of the platform only, but rather stemmed from their discursive positions and the regime of truth they ascribed to, as within the affective discursive groups instances of affective polarisation were observed. "Algorithmic enclaves" producing only love or only hate to candidates were not the case, in contrast to the study by Lim (2017) investigating political campaigns on *Facebook* in Asian context. If we regard joining a group as a discursive act in itself, as Laclau and Mouffe's approach allows, then alternative discourse become visible produced by users who refuse identification with the certain groups and discourses. Staying aside of any of the "ready to use" identifications is still a possibility that users opted for on *Twitter* in my study as the retweeting networks never reached more than 41% of interactions in the climate change discussions before the elections. As Saskia Sassen (2014) argues attention should be paid to what the chosen approaches hide, not reveal. Thus, talking about "silencing" of alternative views on a communication platform could be the talk of what is visible only. If we focus on groups only, as I have done in my study too, we erase discourses of users who keep themselves outside of the groups from our analytical view. Refusing to join a group, to follow or retweet is a discursive act. Proponents of technological determinism might say that the platform algorithms give only certain opportunities for users to take discursive positions by presenting them with certain content suggestions rendered by what the technology deems of interest to a user. This is a fair point. However, my data does not offer a conclusion that users encounter only like-minded content or, on the contrary, the content that conflict their views. Qualitative exploration, mentioning, and replying to politicians revealed that users on communal level responded to tweets of the preferred parties, supportive of their discourses as well as disarticulated the discourses in the tweets they did not agree with. With that, I suggest universalistic approach to results of algorithmic curation as only like-minded or cross-cutting discussions does not seem what actually happens. From the point of view of user activity characteristics, there might be users who love to argue, and those who are more prone to extend their support that organises their practices in a different way. Online platforms are designed to stimulate participation (see also Jenkins et al., 2016). Therefore, hypothetically, if users respond to like-minded content more than engage in cross-cutting discussions, the platform suggests the respective content, and vice versa. There is no evidence that would support that *Twitter* directs users into exclusively like-minded or exclusively cross-cutting discussions, that can both be contributory to affective polarisation. By affording tools to respond or ignore, retweet or like, block other users, Twitter allows users to enter a discourse and take their subject positions that might be polarised, antagonistic or agonistic in relation to others. The groups I studied criticised the parties they retweeted and did not exemplify uniformity, with exception of users who grouped around accounts of the Greens and independent candidates. Therefore, the

platform itself allows for variation and don't cultivate only outgroup hate and ingroup love. The question that goes beyond the scope of my research but persists is whether *Twitter* locks-in the users in their affective discursive practices prolonging antagonisms and polarisation and how user experiences influence their affective-discursive position. My data and the already mentioned change in the retweet network structure between 2016 and 2022 preliminary suggests that interactional polarisation on the platform occurred in 2019 and persisted in 2022, but negativity was present in part of the tweets regardless of the overall network structure. What becomes clear from my results is the platform allows users to take and discursify their positions and identifications making them visible and react to identifications of the others. These affective discursive practices create interaction patterns. The interactions cannot be characterised as echo chambers. Affective polarisation was observed within these interactions. Thus, the platform affords users a space to lead hegemonic struggles and polarise to the others discursively and affectively. However, to conclude that Twitter as a platform influence the interactional outcome, a different theoretical standpoint should be taken. The platform would need to be regarded not as a space, but as an actor or a tool involved in practices. In a similar vein, narrowing down of the affective discursive practices to Twitter space does not reveal how these practices extend beyond the space to infer the platform orders them in a particular way. Still, seeing the platform as a space and applying Laclau and Mouffe approach allowed to study the discursive struggles that took place on *Twitter* beyond the use of language. It allowed to study the structure created by users that took their discursive position and the meaning making of groups within the structure.

The discourses of groups opposing changing the *status quo* on climate action in 2016, 2019, 2022 can be attributed as discourses of denialism and delayalism (King et al., 2022). Their affective-discursive constructions of antagonist identities produced repulsion and exclusion. From affective discursive strategies of rejection of opposing discourses in disarticulations in 2016, they developed into construction of climate action proponents as irrational "religious fanatics", threatening with high costs and elimination of workers, and failing to grasp bigger picture as the responsibility to act on climate is shifted outside of Australia in 2019. In 2022, this array of discursively constructed identities was added with representation of opponents as the rich and hypocritic people, out of touch with reality, motivated by selfish economic interests that endanger Australia's national wealth and international standing while ordinary people with climate concern were constructed as bad parents and children. The discourse of hypocrisy of climate action proponents has been also found in a study that investigated tweeting before several Conference of Parties of the United Nations Framework Convention on Climate Change (Falkenberg et al., 2022). The

authors found the hypocrisy theme in the majority of tweets of contrarian discourses since 2020. Climate action proponents' discourses belong to Industrial fatalist and Keynesian Greens discourses that favour preserving economic growth whether through investments or state regulation respectively (Anshelm & Hultman, 2014). The discourses of the groups advocating for more climate action fall under economic modernisation discourse that imposes that climate change can be tackled with help of technology and within market structures. This concords with the study of discourses of environmental management for fire control in Australia by Buizer and Kurz (2016). In 2016, users constructed identities of politicians producing shaming and blaming, distrust, and disappointment in climate change discussions. They also related the identities to children or future generations and placed politicians in relation to the country as worsening its situation. In 2019, climate action proponents continued relating climate action to good parenthood and constructed politicians' lack of commitment to climate action as doing injustice to children, farmers or holding Australia back and causing its problems. The discourses of blame, repulsion, disappointment were produced in 2022 when not acting on climate was attributed to someone threatening the country, children or the planet.

As the findings show, affect and meaning are intertwined and can be analytically interrogated. This proves Margaret Wetherell's approach of affective discourses useful for looking at how we relate to others in discourses (Wetherell, 2013; Wetherell et al., 2015). By creating configurations of discursive moments, we produce distance, exclusion, blame, shame, disappointment, and alarm for a threat or harm with regards to and between other subjects, as construction of antagonists and, in exceptional cases, agonists, have shown in the data. The construction of identities in the studied affective discursive struggles on climate change and action also orders who should be cared about in truth claims about marginalisation of farmers, children, workers, families, voters, or Australian community, and who is responsible for their situation, who places self-interests higher than the interests of wider community and "deserves" to be disliked and excluded. Therefore, the opponents are not merely seen as wrong in their stance. Such discursive development of various justifications for dislike in a way resembles an embryos of what Arlie Hochshild (2016) conceptualised as "deep stories", the narrative of deprivation from the deserved benefits caused by someone. Noteworthy, the array of identifications constructed by climate action opposers were growing from year to year and in 2022, was more diverse than identifications of climate action proponents. Both camps related climate action to parenthood in affective discursive practices. They constructed identities of opponents as not caring for children. Previously, it was found that parenthood increases affective perceptions of risks of climate change in the context of Sweden (Ekholm & Olofsson, 2017). A study in New Zealand found that parenthood and support for climate action are associated with increased support of the Labor party (Milfont et al., 2012). In addition, both camps extensively draw on collective Australian identity to represent opponents as a threat to the country and affectivelydiscursively exclude them from the collective identity. Presenting the other as outside of "we" is a "classic" strategy in affective-discursive constructions of truths (Wetherell et al., 2015). For example, the same strategy was used in affectively polarised *Twitter* discussions about Syrian refugees in Turkey (Erdogan-Ozturk & Isik-Guler, 2020). Affective-discursive exclusions of fellow citizens from Australian community based on climate stance tells something important about possibilities of agonistic identities. The way Mouffe sees transformation of antagonisms into agonisms, my study suggests, could be problematic. A bigger, collective identity invested with love could make opponents prone to discursively exclude each other from the identity or present them as threatening to it, rather than facilitates adversarial relationships. Deliberative democracy theorists Dryzek and Niemeyer (2010) suggested that to embrace pluralism, a meta-consensus is needed for structuring contestations with agreement on the legitimacy of disputed values and arguments. Nevertheless, my study suggests, a value-based consensus is needed, but is not sufficient for transforming relations into agonistic struggles. The legitimacy of a value does not necessarily vest legitimacy on antagonists even if they commit to the same value. Discursive struggles may shift into contestations around what constitutes the commitment. The analysed data have shown the possibility to negate the commitment of the opponent persists, as the discourse of hypocrisy was pushed by climate action opponents, distrust and repulsion was produced in constructing political identities as manipulative and deceitful, and instances of exclusions from Australian community for harming it and holding it back occurred. Therefore, I propose that for agonistic relationships, both - mutual commitment to the same value and acknowledgment that an adversary shares the value – are important.

7. Conclusion

The research investigated affective polarisation in climate change-related discussions involving political candidates on *Twitter* during pre-electoral campaigns in 2016, 2019, and 2022 in Australia. The Twitter data was computationally and manually analysed with the lens of affective polarisation theory, Laclau and Mouffe's discourse theory and affective discourse approach by Margaret Wetherell. The findings suggest *Twitter* as an affectivediscursive space give users possibilities to take discursive positions and engage in discursive struggles. The results revealed the climate change discussions have twodimensional topical structure with stable themes persisting throughout the years, namely 1) climate change and climate action, 2) economic prosperity, 3) energy transition and technology, and 4) international dimension. On another level, temporary themes were found in discussions of current events that changed from election to election. The retweet networks have shown users sustained closer ties in 2016 and the distance of opposers of climate action from the rest of the network in 2019, and 2022. However, the structural polarisation of one group in retweet interactions did not have characteristics of an echo chamber, as users participated in both cross-cutting and like-minded discussions in the discursive struggles.

The contestations around climate change and climate action in this space during three preelectoral periods were grounded in positions on the issue, rather than a preferred political force. Discourses of climate denialism and climate action delayalism clashed with economic modernisation discourses. In the discursive struggle, affective polarisation understood as negativity towards the other was an outcome of construction of opponents' identities in affective-discursive practices. Users who were against climate action constructed identities of their opponents as 1) irrational "religious fanatics", 2) threatening with high costs and loss of jobs, and 3) failing to grasp bigger picture, 4) the rich and hypocritic people, out of touch with reality, motivated by selfish economic interests that endanger Australia's national wealth and international standing, and 5) bad parents and children. Users supporting strengthened climate action affectively-discursively constructed their opponents 1) by relating climate action with good parenting assuming injustice incurred on children by politicians not acting on climate; 2) as detached from farmers and their concerns; 3) as a threat to the country causing its problems; 4) threat to the planet. These identifications produced repulsion, distrust, exclusions, blame, disappointment, and shame. The empirical findings support the idea that meaning-making and affect are intertwined while the discursively offered identifications of opponents provide justifications for dislike that extends beyond difference in positions on the climate change issue.

As both camps appealed to collective Australian identity in their affective discourses to exclude each other from it, transformation of antagonisms into agonisms through investing love in a bigger collective identity might be problematic.

Future research could explore affective polarisation in other contexts to see if the interaction patterns and the way identities are constructed are consistent across platforms, topics and social issues. The other possibility is exploring how users experience affective polarisation on *Twitter* and testing the relationships between the platform usage and beliefs about attitudes towards people with different position on climate change and climate action.

8. Bibliography

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Appendix 1. Filter terms

- 1. (?i)(climate
- 2. \bcoal
- 3. \b|fossil\b
- 4. warming
- 5. net zero\b
- 6. cop2
- 7. \bemission
- 8. co2
- 9. c02
- 10. renewable
- 11. solar
- 12. carbon
- 13. ipcc
- 14. \bemit
- 15. cefc
- 16. cprs
- 17. greenhouse
- 18. \bets\b
- 19. \badani\b
- 20. stopadani
- 21. gautam_adani
- 22. \breef\b
- 23. \bgbr\b
- 24. geoengineering
- 25. weather modification
- 26. chemtrail

Appendix 2. R code for corpus linguistic

#Packages: library(tokenizers) library(tm) library(tinytex) library(tidyverse) library(tidytext) library(tidyr) library(tibble) library(stringr) library(rtweet) library(readxl) library(readr) library(quanteda) library(klippy) library(dplyr) library(here) #Imported the data: X2016_tweets <- read_delim("2016 tweets.csv", delim = "\", escape_double = FALSE, trim ws = TRUE) #Renamed: tweets = X2016 tweets **#TOP TERMS AND HASHTAGS** #Removed undesirable characters; and tokenized words: remove_reg <- "&|<|>" tweets4tops <- tweets %>% mutate(Text = str_remove_all(Text, remove_reg)) %>% unnest_tokens(word, Text, token = "tweets", strip_url = TRUE) print(tweets4tops, n = 30) tweets4tops[tweets4tops == "Mines" | "mine"] <- "mine" #Removed numbers and stopwords: tweets4tops 1 <- filter(tweets4tops, str detect(word, "[a-z]")) tweets4tops_ready <- filter(tweets4tops_1, !word %in% stopwords(kind = "en"))</pre> #Extracted top 15 used hashtags: tophashtags <- tweets4tops_ready %>% filter(str_detect(word,"^#")) %>% count(word, sort = TRUE) %>% top_n(15) %>% mutate(word = reorder(word, n)) #Plotted top hashtags: pie(tophashtags[,2], labels = tophashtags[,1], main = "Fifteen most frequently used hashtags in electoral debate on Twitter in 2016") #Looked at top used terms (no hashtags): topterms <- tweets4tops_ready %>% filter(!str_detect(word, "^#")) %>% count(word, sort = TRUE) %>% top_n(15) %>% dplyr::mutate(word = reorder(word, n)) **#CO-OCCURANCES** #Made a BiGram table with guanteda package: #tokenized tweets: tweet text <- as.character(X2016 tweets) %>% tolower() Tweet_tknzd <- quanteda::tokens(tweet_text, remove_numbers = TRUE, remove_url = TRUE) BiGrams <- Tweet_tknzd %>% quanteda::tokens_remove(stopwords("en")) %>% quanteda::tokens_select(pattern = "^[A-Z]", valuetype = "regex", case_insensitive = TRUE, padding = TRUE) %>% quanteda.textstats::textstat_collocations(min_count = 5, tolower = TRUE) head(BiGrams) **#COLLOCATIONS:**

#Added dots to the end of each tweet: tweets_dots <- X2016_tweets\$Text %>% stringr::str_replace_all("mines", "mine") %>% paste0(X2016_tweets\$Text, ".") head(tweets dots) tweets_sentences <- tweets_dots %>% stringr::str_squish() head(tweets sentences) #Tokenized sentences: %>% tweets sentences tweets dots stringr::str squish() %>% <tokenizers::tokenize_sentences(.) %>% unlist() %>% stringr::str remove all("- ") %>% stringr::str_replace_all("\\W", " ") %>% stringr::str_replace_all("(s?)(f|ht)tp(s?)://\S+\\b", "") %>% stringr::str squish() #Converted into corpus tweetscorpus <- Corpus(VectorSource(tweets_sentences)) #Created vector with words to remove (based on unuseful BiGrams and from the tutorial): extrawords <- c("the", "can", "get", "s", "u", "r", "dont", "even", "may", "but", "will", "much", "first", "but", "see", "new", "many", "less", "now", "well", "like", "often", "every", "said", "two", "(s?)(f|ht)tp(s?)://\\S+\\b") #Cleaned corpus tweetscorpusclean <- tweetscorpus %>% tm::tm_map(removeWords, extrawords) %>% tm::tm map(removePunctuation) %>% tm::tm map(removeNumbers) %>% tm::tm map(tolower) %>% tm::tm_map(removeWords, stopwords()) #Created document term matrix tweetsdtm <-DocumentTermMatrix(tweetscorpusclean, control=list(bounds = list(global=c(1, Inf)), weighting = weightBin))#Converted to Sparce Matrix: tweetsdtm <- Matrix::sparseMatrix(i = tweetsdtmi, j = tweetsdtmj, x = tweetsdtmv, dims = c(tweetsdtm\$nrow, tweetsdtm\$ncol), dimnames = dimnames(tweetsdtm)) #Calculated co-occurances coocurrences <- t(tweetsdtm) %*% tweetsdtm # Convert into matrix collocates <- as.matrix(coocurrences) # Number of terms: ncol(collocates) #Summary of the matrix summary(rowSums(collocates)) #took a function to calculate collocations for individual terms source("https://slcladal.github.io/rscripts/calculateCoocStatistics.R") #Defined term: term <- "climate" #Used the function coocs climate <- calculateCoocStatistics(term, tweetsdtm, measure = "LOGLIK") coocs_climate[1:20] # To visualize: coocdf climate <- coocs climate %>% as.data.frame() %>% dplyr::mutate(CollStrength = coocs_climate, Term = names(coocs_climate)) %>% dplyr::filter(CollStrength > 30)ggplot(coocdf_climate, aes(x = reorder(Term, CollStrength, mean), y = CollStrength)) + geom point() +

coord_flip() +
theme_bw() +
labs(y = "")
#CONCORDANCES
#Created simple concordances with quanteda package:
tweets4kwic <- X2016_tweets\$Text %>% paste0(collapse = " ") %>% str_squish() %>%
quanteda::tokens()

kwic_climate <- kwic(tweets4kwic, pattern = "climate") %>% as.data.frame()