



Utrecht University

Master's Thesis - Sustainable Business and Innovation

FUNDING FOR THE FUTURE:

ASSESSING PHILANTHROPIC FOUNDATIONS' CONTRIBUTIONS TO TRANSFORMATIVE CLIMATE ACTION

Student: Harlee J. Richards

Contact: h.j.richards@students.uu.nl or harleerichards@hotmail.com

Supervisor: Agni Kalfagianni

Contact: a.kalfagianni@uu.nl

Faculty of Geoscience; Copernicus Institute of Sustainable Development

Abstract

Introduction

Philanthropic foundations are becoming increasingly prominent climate governance actors given their capacity for and ability to support climate action initiatives. However, philanthropic foundations' role is often overlooked in climate governance literature. To understand the transformative potential of these foundations' climate action, this research poses the following research question: *How do philanthropic foundations contribute to transformative climate change?*

Theoretical Framework

This research outlines a novel, integrated framework that builds on transformational change literature by incorporating justice considerations. The framework identifies and operationalizes key characteristics of transformative climate action which is understood as climate action that is systemic – shifting to low-emission and climate resilient pathways and accounting for their interactions with other SDGs; is long-term oriented – emphasizing long-term planning and solutions; and just – recognizing status and embodying distributive and procedural justice.

Methodology

The novel framework was applied to assess the top five philanthropic foundations funding climate action globally. These foundations are the Hewlett Foundation, Oak Foundation, MacArthur Foundation, Packard Foundation and Bloomberg Philanthropies. A Qualitative Document Analysis (QDA) was conducted to gather data on foundations' climate (sub)program strategies. This data was then thematically analyzed to determine the transformative potential of these foundations' climate action.

Results

The analyzed philanthropic foundations contribute to transformative climate action by supporting the transition to low-emission pathways. However, the foundations do little to contribute to climate resilience given the neglect of adaption. The foundations consider how climate action interplays with the achievement of some SDGs, particularly SDG 7, but do so narrowly. Moreover, the foundations adopt a long-term oriented approach to climate action which is integral. Finally, the foundations' climate work lacks just action which further limits the transformative potential of their climate action.

Discussion/Conclusion

This research highlights that philanthropic foundations' climate action concentrates on climate mitigation in specific geographic regions and sectors. This concentration creates vast potential for climate mitigation but can limit transformation if initiatives are narrowly pursued. The foundations' actions are long-term oriented, considering crucial climate goals and their achievement in a timely manner. Despite this, the transformative potential of the foundations' climate action is limited by the lack of justice considerations. However, catalytic events of 2020 are prompting strategy reform to reflect such considerations. Overall, philanthropic foundations

further reenforce commonplace technocentric, and predominantly climate mitigation solutions in global climate action. Their climate action as it stands is also seemingly unjust, potentially undermining the achievement of some SDGs, especially those tied to justice.

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1.0 Introduction

Climate change is regarded as the single most challenging - both globally and morally- of all sustainability challenges as its address, or lack thereof, can either support or undermine the achievement of sustainable development (Chan, Brandi & Bauer, 2016; Grady, 2020; Hallegatte et al., 2015; Monkelbaan, 2018). Efforts taken to both mitigate and adapt to global climate change -referred to as climate action- transcend borders, governments, as well as economic and political sectors. The complexity of these actions calls to the forefront different transnational actors from both the public and private sphere to spearhead climate governance (Chan, Brandi & Bauer, 2016; Maurrasse, 2020).

In the past twenty years, the importance of private sustainability governance in addressing global problems has been steadily increasing (Abbott, 2012). This is echoed in climate governance where the salience of nonstate actors such as businesses, investors, and nongovernmental organizations (NGOs) is growing (Chan et al., 2015; Chan, Brandi & Bauer, 2016; Chan et al., 2019; Hale et al., 2020). Increased salience of these nonstate actors has been attributed to several factors. Firstly, state-led national climate commitments to meet the Paris Agreement's 1.5/2°C targets continuously fall short. Secondly, nonstate actors have tremendous potential to generate momentum, produce scalable and replicable solutions as well as contribute significantly to climate mitigation efforts (Chan, Brandi & Bauer, 2016; Hale, 2016). In addition to these direct contributions, Chan et al. (2015) argues that nonstate actors' "indirect impacts may be even greater [as they stand to] ... deliver policy innovation, experimentation, demonstration effects and best practices that can diffuse transnationally [as well as] ... build capacity, establish norms of ambitious climate action, and catalyze supportive political coalitions, facilitating international cooperation" (p. 467).

The post-Paris climate governance regime capitalizes on as well as promotes such bottom-up action as it moved global climate governance from a regulative and legal-based model to a catalytic and facilitative one to fuel decarbonization. The Paris Climate Agreement served to decentralize action through encouraging national governments to determine goals which other actors could collectively contribute towards (Bernstein & Hoffman, 2018; Chan, Brandi & Bauer, 2016; Hale, 2016). Nonstate actors can and do help to bridge the gaps necessary to realize national climate targets, and by extension the agreed upon Paris goals (Chan et al., 2015; Chan, Brandi & Bauer, 2016; Chan et al., 2019). As such, the actions of nonstate actors are increasingly recognized as a crucial element of global and national climate action (Hale et al., 2020).

More recently, philanthropic foundations are one such nonstate actor that is progressively playing a pivotal role in climate governance. Philanthropic foundations are unlike any other nonstate actor as they occupy a unique position in the international climate regime (Maurrasse, 2020; Morena, 2016). Philanthropic foundations are organizations that mobilize assets to address societal problems through finding and implementing solutions (Morena, 2016). These foundations' uniqueness rests in the duality of the role they play within the climate regime. Firstly, foundations are instrumental. Funding projects helps to realize and explore viable solutions for climate change mitigation and adaptation. In doing so, foundations shape the way in which climate action is unfolding and help create best practices through financing and promoting certain projects, activities, and initiatives (Morena, 2016; Montero, 2020; Cheney, 2020; Systrom, 2020). Secondly,

philanthropic foundations are facilitators. Foundations often engage with diverse sustainability actors and in turn facilitate dialogue and collaboration between them. Being a facilitator also affords philanthropic foundations agenda-setting opportunities as they are directly positioned in the negotiation space of the climate regime (Morena, 2016). This duality enables philanthropic foundations to influence how the global climate agenda unfolds. Best practices that arise in climate action thus largely mirror these foundations' theory of change which refers to "ways [of mapping] out and [fulfilling] activities and interventions in order to achieve a desired outcome" (Morena, 2016, p. 11).

Although philanthropic foundations play a pivotal role in climate governance, climate philanthropy - that is, funding climate action, has been criticized for its embodiment of liberal environmentalism. Liberal environmentalism hinges on the compatibility of a liberal economy and environmental protection in which the achievement of the latter is secured by the promotion and maintenance of the former (Bernstein, 2002). In this view, climate change is typified as a solvable problem that can be remedied through market- and technology-based solutions. Here, the political and social context of the problem is often ignored (Morena, 2016; Montero, 2020). Thus, the best practices that emerge differentially promote solutions that favor an apolitical, market- and technology-based approach. Furthermore, philanthropic foundations engaging in climate philanthropy either have or devote limited resources, making resource pooling a common practice. Although integral to leveraging resources for outcome maximization, resource pooling consolidates and replicates foundation project portfolios and practices - homogenizing the climate philanthropy landscape (Morena, 2016). This homogenization inadvertently causes solutions to represent the concerns of a limited group in society (Levine, 2015; Morena, 2016; Montero, 2020). A narrow understanding of solutions and limited representation of concerns potentially undermines global governance efforts as foundation programs may be insufficient to effect holistic change. This narrow understanding can also render many philanthropic foundations unable to foresee the negative effects of their agendas.

Despite their shaping and facilitating characteristics, the influence philanthropic foundations have on climate governance is often overlooked in literature. Generally, there is relatively little literature written on philanthropic foundations' role in sustainability governance, even less more specifically on climate philanthropy (Morena, 2016; Montero, 2020). Additionally, literature pays little attention to how philanthropic foundations distribute resources, whether financial or otherwise (Morena, 2016). The lack of such literature hinders the understanding of how these foundations are shaping international climate action (Maurasse 2020; Morena, 2016). Maurasse (2020) stresses that it is imperative to understand foundations' climate strategies, which informs their giving and investments, as it is key to understanding their influence. This understanding is also integral to determining the transformative potential of philanthropic foundations' climate action. Within the context of this literature gap, this research sets out to answer the following research question:

How do philanthropic foundations contribute to transformative climate action?

This research aims to: 1) outline an integrated framework for analyzing transformative climate action; 2) describe philanthropic foundations' climate action program strategy; 3) assess these program strategies to determine transformative potential based on the outlined framework and 4) discuss the contributions of philanthropic foundations' climate work to transformative climate action. While current research highlights how philanthropic foundations are involved in climate governance and their potential to influence global climate discourse (Morena, 2016; Maurasse, 2020), this research expands on existing studies by more concretely analyzing foundations' exercise of their influence through program strategy.

This research is scientifically relevant as it builds on literature regarding philanthropic foundations' role in sustainability governance - more specifically, climate philanthropy. This research sheds light on how philanthropic foundations strategize the dispersal of funding which Maurasse (2020) claims is crucial to understanding these foundations' influence. Therefore, this research not only fills a gap in literature surrounding resource allocation but reflects on current funding distribution. Understanding foundations' climate strategy further highlights the norms and best practices that exist within global climate action that can then be critically analyzed to determine opportunities and room for improvement. Furthermore, this research also provides an integrated framework informed by both transformational change and environmental social justice literature to assess philanthropic foundations' engagement in climate action. This framework can be adapted and extended in future studies to investigate foundations' sustainability governance relating to other SDGs. Moreover, the framework can also be adapted to assess other nonstate actors within the climate regime.

This research also has societal relevance: it offers a deeper understanding of how philanthropic foundations are allocating funds. Within the context of a presumed homogenized climate philanthropy landscape, this research outlines current program strategies and identifies critical yet underfunded or dismissed climate initiatives and themes. Such insight can be used by philanthropic foundations to pursue a more comprehensive approach to climate action and helps improve impact. A more comprehensive program stands to strengthen philanthropic foundations' contributions to combatting climate change aiding the pursuit of sustainable development at large.

2.0 Theoretical Framework

To answer the research question posed, a novel integrated framework informed by both transformational change and environmental social justice literatures was created. This framework is then used to analyze philanthropic foundations' climate action programs, strategies, and initiatives.

2.1 Transformative Climate Action

According to the United Nations (2019), the sustainable development agenda “must involve an urgent and intentional transformation of socioenvironmental-economic systems...to ensure human well-being, societal health and limited environmental impact” (p. 20). This holds true to addressing climate change, where action taken must be transformative. Transformational change refers to a major shift in paradigm, characteristic features and functions that yields a fundamentally novel system or process within society. Such change is comprised of multiple social processes (Gillard, 2016; Mapfumo et al., 2017; Termeer et al., 2017). Transformational change can be technological and/or behavioral in nature and may be further classified as practical (relating to technological innovation, management strategies and behavior), political (relating to how society functions) and personal (relating to norms, values, beliefs, and worldviews) (Gillard, 2016; Mapfumo et al., 2017). Fostering transformational change is crucial to not only dismantle the current undesirable, unsustainable societies but also instate more climate-friendly alternatives (Hölscher, Frantzeskaki & Loorbach, 2019). Its absence can render movement in the desired direction temporary, as fundamentally, the unsustainable culture is largely unchanged.

In the context of climate change, the desired transformation is a paradigmatic shift towards low-emission and climate-resilient pathways through employing climate mitigation and adaptation strategies (Hölscher, Frantzeskaki & Loorbach, 2019; Mersmann et al., 2014). Climate action should emphasize decarbonization that hinges on the disruption of the current societal carbon lock-in in which forces at multiple levels and sectors including politics, economics, technology, and culture synergistically entrench fossil fuel-use and reliance (Bernstein & Hoffman, 2018; 2019). Nerini et al., (2019) highlight that synergies also exist between climate action and one hundred and thirty-four (134) targets across the SDGs. The achievement of some targets is dependent on and indivisible from adequately addressing climate change (Nerini et al., 2019). This is particularly evident regarding SDG 14 – Life below Water and SDG 15- Life on Land; where the lack of climate action can and is resulting in biodiversity loss (Knouft & Ficklin, 2017; Nerini et al., 2019; Nunez et al., 2019). Similarly, climate action can fortify but also constrain the achievement of some of the targets of these SDGs (Nerini et al., 2019). For example, the implementation of a solar farm might result in the destruction of habitat and corresponding biodiversity loss. Synergies also exist between both facets of climate action – mitigation and adaptation; the extent of the latter being dependent on the former (Trisolini, 2014). Therefore, transformative climate action can be characterized as *systemic* as it seeks to address both the sources and outcomes of climate change as well as the interactions of climate action with other SDGs.

Despite wanting to effect change quickly, the complexity of transformation often results in change over time. While short-term changes are integral to the overall process of transformative change,

viewing change in terms of long-term horizons and accumulated benefits is pivotal to incite deep-rooted reform (Mersmann et al., 2014; Termeer et al., 2017). Thus, transformative climate action can also be characterized as *long-term oriented*. It emphasizes the importance of long-term planning and pursuing solutions whose benefits may not be immediately experienced. More importantly, the transition to more desirable pathways stands to surpass electoral and legislative periods (Burch et al., 2014; Mersmann et al., 2014). Literature suggests such transitions require innovation; therefore, policies and strategies should consider the extensive development and implementation process involved in their mainstreaming. As such, policies and strategies should facilitate and guide change over more than a generation (approximately >20 years) (Mersmann et al., 2014). From a climate science perspective, it is argued that a 100-year time horizon is most suitable for two reasons. Firstly, this time horizon allows for continuity among decision-makers (Fearnside, 2002). Secondly, it is long enough to understand the relative global warming potential (GWPs) of GHGs necessary to draw comparisons and make strategic decisions (Fearnside, 2002). However, many international policies and climate agreements do not extend that far into the future. The IPCC highlight that 2030 and 2050 are important years for achieving significant cuts in emissions. As such many organizations and policies such as the European Commission and European Green Deal respectively (European Commission, 2021) use these milestone years to guide short-term activities towards achieving long-term climate goals (World Resource Institute, 2021). Thus, climate action that considers midcentury (2050) climate targets as well as considers time horizons of ≥ 20 years can be considered as long-term oriented.

Finally, a critique of transformational change literature is that it often fails to consider underlying social factors, such as power, that influence the desired paradigmatic shift (Mapfumo et al., 2017; Termeer et al., 2017). Failure to consider such factors in climate action can potentially cripple other sustainable development efforts as well as conceals the context in which climate action unfolds (Hallegatte et al., 2015). Global inequality has rendered some groups unable to transition away from climate-detrimental activities as they lack the capacity and resources to actively mitigate climate change. This phenomenon is mirrored in these groups' inability to adapt to the fall outs of the climate crisis (Islam & Winkel, 2017; Markkanen & Anger-Kraavi, 2019). Literature suggests that climate change also stands to impact the most vulnerable groups in society; these include people of color, Indigenous Peoples, women, and socio-economically disadvantaged communities (Shepard & Corbin-Mark, 2009). It is then imperative that action taken to address climate change is not separate from other sustainability and social concerns of race, gender, and class (Hansen, 2012). Transformation, therefore, should be approached justly, considering climate justice to not only address entrenched social inequality but ensure that this inequality is not further reinforced. By doing so, it seeks to expand social and economic opportunity and improve quality of life (Chu et al., 2019; Hölscher, Frantzeskaki & Loorbach, 2019). Transformative climate action thus protects vulnerable groups by including their concerns and contributing to these groups' socio-economic participation in such a way that enables future generations to lead better quality lives.

Therefore, this research defines **transformative climate action** as climate action that contributes to a systemic shift towards low-emission and climate-resilient pathways, is long-term oriented and is just. The following section discusses the dimensions of justice as it requires further elaboration within transformative climate action. This elaboration is followed by a discussion on how to assess

the key characteristics of transformative climate action in philanthropic foundations' climate programs and project profiles. The chapter concludes with an operationalization of these characteristics.

2.2 Justice Considerations in Climate Action

Scholars contend that climate action should consider factors of justice, as without such considerations, transformative climate action cannot materialize (Klinsky et al., 2017). Climate justice is multifaceted (Edwards, 2020) and “refers to a set of context-specific iterations that stress self-determination; the material access, use and control of particular resources; innovative livelihood knowledges; and the potential of collective organization for more socially, economically and ecologically just futures” (Routledge, Cumbers & Derickson, 2018, p. 79). Therefore, justice concerns pertaining to climate change can be interpretatively framed by “(1) asking who benefits from [carbon] emissions and how should they bear the burden for mitigation, (2) [recognizing] the vast divergence in capabilities to respond to global climate change, and (3) addressing the issue of adaptation, the burdens of which are unequally focused on the world's poor” (Jenkins, 2018, p. 118).

Social and environmental justice literature highlights that justice necessitates that un(der)represented, vulnerable groups are recognized, considered, and can participate in climate action (Klinsky et al., 2017). Just climate action can thus be systematically understood in three dimensions: recognition, distributive justice, and procedural justice; in which recognition underpins both distributive and procedural dimensions (Edwards, 2020). These three dimensions emerged in the work of influential political philosopher Nancy Fraser. Fraser's work on feminist theory, critical theory and post-structuralism highlights the multidimensionality of justice (Dahl, Stoltz & Willig, 2004). While not explicitly related to environmental and climate justice concerns, Fraser's three dimensions have been adopted and contextualized to reflect these concerns in environmental social justice literature by scholars such as Schlosberg (Schlosberg, 2012). It must be noted that these dimensions, while conceptually distinct, are interrelated.

Fraser conceptualizes recognition as the realization of an individual or groups' standing to participate in full within society, whereby misrecognition gives rise to subordination and unequal status (Dahl, Stoltz & Willig, 2004; Hrubec, 2004). Schlosberg (2012) contends that recognition in the context of climate change is not just limited to its effects on place and culture but more importantly, the relationship between natural and social processes. The undermining of the latter is what tends to threaten humans' basic needs and rights. Therefore, a recognitional approach emphasizes the “instrumental importance of ecological processes and the way they support the basic needs of human beings” (Schlosberg, 2012, p. 452). Neglecting to recognize the disproportionate effects of climate change and its address on particular groups can potentially be further disenfranchising (Klinsky et al., 2017). Thus, recognizing vulnerability creates both an opportunity to remedy inequality and climate change simultaneously. Recognition also minimizes the negative impacts of climate action given that it informs the subject matter of the distributive and procedural dimensions of justice (Edwards, 2020).

The second dimension that Fraser highlights is distribution, relating to the allocation of resources and rights (Fraser, 2009). From a climate justice perspective, distributive justice is concerned with

who benefits from or is disadvantaged by climate change and climate action (Mathur et al., 2014). Mathur et al. (2014) argue that “the claims of injustice arise not just from an inequitable distribution of burdens and benefits, but also from lack of recognition, representation, and opportunities for participation” (Mathur et al., 2014, p. 45).

Finally, Fraser discusses representation that relates to the participation of all members within a society’s social, governance or decision-making structures and procedures (Dahl, Stoltz & Willig, 2004; Fraser, 2009; Hrubec, 2004). Participation is captured in procedural justice, which is concerned with who is included in decision-making processes (Mathur et al., 2014). Fraser highlights the parity of participation in which participation rests in the distribution of resources that enable participation as well as the recognition of standing which deems the participation of said individual or group as requisite (Fraser, 2009; Hrubec, 2004). While vulnerable groups should be able to participate in the decision-making processes of climate action, they are often unable to do so because they lack fundamental capabilities and capacities. Schlosberg (2012) therefore argues that climate action should also consider a capabilities approach, as it emphasizes how resources help to facilitate function; such a view preserves the flexibility necessary for combatting climate change by allowing for local variability. Consequently, procedural justice within climate justice is not only dependent on vulnerable groups’ presence in decision-making processes but also on their ability to participate in such processes.

This research thus recognizes that these three dimensions of climate justice should be present for climate action to be considered just. These dimensions are therefore used to determine the extent to which philanthropic foundations’ climate action can be considered just.

2.3 Evaluating the Characteristics of Transformative Climate Action

As previously outlined, transformative climate action has three key characteristics: it is systemic, long-term oriented, and just. Philanthropic foundations can maximize the impact of their philanthropic activities and investments by cultivating transformative climate action. These characteristics are discussed in relation to philanthropy in depth below.

2.3.1 Systemic Action

Transformative climate action can be understood in terms of the extent to which an effort contributes to a low-emission and climate-resilient pathway in a way that breaks existing lock-ins and forges novel alternatives. As such, philanthropic foundation’s programs and projects should embody this systemic focus.

Since the systemic nature of transformative climate action necessitates addressing both the sources and outcomes of climate change, programs and project profiles should comprehensively comprise of mitigation and adaptation initiatives. Climate programs should acknowledge the interdependence of mitigation and adaptation and attempt to synergize both efforts, together forming a cohesive project portfolio. Thus, philanthropic foundations’ program and/or project portfolios should have a balanced climate mitigation and adaptation project ratio as well as identify and act on synergies between both efforts. Transformational potential can also be determined by whether project ambitions are centered on evaluating overall impact as opposed to project

outcome. The emphasis on program impact necessitates the development of processes to adequately assess interventions with respect to impacts on the relevant dimensions (Mersmann et al., 2014). Therefore, the presence of tailored assessment mechanisms can serve as an indication of a climate action program that is more comprehensive and critically reflective of itself.

Furthermore, climate action programs and projects should outline how or in what way the foundation's climate work impacts other SDGs. Goals and aims should therefore be drafted in such a way that the mitigation or adaptation strategy undertaken actively aim to contribute to other SDG targets. For example, a mitigation project can reduce carbon emissions by creating a permaculture farm in rural areas primarily educating and employing women – contributing to targets of both SDG 13 (Climate Action) and SDG 5 (Gender Equality). Addressing the intersections of climate change with other SDGs increases collaboration and partnerships with other relevant actors helping to broaden the reach of the foundation's impact. This arises as solutions are not only coined in terms of addressing one subsystem or specific element of the current climate regime but are geared towards scaling-up as well as transcending locale, sector, and actors. Partnerships with other organizations or membership to organizational networks can also indicate a foundation's deep engagement with climate change from a multi-sectoral and multi-level perspective.

2.3.2 Long-term Oriented Action

Since transformative climate action is long-term oriented, philanthropic foundations should seek to support long-term planning and decision-making as well as prepare for longer-lasting support to be transformative. These considerations should be reflected in the foundations' climate program strategies, which should be characteristically long-term. Long-term strategies have been defined as those strategies which take midcentury (2050) climate goals as end goals, and thus undertake activities which work towards their achievement. As such, by 2050, long-term strategies would have guided the transition to low-carbon and climate resilient pathways (Levin & Fransen, 2019). Long-term orientation can be assessed by outlining the extent to which philanthropic foundations' climate programs and project goals emphasize long-term planning, decision-making, and support to meet midcentury climate goals. Consideration of the 2030 and 2050 goal outlined by the IPCC by foundations as a guide to program goals, milestones and longevity can indicate a strategy's long-term orientation. Furthermore, "[the] goal of long-term climate [strategy] must be to influence ... investments, research, education, and public perceptions such that stringent emission-reduction targets [can be achieved]" (Hasselman et al., 2003, p. 1924). To that effect, philanthropic foundations' climate programs that are long-term oriented address the socio-political environment in which climate action unfolds. This may include investments in promising climate solutions, developing competencies and facilitating the involvement of other climate actors in climate action. Long-termism may also be reflected in tailored project assessment mechanisms that a foundation may have in place to review progress towards end goals. Strategy revisions and adjustments based on these assessments may also indicate a foundation's long-term perspective and thus, long-term orientation.

2.3.3 Just Action

Transformative climate action seeks to rectify the disproportionate effects of climate change and its address by being just. The discourse on justice within climate change and action is often

centered around ascriptions of relative responsibility for and the capacity to navigate the climate crisis (Ashton & Wang, 2003; Mattoo & Subramanian, 2012; Richards, 2003). However, considering climate action undertaken by philanthropic foundations, foundations have assumed responsibility for and have the means to address climate change. As such, questions of justice reside primarily in who is recognized, benefits from or is disadvantaged by as well as is included in the decision-making processes of climate action programs and projects (McDermott, 2013). Recognition, distributive justice, and procedural justice are thus of critical importance.

Existing literature suggests that the fallout of climate action tends to disproportionately affect already vulnerable groups in society. Montero (2020) claims philanthropic foundations' projects reflect limited interests primarily because vulnerable groups are often neglected in the negotiation space of projects. As a result, philanthropic foundations' climate action tends to be devoid of these groups' voices, knowledge, and experiences. The lack of these groups' insight can result in climate action undermining cultural continuity and sources of livelihood (Mathur et al., 2014). The climate action undertaken by philanthropic foundations should therefore recognize vulnerability and vulnerable groups. This recognition should then underpin both distributive and procedural justice. As such, philanthropic foundations should strive to represent the concerns of these groups as well as engage them in climate action.

In the context of foundations' climate action, distributive justice hinges on two factors. Firstly, there needs to be recognition of how vulnerable groups such as POC and Indigenous Peoples are affected by mitigation and adaptation strategies. Secondly, foundations need to ensure that these groups' concerns are reflected in purported solutions. Both factors are important in not only ensuring that vulnerable groups are prioritized beneficiaries but also in minimizing the burdens of climate action that these groups might endure. Thus, program and/or project goal definition can be assessed to determine the extent to which the distribution of benefits and burdens is fair. Accordingly, philanthropic foundations' programs and corresponding project profiles should then therefore treat vulnerable groups as valuable stakeholders, collaborating with them to ensure their concerns are represented. It is equally important that philanthropic foundations collaborate with other relevant stakeholders, such as local governments and NGOs to ensure that these vulnerable groups' concerns are accurately captured. Programs and project profiles can be assessed based on the explicit mention of and engagement directly or indirectly with these groups. This may be exemplified by the collective definition and vision of change - which outlines success criteria between all parties involved (Mersmann et al., 2014).

On the other hand, procedural justice is observable in the extent to which philanthropic foundations enable vulnerable groups to make decisions, whether on a program or project level. While this may be difficult to discern from program and project descriptions, actions that the foundations take to further involve these groups' participation in climate action can serve as an indicator of these groups' decision-making ability. Since the participation of vulnerable groups rests in their capacity to do so, it is crucial that philanthropic foundations' climate programs emphasize capacity building and produce supportive infrastructure. Capacity building refers to strengthening and engaging a desired group or community to increase their participation in social, economic, and political life. Capacity building can be undertaken by employing different strategies including education and

workshops (Archer & Dodman, 2015; Ziervogel et al., 2021). Thus, evidence of capacity building and supportive infrastructure can serve as a proxy for vulnerable group participation which is reflected in a foundations' programs and projects. A foundation's commitment to fostering the participation of vulnerable groups may also be reflected in a foundation's investment in civic engagement as well as their support for grassroots advocacy and organizing (Hansen, 2012). Furthermore, project leads from these groups may also be illustrative of these groups' decision-making ability.

To summarize, transformative climate action is systemic as it contributes to low-emission and climate-resilient pathways by recognizing the need to address the sources and outcomes of climate change as well as accounts for the co-benefits, tradeoffs, and synergies between climate action and other SDGs. Furthermore, transformative climate action is long-term oriented. Finally, transformative climate action is just – ensuring that both procedural and distributive justice exist by both recognizing and representing concerns of vulnerable groups as well as enabling their participation in climate action.

To be transformative, philanthropic foundations' programs and corresponding project profiles should reflect these characteristics. Therefore, the following framework (see Figure 1 below) and its operationalization was used to assess philanthropic foundations' climate programs to determine their transformative potential.

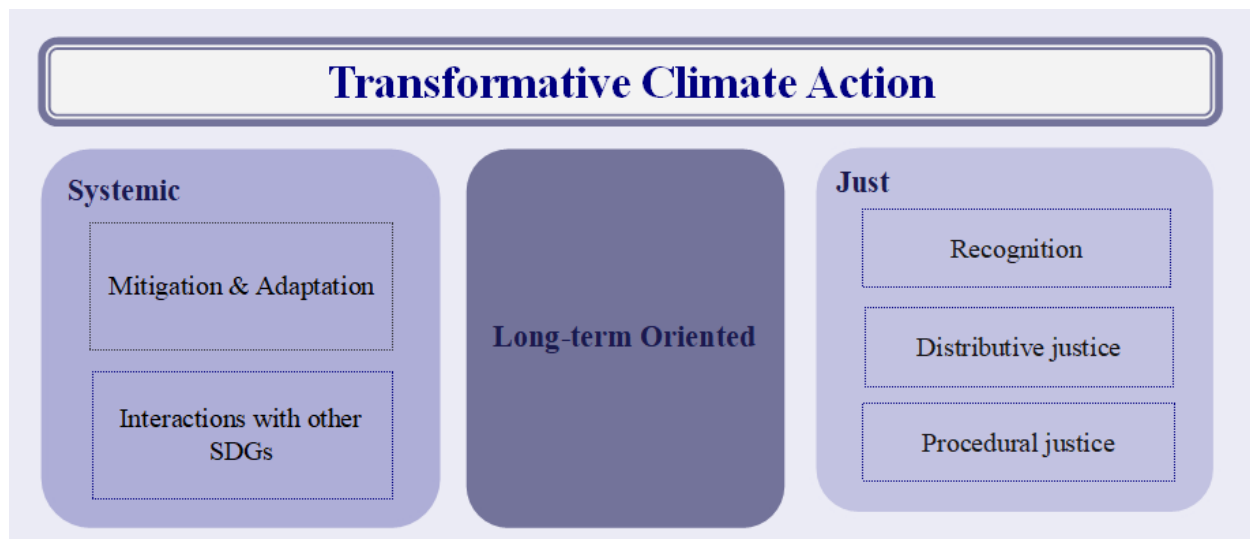


Figure 1. Theoretical Framework illustrating characteristics of transformative climate action.

2.3 Operationalizing Transformative Climate Action Programs/Project Profiles

Table 1 below offers an operationalization of the characteristics of transformative climate action and how they are translated into philanthropic foundations' program or project profile.

Table 1. An operationalization of Transformative Climate Action in philanthropic foundations' program and/or project profiles		
Characteristic of Transformative Climate Action	Description of Characteristic	Operationalization of characteristic in the context of philanthropic foundation's programs and project profiles
Systemic	Climate action program and/or project profile address both the sources and outcomes of climate change and so includes mitigation and adaptation strategies as well as accounts for interactions with other SDGs .	<p>Mitigation & Adaptation: If both strategies are included as well as synthesized findings should illustrate the following:</p> <ul style="list-style-type: none"> • Foundation's strategy for programs and corresponding project profiles includes mitigation solutions and adaptation strategies/pathways. • There exists a balanced ratio of mitigation and adaptation, where being closer to a 50-50 ratio is assumed as optimal. • Mitigation strategies that do not negatively affect adaptation strategies. • Any implications of mitigation strategies on future adaptation are accounted for – this may be visible in the language used to describe program/project outcomes/impact. <p>Interaction with other SDGs: These interactions can be assessed through analyzing the goals, aims and desired outcomes of climate action programs and/or projects. Consideration of the interactions between the climate action undertaken and other SDGs can be reflected in the following:</p> <ul style="list-style-type: none"> • Program/project profile that acknowledges the intersection of addressing climate change with the broader sustainable development agenda - this may be visible in the language used to describe the program or project goals, aims, strategies. • Program and/or project profile that considers how the proposed

		<p>solutions/initiatives may impact the other SDGs (also displayed in language).</p> <ul style="list-style-type: none"> • The creation/promotion of multifaceted solutions that have the potential to address climate change and other SDGs. • Programs/projects that are geared towards addressing climate change while simultaneously addressing other SDGs; for example, carbon sequestration projects (a mitigation strategy) also aim to conserve biodiversity of the terrestrial ecosystem (addressing SDG 15 – Life on Land). • The framing of desired outcome/impact relay direct contributions to other SDGs. • Solutions span sectors and geographical scale or are not bound by them, which can be evidenced by partnerships with actors from several sectors or geographical regions acting to implement the same solutions.
Long-term Oriented	Climate action program and/or project profile emphasize long-term impacts.	<p>Emphasis on long-term impact can be distinguished by the time frames of programs and/or projects. Findings should reflect the following:</p> <ul style="list-style-type: none"> • Strategy consideration of 2030 and 2050 climate goals • Longstanding programs or recurring strategy terms as well as long project timeframes (> 12 months) may serve as an indicator of long-term planning. • The presence of recurrent grantees or grants which may signal long term commitments to specific strategies/ target areas for mitigation and adaptation. • The presence of mission or program related investments pertaining to climate action for which benefits arise over time. • Evidence of capacity building which indicates long-term planning and support since building capacity enables continuity of climate-related work in the absence of the foundation as well as creates an

		<p>incubatory environment for sustained climate mitigation and adaptation.</p> <ul style="list-style-type: none"> • Existence of tailored impact assessment mechanisms that outline a roadmap/timeline for targets.
Just	<p>Climate action program and/or project profile recognizes vulnerable groups by framing them as beneficiaries and seeks to alleviate potential adverse effects on these groups (distributive justice) as well as enables these groups to make decisions within climate action program and/or project profile (procedural justice).</p>	<p>Justice rests in the recognition of vulnerable groups in climate action programs and project profiles. Therefore, a foundation should clearly define the vulnerable groups it engages with. This description may also include how and why this group is considered by the foundation to be vulnerable. This is integral as degrees of vulnerability may vary depending on program and project goals, aims and geographic focus – for instance, smallholder farmers may be considered more vulnerable than groups mentioned in literature.</p> <p>Justness may also be evident in program and/or project goals and aims definition as well as partnerships and collaborations with relevant actors that strive to include vulnerable groups. Evidence of justness in the following dimensions can be observed in the points below:</p> <p>Distributive Justice If vulnerable groups are framed as beneficiaries, findings should reflect the following:</p> <ul style="list-style-type: none"> • Evidence of knowledge co-creation and shared creation of criteria for success which ensures that factors that benefit or burden these groups are highlighted. This can be evidenced by workshops and community/local outreach geared towards receiving feedback as well as evident in themes in the language of the program/project description. • Partnership with third party organizations (i.e., NGOs, grassroots organizations et cetera) that work directly with or represent the vulnerable groups of interest. • Grants made to third party organizations that work with or represent vulnerable

		<p>groups of interest which highlights the foundation's desire to represent the interests of these groups in climate action.</p> <p>Procedural Justice</p> <p>Since vulnerable groups tend to be disenfranchised due to limited capacity and resources, participation of vulnerable groups within the decision-making of a foundation's programs and project profiles can be assessed by mechanisms the foundation has in place to build these groups' capacity as well as encourage their engagement. This can be examined by assessing the type of support given by the foundation or activities undertaken by within the program. Findings should reflect the following:</p> <ul style="list-style-type: none"> • Program strategies/projects that explicitly exist to build capacity. • Program /project assessment strategies which enable the vulnerable groups of interest to give feedback. • Foundation's membership to any organization, committee, program, or initiative designed to address inequality and create opportunity for vulnerable groups of interest. • The creation of a space to link relevant climate actors together - this can be done via workshops, seminars et cetera. • The provision of non-tangible resources (e.g., skill training) to local communities – that is where projects unfold as well as tangible resources such as finance. • Grants are made to third parties whose primary focus is capacity building, particularly the capacity of local/vulnerable communities. • Aspects of climate action program/project profile that facilitate increased organizational learning and management of grantees and/or vulnerable groups of interest. For example, training programs • Projects that are led or created by members of vulnerable groups of interest.
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3.0 Methodology

3.1 Foundations in Focus

Sustainable Development Goals (SDG) Funders is a website that aggregates data on foundations' giving aligned with the SDGs as well as top recipients of these funds (SDG Funders, 2020a). The website was created by Candid (formally known as Foundation Center), an organization that tracks where funding originates, where it goes and why it matters. Candid also helps connect nonprofits, foundations, and other actors to the resources that they need (Candid, 2020). SDG Funders highlights broad giving trends across goal, region, country, and population group as well as publishes reports. The website also highlights how much funds per goal intersects with other SDGs (SDG Funders, 2020a).

Data from 2016 onwards identifies five foundations that are responsible for over half of all funds which constitute the total grant landscape aligned with climate action. These fifteen philanthropic foundations grant over 691.14 million USD out of the total 1.7 billion USD given (SDG Funders, 2020b). These top five foundations and their contributions towards SDG13 (Climate Action) are listed below:

1. The William and Flora Hewlett Foundation - \$204.04 M USD
2. Oak Foundation - \$160.42 M USD
3. John D. and Catherine T. Macarthur Foundation - \$133.96 M USD
4. The David and Lucile Packard Foundation - \$119.12 M USD
5. Sea Change Foundation - \$73.24 M USD

(SDG Funders, 2020b)

The Sea Change foundation was excluded from this research given limited detail provided on their climate program and strategies. Thus, the list of foundations examined in the research was adjusted to include Bloomberg Philanthropies, the sixth largest contributor, contributing US\$ 67.28 million. The foundations of interest also have distinct climate action programs or subprograms (usually within an environmental program). This clear distinction aided in distinguishing program goals and aims as well as how that foundation engages with climate change more broadly. Thus, the following foundations were examined in this research:

1. The William and Flora Hewlett Foundation
2. Oak Foundation
3. John D. and Catherine T. Macarthur Foundation
4. The David and Lucile Packard Foundation
5. Bloomberg Philanthropies

Examination of these foundations provide sufficient insight into philanthropic foundations' contribution to global climate action given their relatively sizeable financial contributions. Foundations range in size, governance, and strategic focus area and thus, theory of change (Morena, 2016). As a result, foundations that may have the same endowment can function differently, directly influencing the programs and projects undertaken by that foundation. The

philanthropic foundations examined in this study are diverse, having different visions, goals, and decision-making structures. Diversity allowed for a deeper discussion on the climate action landscape these foundations help to create. Similarly, diversity helped to yield a more realistic reflection of philanthropic foundations' climate action as findings may also be illustrative of the actions of other foundations that possess similar characteristics.

3.2 Data Collection

This research collected relevant information and data regarding the five abovementioned foundations' contribution to global climate action. Data was primarily qualitative and descriptive. Data was gathered via Qualitative Document Analysis (QDA) which is a "systematic procedure for reviewing or evaluating documents – both printed and electronic" (Bowen, 2009, p. 27). QDA is employed to distinguish emphasized themes, trends, and discourses (Altheide et al., 2008). As this research seeks to interpret philanthropic foundations' climate action and is principally descriptive, QDA is a sufficient stand-alone data collection method (Bowen, 2009). Similarly, the topic of this research is relatively understudied, thus is exploratory in nature. Altheide (2008) claims that QDA is suitable for discovering the context, conditions, and state of a phenomena as well as describing said phenomena.

In this research, data was extracted from several sources but primarily from foundation websites as many foundations' websites function as a living report of all foundation activities. More specifically, data was extracted from the selected foundations' climate (sub)program, strategies, initiatives, and campaign descriptions. This data included aims, goals, and overall strategy of these programs as well as grant recipients. Any data relating to program implementation as well as evaluation and assessment methods employed by the foundations was also collected. Data was mainly collected from the year 2015 onwards; 2015 served as a suitable cut off point since the Paris Climate Agreement served to spur foundations to consolidate and strengthen their engagement with climate change (Morena, 2016). Data was also extracted from annual reports – of which a total of 9 annual reports were downloaded and analyzed. Other reports (electronic), press releases and any other relevant news article published by the foundation that shed light on the foundation's goal, aims and engagement with climate action were used to extract relevant data.

Other data sources included relevant third-party websites and articles published on these websites. This included Devex, a social enterprise and media platform working towards making the development community more impactful (Devex, 2020). This organization conducts research, compiles information on donation and grant dollars, as well as critically reflects on philanthropic foundations. Insight from this site was mainly used to classify the foundations. A taxonomy database called the Philanthropy Classification System (PCS) created by Candid was also used to classify the foundations. This classification system was used to categorize the examined foundations based on their governance as well as their activities and funding practices. This system was also used to explain the distinctions between determined categories - for example, the difference between a family and a corporate foundation. Academic literature was also used where suitable in this classification.

Documents are readily available which reduced the uncertainty of data collection when reliant on other qualitative methods such as interviews. QDA also provided data unperturbed by the research process as the researcher's presence had no influence (Bowen, 2009). Despite these strengths, QDA has several limitations. One limitation is that data yielded had insufficient detail as it is independent of the research and thus did not necessarily address the same questions (Bowen, 2009). Combining and cross-referencing data from both foundations as well as third party organizations was done to increase data granularity to create a comprehensive overview of the foundations' climate action. Bowen (2009) also states that another limitation of QDA is biased selectivity which stems from the examined organization's tendency to align reporting with its agenda. Since this research is interested in this selectivity – that is the foundations' selectivity in program strategy and framing climate action, this limitation stands to be a strength. However, where necessary third-party organization data was used to help create an unbiased profile of the foundations to be examined.

3.3 Data Analysis

Once collected, the data was used to create a comprehensive overview of the five foundations examined. The data was used to identify climate action programs and activities related to addressing climate change of the foundations in question. Data was also used to identify program- and mission-related investments the foundation pursued directly connected with climate action. The framework for transformative climate action was then used to analyze the collected data. The analysis was done at a program level. As such, data was used to distinguish program aims, goals and criteria for success. Similarly, the data was used to identify the groups (i.e., vulnerable communities) represented and targeted in program strategy. Data was used to identify explicit intersection with other SDGs as well as synergies between mitigation and adaptation. Furthermore, the data was used to determine the longevity of the foundations' climate action, the type of support offered and capacity building features. The programs for each foundation were then assessed to establish whether and to what extent they embody the characteristics of transformative climate action outlined in the theoretical framework.

Given the nature of the data necessary to answer the research question, documents' content was analyzed for recurring themes (whether discursive or numerical- pertaining to funding). Thematic analysis was the main form of data analysis. Thematic analysis is described as “a method for identifying, analyzing, and reporting patterns (themes) within data” (p. 401) and highlights commonality across different sources (Vaismoradi et al., 2013). This thematic analysis was done to ascertain a description of these foundations' climate action. The framework and its operationalization were used as a coding guide in which codes were created to reflect the characteristics of transformative climate action. Foundations' webpages were converted to PDFs to facilitate this coding process. Codes included the mitigation and adaptation strategies undertaken as well as interactions with other SDGs. Other codes included the vulnerable groups foundations are engaging with as well as aspects that signaled these groups' representation and participation in climate action. Figure 2 below provides an example of how relevant data on foundation websites was coded.

Given this logic, we have five strategic imperatives for our grantmaking:

1. **Support work to reduce fossil fuels.** We must continue to support current efforts to peak global use of fossil fuels as early as possible, including defending recent successes.
2. Support work on **energy systems.** We must pivot from narrowly focusing on specific sub-elements of the energy sector to looking for systemic shifts that are potentially transformational. For example, instead of resting on the field's success at bringing renewable electricity generation to market, we must now support work to overcome the complex, persistent, and interrelated regulatory, legal, social, and political barriers to deploying it at scale.
3. Support work integrating across sectors. The work we support needs to be more broadly integrated across different problems and solutions. For example, transforming the transportation sector will require going beyond vehicle improvement and integrating it with the electricity, information, and land-use sectors.
4. **Support work to store carbon in the land.** Climate models suggest that nearly a third of global emissions reductions must come from **managing our lands, our agriculture, and our forests.** To date, only a very small share of government or philanthropic resources has gone to support this work. Our society must increase that amount dramatically.

Figure 2. Coding of the William and Flora Hewlett Foundation's climate and energy program's strategic for transformative climate action (green = mitigation strategy; orange = sectoral focus) (Retrieved from: <https://hewlett.org/strategy/climate-and-energy/>).

A limitation of thematic analysis is the lack of intercoder reliability as each researcher interprets the data somewhat differently (Vaismoradi et al., 2013). However, this limitation was remedied by implementing an iterative process during coding (discussed in section 3.4 below).

Once the climate action of the five philanthropic foundations was assessed, academic literature was used to discuss these foundations' contributions to transformative climate action. Any underfunded themes or areas were highlighted and recommendations for future research as well as strategic exploration were made.

3.4 Data Validity and Reliability

Several steps were taken to safeguard data validity and improve its reliability. Firstly, to improve the quality of data collected via the QDA method, data was triangulated to increase validity (Daytner, 2006). For example, data outlined by the philanthropic foundation under question was cross-referenced with data from explicitly mentioned project partners or grant recipients. Secondly, to ensure that themes were coded correctly, data was reviewed and analyzed in an iterative process. This helped to improve the reliability of the data analysis (Nowell et al.; 2017). Finally, an audit trail of the coding process was created to ensure that it is clear how codes were aggregated into themes (see Appendix A)—increasing the trustworthiness of the analysis (Vaismoradi et al., 2013).

4.0 Philanthropic Foundations and their Approach to Philanthropy

Foundations can be classified, categorized and typologized based on several characteristics including their governance structure, size, the context in which they operate and their philanthropic strategy. These characteristics directly influence what, why and how any given foundation approaches philanthropy (Jung, Harrow & Leat, 2018; Candid, 2021a). In terms of their organizational governance, private philanthropic foundations can be classified as company-sponsored, family, independent or operating (Candid, 2021a).

Independent foundations are “nonprofit organizations with funds and programs managed by its own trustees or directors that was established to maintain or aid charitable activities, generally serving the common welfare by making grants” (Candid, 2021a). These foundations may be funded by an individual or may have several donors (Council on Foundations, 2021).

On the other hand, foundations that operate to fulfil their own programs and projects are classified as operating foundations. These foundations’ activities are centered around conducting research, social welfare, or other social programs and only a small percent of foundation expenditure is comprised of grants (Anheier, 2001; Candid, 2021a; Council on Foundations, 2021; Jun, Harrow & Leat, 2018).

Company-sponsored foundations are independent foundations created by a for-profit company; this company is their primary donor or financial source. The foundation may also maintain close ties with the corporation but may have an endowment of its own. Typically, these foundations’ corporate affiliations mean that their activities are related to the company’s activities. Similarly, the foundation’s programs are likely to be tied to either the community in which the corporation operates or where employees reside (Candid, 2021a; Council on Foundations, 2021).

Finally, family foundations are independent foundations whose endowment derives from a single family. These foundations usually self-identify as such. Family members have significant say in foundation activities and often hold a position on the board of directors or trustees. If family members do not have a direct hand in the foundation’s governance, the foundation seeks to pursue activities that are aligned with the donor’s original philanthropic interest (Candid, 2021a; Moody, Lugo Knapp & Corrado, 2011).

Foundations pursue their philanthropic interests by employing several strategies. To meet program goals, foundations can make grants – monetary contributions - to individuals, projects, or organizations. Grants may be one-off or can be repetitive either to a specific end – that is, to see the fulfillment of a desired outcome, or as a means of collaboration to pursue foundation aims (Candid, 2021b; Jung, Harrow & Leat, 2018). Contributions to causes can also be made through program-related investments (PRIs) or mission-related investments (MRIs). PRIs refer to “loans or other investments made to support charitable activities that involve the potential return of capital within an established time frame, and usually below market rates” (Candid, 2021b). Whereas MRIs are investments made by the foundation that generally support the foundations’ interests while making market-rate financial and social returns (Candid, 2021b). Other strategies include in-kind gifts and pro bono services (Candid, 2021b).

In this chapter, an overview of the philanthropic foundations examined within this research is provided. This overview includes the foundation’s history, approach to philanthropy as well as its philanthropic interest, with particular focus on its climate philanthropy. The foundations’ programs are summarized in tables 2 to 6. In addition to this, the composition of the foundation’s board as well as how the foundation is governed is discussed. The chapter concludes by summarizing the identified characteristics of the philanthropic foundations in question. Each foundation is discussed in order of their financial contributions towards climate action – that is, the foundations are ordered from largest to smallest contributor as outlined by SDG Funders.

4.1 The William and Flora Hewlett Foundation

The William and Flora Hewlett Foundation, also known as the Hewlett Foundation, is one of the largest philanthropic organizations in the United States (US). At the end of December 2019, the foundation’s assets were valued at approximately 11 billion United States Dollars (USD\$) and in that same year, the foundation awarded over 450 million USD\$ in grants (Hewlett, 2021a). Founded by William (also known as Bill) and Flora Hewlett in 1966, the Hewlett Foundation is a family-foundation (Candid, 2021a; Hewlett, 2021a). In the foundation’s infancy, William, his wife Flora, and their eldest son Walter were the primary decision-makers. Today, the foundation is governed by a collaborative board of directors, four of whom are Hewlett family members. Other board members include a curated list of leaders from diverse backgrounds including government, academia, and civil society (Hewlett, 2021a; 2021b; 2021c). These directors ensure that the foundation’s giving and programs remain aligned with the founders’ ethos.

The foundation has several long-standing programs. Grants focus on education, global development, performing arts and effective philanthropy – a program designed to increase the effectiveness of philanthropy by focusing on informing and improving thinking and decision-making as well as building organizational capacity and sharing within philanthropic networks (Hewlett, 2021d). The foundation also provides support for disadvantaged communities in the San Francisco Bay area, where the foundation was established. Other project interests include cybersecurity and US democracy (Hewlett, 2021a). Table 2 below summarizes the number of grants per program, active grantees and the total amount awarded to grantees.

Table 2. Summary of the Hewlett Foundation Program and Grantmaking 2019 (Adapted from Hewlett, 2021f-m)				
Type of Foundation	Program	Program Summary	Grants Awarded	Amount Granted (million USD\$)
Family	Environment	Protect people and places threatened by a warming planet by addressing climate change globally and conserving the North American West.	246	184

	Education	Help educators, schools and communities turn schools into places that empower and equip every student for lifetime learning, and to expand access to open educational resources	164	56
	Global development and Population	Expand women's reproductive and economic choices, amplify citizen participation, and improve policymaking through evidence.	209	123
	Performing Arts	Support meaningful artistic experiences for communities throughout the San Francisco Bay Area.	175	25
	US Democracy	Strengthen democratic norms, values, and institutions considering political polarization (founded in 2021).	73	22
	Effective Philanthropy	Strengthen the capacity of Hewlett Foundation grantees and philanthropy in general to achieve their goals and benefit the common good.	221	24
	Cybersecurity	Proactively define, research, and manage the intersections between people and digital technologies, develop thoughtful, multidisciplinary solutions to complex cyber challenges and catalyzes better policy outcomes for societal benefit.	34	10
	Economy and society	Foster the development of and shift to a new economic paradigm.	20	5
	Special Projects	Provide grants to projects that align with specific programmatic strategy or outcome-focused theory of change. Special projects have included exploring potential initiatives, enabling collaboration with other foundations, and facilitating cross-pollinating work across our programs.	67	12

According to SDG Funders (2020b), the Hewlett foundation is the largest contributor to climate action, with investments accumulating to \$204.04 million USD in 2016. Under the leadership of Paul Brest (from 2000 – 2012), the foundation began to actively devise strategies to combat climate change and its disastrous effects (Hewlett, 2021b). The foundation’s environment program provides grants “to protect people and places threatened by a warming planet by conserving the North American West, expanding clean energy, and addressing climate change globally” (Hewlett, 2021f). The foundation’s environment program embodies two strategies: 1) climate and energy which seeks to reduce greenhouse gas (GHG) emissions and ensure efficient supplies of clean energy and 2) Western conservation which seeks to preserve the landscape and waterways in the Western US and Canada. The former is the strategy of interest within this research.

In 2019, the foundation granted over \$112 million USD to different grantees under their Climate and Energy program. This program is guided by several strategies devised by the foundation including its climate initiative strategy and climate finance strategy (Hewlett, 2021n; 2021o). The program emphasizes emission reduction and so supports work to reduce fossil fuel use and overcoming barriers to the scaling of renewable electricity generation. This arises from the foundation’s logic that decreasing emissions reduces future warming, ultimately, making adaptation less necessary. The foundation also aims to integrate its work across all sectors and seeks to support and promote climate-friendly innovation. Key sectors for the foundation include the electricity and transportation sector. Finally, the program also strives to reduce emissions through land management to store carbon – an area of action perceived to be critical yet under supported (Hewlett, 2021n).

4.2 Oak Foundation

The Oak foundation was established in 1983 out of the interest of Alan Parker, an entrepreneur. The foundation has administrative presence in Switzerland, Denmark, the United Kingdom, the United States, Zimbabwe, and India (Oak Foundation, 2021a). It is an independent, family-led foundation, that is governed by a board of trustees comprised of six members that have experience in various sectors including law, development, and academia (Candid, 2021a; Oak Foundation, 2021b). Four of the six members are a part of the Parker family including Kristian Parker (one of the current vice chairs), Christopher Parker, Alan Parker – the founder- and Jette Parker, his wife (Colby College, 2006; Oak Foundation, 2021b). Grant-making is also supported by an advisory panel including Douglas Griffiths the President of the foundation, William Norris, Julie Sandorf and Barbara Rothschild (Oak Foundation, 2021b).

An integral part of the Oak Foundation's approach to philanthropy is its emphasis on organizational development and capacity building. Organizational development and capacity building are facilitated through providing grants to partners or by linking partners with consultants to strengthen their organizational capacity. The Oak Foundation sees these integral to achieving grant objectives as well as project, partnership, and foundation goals (Oak Foundation, 2021c). In 2019, 1.04 million USD\$ was allocated to capacity building (Oak Foundation, 2020a). In addition to capacity building, promoting social justice and inclusivity represent some of the foundation's core values (Oak Foundation, 2021a).

Oak foundation has a total of 11 programs; six of which are the foundation's primary programs. These six programs include the following: Environment, Prevent Child Sexual Abuse, Housing and Homelessness, International Human Rights, Issues Affecting Women and Learning Differences. The foundation also has four country specific programs: Denmark, India, Brazil, and Zimbabwe (Oak Foundation, 2021a). Typically grant applications are invitation-only. However, the foundation also occasionally develops or joins initiatives that are aligned with its interests as part of their Special Interest Program – which has no distinct focus area (Oak Foundation, 2021d). Table 3 below summarizes the foundation's programs.

Table 3. Summary of the Oak Foundation Program and Grantmaking 2019 (Adapted from Oak Foundation, 2020a; Oak Foundation, 2021e-n)				
Type of Foundation	Program	Program Summary	Grants Awarded	Amount Granted (million USD\$)
Family	Environment	Safeguard the climate, support livelihoods, maintain the health of the oceans and ensure a balance between biodiversity and people. Consists of three subprograms: climate change,	66	65.12

		marine conservation, and wildlife conservation and trade.		
	Prevent Child Sexual Abuse	Promoting, advancing, and scaling up solutions to reduce child sexual abuse and engaging with and holding global institutions accountable to prevent abuse and to impunity for child sexual abuse.	33	27.30
	Housing and Homelessness	Ensure access to a secure and stable home. Three main priorities: promote economic self-sufficiency, increase the availability and supply of affordable housing, and prevent homelessness.	45	26.56
	International Human Rights	Protect and promote the human rights of all people.	47	28.16
	Issues Affecting Women	Supporting women-led movements by 1) supporting women-led rights-based services that address violence against women; 2) providing primarily long-term support helping movements to achieve the lasting change and 3) connecting organizations, movements, providing resources to them to help them learn from each other and work together to develop knowledge, skills, and to plan, organize and mobilize.	33	25.32
	Learning Differences	Improving education for all students especially those with learning differences who experience further marginalization due to racism and poverty.	26	18.44
	Oak Foundation Denmark	Support Danish organizations that provide innovative solutions to improve the lives of socially vulnerable and marginalized groups at the community level.	22	5.34
	Brazil	Deepen democracy and encourage inclusive public debates in pursuit of secure and sustainable communities; protect the rights of all Brazilians; and critically examine the effectiveness of the current policies aimed at violence reduction.	10	2.01

	India	The India Program supports equitable opportunity for all by supporting efforts to sustainably improve the lives of marginalized people in West Bengal. These people include vulnerable workers, Indigenous communities known as Adivasis, and adult and child migrants.	16	6.20
	Zimbabwe	The Oak Zimbabwe program focuses on funding local organization that help provide and care for the most disadvantaged and vulnerable people in Zimbabwean society. Organizations supported include those operating in the following priority areas: healthcare; rural water supplies; special needs education; and services that help vulnerable women, children, and elderly persons.	17	1.07
	Special Interest	Special Interest grants cover a wide range of fields, including health, humanitarian relief, education, and the arts. They are made to organizations whose activities the Trustees wish to support.	51	54.96

The foundation's grants in 2019 amounted to 294.05 million USD\$, of which a significant portion was granted to partners essential to the foundation's environment program (Oak Foundation, 2020a). Initiated in 1998, the Oak foundation's Environmental program comprises of three subprograms: Climate Change, Marine Conservation and Wildlife Conservation and Trade (ClimateWorks, 2021; Oak Foundation, 2021e). This program is overseen by one of the foundation's Vice Chairs, Kristian Parker who holds a Doctorate in Environmental Science (ClimateWorks, 2021). In 2019, just over \$26 million USD was granted in alignment with the foundation's climate change program. This represents around 40% of that which was granted in the Environmental Program in that year (Oak Foundation, 2020a). The foundation is the second largest contributor to climate action globally (SDG Funders, 2021b).

The foundation's Climate Change subprogram strategy aims to "protect clean air, build healthy and resilient communities, and create jobs in the clean energy sector" and supports work in high-emission regions (Oak Foundation, 2021e). In addition to its Climate Change subprogram, the foundation also engages with climate action through a series of initiatives and ventures. In 2016, the foundation helped to create the Climate Justice Resilience Fund (CJRF). The CJRF helps support 'women, youth and indigenous people to adapt and build resilience to their changing climate, and to build movements to advocate on behalf of their communities' (Oak Foundation, 2017). Furthermore, the Oak Foundation, in conjunction with the Children's Investment Fund

Foundation, MacArthur Foundation, Hewlett Foundation, Packard Foundation and Sea Change Foundation in 2019 formally launched the Climate Leadership Initiative (CLI). The CLI was devised to foster and increase climate philanthropy through providing a network of peers, experts, and high-impact solutions that those new to climate philanthropy can tap into (Oak Foundation, 2020a; Oak Foundation, 2020b).

4.3 John D. and Catherine T. MacArthur Foundation

The John D. and Catherine T. MacArthur Foundation was established in 1970 by John and Catherine MacArthur who sought to make a difference with the wealth they amassed. After John's death in 1978, the foundation assumed his assets valued approximately at 1 million USD\$ at the time (MacArthur Foundation, 2021a). After decades under various leaderships, the MacArthur foundation began to emphasize more long-standing and impactful grantmaking processes. As a result, the family foundation began to narrow its focus to a few significant and urgent investments that they deemed necessary to foster transformative change in areas of primary concern. Pertinent to the emphasis on impact as opposed to outcome was the foundation's active integration of assessment mechanisms to ensure that impact (MacArthur Foundation, 2021a).

The foundation is governed by a board of directors comprised of up to 16 persons including in the president – the current board comprises of 10 members and John Palfrey, the president of the foundation (MacArthur Foundation, 2021d; 2021e). Board members come from diverse backgrounds including law, medicine, and academia. Some board members also have previous experience in international development and development aid as well as globally renowned consultancy firms (MacArthur Foundation, 2021e). This board devises foundation policies and the foundation's strategic direction. It is also responsible for signing off on grantmaking as well as oversees investments (MacArthur Foundation, 2021d).

To maximize their impact the MacArthur Foundation employs two methods. Firstly, the foundation's financial assets are maintained in an investment portfolio. The returns yielded from this portfolio covers the cost of operation as well as provides a steady stream for grantmaking to intermediaries. Secondly, the foundation engages in impact investment and have chosen four '*Big Bets*' - that is, issues that need investment to effect transformative change, to focus on (MacArthur Foundation, 2015; 2016; 2021a; 2021b). These *Big Bets* include climate change, nuclear risk, the challenges of the US criminal justice reform and fostering the development of more effective and legitimate government services in Nigeria (MacArthur Foundation, 2021c). In addition to these, the foundation has longstanding commitments to Chicago helping to foster civic leadership and to advance journalism and media to champion critical thinking and informed action. Finally, the foundation has several rewards which include 100&Change, the MacArthur Award for Creative and Effective Institutions and the MacArthur Fellowship and contributes financially to field support and areas of work that are ending (MacArthur Foundation, 2021b; 2021c). Table 4 below summarizes the foundation's philanthropy.

Table 4. Summary of the John D. and Catherine T. MacArthur Foundation Impact Investments and Grantmaking 2019 (Adapted from MacArthur Foundation, 2019; 2021f-n)

Type of Foundation	Program	Program Summary	Grants Awarded	Amount Granted & Invested (million USD\$)
Family	Climate Change*	Prevent climate change by curbing emissions and supporting global leadership on climate solutions primarily in the US China, and India. Investments made and grants disbursed aim to decrease the carbon- intensity of their respective economies, reduce GHG emissions and build will and public demand for climate solutions.	-	60
	Criminal Justice*	Address over-incarceration and racial and ethnic disparities through the Safety and Justice Challenge where the foundation invests in local reform, research, experimentation, and communication to create demand for local justice reforms.	-	50
	Nuclear Risk*	Reduce nuclear threats by decreasing the availability and use of weapons-useable material by ending the production and eliminating the stockpiles of these materials; support work that aims to protect and strengthen critical aspects of the nuclear regime.	-	20
	On Nigeria*	Reduce corruption by supporting Nigerian-led efforts that strengthen accountability, transparency, and participation.	-	20.1
	Chicago Commitment	Support organizations working to improve the quality of life and the prospects for residents as well as create an environment where opportunity is equitable and just.	-	26
	Journalism and Media	Strengthen American democracy by informing, engaging, and activating	-	25

		Americans through investments in independent journalism and media.		
	Awards	<ol style="list-style-type: none"> 1. MacArthur Award for Creative and Effective Institutions: Supporting effective institutions to help address some of the world's most challenging problems, these annual awards recognize exceptional Foundation grantees and help ensure their sustainability. 2. MacArthur Fellows: supporting individual creative potential through fellowship. 3. 100&Change: A competition for a \$100 million USD\$ grant to fund a single proposal that promises real and measurable progress in solving critical problems of our time. 		55.5
	Field Support	Grants that are awarded to a limited number of anchor organizations and special projects in a field that is essential to the foundation's effectiveness. There are three areas of interest: Impact Investment (building the field of impact investing and providing catalytic capital to address global social and environmental challenges), Philanthropy (supporting a variety of organizations that are devoted to improving the practice of philanthropy, strengthening the sector and advocating and defending the sector at multiple levels) and Technology in the Public Interest (aimed at strengthening research and advocacy addressing the social impacts of technology)	-	11.8

				* <i>Big Bet</i>
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In 2019, the foundation invested and granted 288.2 million USD\$, the majority of which focused on their *Big Bets*. Of these *Big Bets*, climate change received the most funding - \$60 million USD (MacArthur Foundation, 2020). The foundation's climate change program, also referred to as the Climate Solutions Initiative, focuses on policies, actions and investments in India, China, and the US to help facilitate these countries' decrease in GHG emissions. For each country, grants and investments are made to various efforts which support this reduction. Support in the US is directed to efforts which help the country to meet its own responsibilities. These include carbon pricing, methane reduction, renewable energy sources as well as bilateral and international agreements. On the other hand, support is given to efforts in India that improve the capacity of non-governmental organizations (NGOs), emission trading, renewable energy production and clean technology. Finally, in China, support is directed towards developing a robust carbon emission trading market, advancing the implementation of environmental laws and regulations, and fostering more sustainable and less-carbon intensive infrastructure (pertaining to the Belt-Road Initiative) (MacArthur Foundation, 2021f).

4.4 The David and Lucile Packard Foundation

Founded in 1964 by husband-and-wife duo David and Lucile Packard, the David and Lucile Packard Foundation is a family foundation (Packard Foundation, 2021a). The foundation is governed by a Board of Trustees that determines the foundation's mission, strategic direction and policies and oversees the foundation's finances and operations (Packard Foundation, 2021b). David and Lucile's children and grandchildren play an active role in the work of the foundation and hold board positions (Packard Foundation, 2021a). Other board members have backgrounds in environmental science, medicine, business, public office, development aid and philanthropy (Packard Foundation, 2021c).

Assets from David Packard's estate have been invested to create an investment portfolio that maximizes the foundation's endowments to maintain a steady stream for its grantmaking as well as operational activities (Packard Foundation, 2021d). Endowments are dispersed to grantees under the foundation's six programs: Conservation and Science (Climate, Ocean, Land, Science); Children, Families, and Communities; Reproductive Health; Local Grantmaking; Organizational Effectiveness and Mission Investing (Packard Foundation, 2021e). See Table 5 below which summarizes the programs of the foundation. Impacts of the foundation's grantmaking is expanded through mission investments, where the Packard Foundation provides loans and equity investments to further their programmatic goals. To that effect, the foundation has dedicated up to \$180 million USD\$ of their endowments to mission investments (Packard Foundation, 2021f).

Table 5. Summary of the David and Lucile Packard Foundation Program and Grantmaking 2019 (Adapted from Packard Foundation, 2021h-r)				
Type of Foundation	Program	Program Summary	Grants Awarded	Amount Granted/Invested (million USD\$)
Family	Climate*	Reduce carbon emissions and explore viable mitigation strategies. Grants are made in three focal: energy, land use and innovation.	-	-
	Ocean*	Support work in protecting and restoring ocean life by protecting marine biodiversity and improving the sustainability of seafood from wild marine fisheries and fish farms in the ocean.	-	-
	Land*	Protect natural treasures and important lands of the North American West by supporting a activities such as scientific and policy research, that protect these landscapes and	-	-

		supporting the purchase of critical lands or easements protecting those lands.		
	Science*	Support research to spark innovative solutions as well as support institutions that use science to generate new knowledge about the Earth's natural systems and communicate that knowledge to the public.	-	-
	Agriculture, Livelihoods, and Conservation*	Explore solutions that balance agricultural economic opportunities with environmental sustainability; protect forests and biodiversity while ensuring that people who rely on them can thrive by supporting sustainable smallholder agriculture.	-	-
	Children, Families, and Communities	Ensure that all children can reach their full potential by ensuring access to health care and early learning opportunities.	-	-
	Reproductive Health	Promote reproductive health and rights emphasizing engagement and serving of youths.	-	-
	Local Grantmaking	Support organizations across the counties of San Mateo, Santa Clara, Santa Cruz, San Benito and Monterey to help create communities where there is access to resources and services needed to thrive.	-	-
	Organizational Effectiveness	Create more powerful and impactful fields and movements through capacity-building projects that help partners learn and adapt, leverage opportunities, and collaborate.	-	-
	Fellowship for Science and Engineering	Allow promising professors the opportunity to pursue science and engineering research in	-	-

		their early career. Disciplines of interest include physics, chemistry, mathematics, biology, astronomy, computer science, earth science, ocean science, and all branches of engineering.		
				*Subprograms under the Conservation and Science Program

The Packard foundation's Climate subprogram aims to promote clean power, increase energy efficiency, and reduce detrimental land practices including deforestation to reduce GHG emissions (Packard, 2021h; 2021j).

In addition to this climate subprogram, the Packard Foundation has extended its commitment to sustainability to its operation. As such, the foundation established a Sustainability Task force and have adopted measures to reduce its internal energy consumption and carbon footprint (Packard Foundation, 2011). Packard's headquarters in Los Altos, California was designed to be net zero energy and LEED® Platinum (Packard Foundation, 2021g). The foundation is also part of the CLI (Oak Foundation, 2019). In 2015, together with the Oak Foundation and Good Energies Foundation, the Packard foundation launch the Climate Strategies Accelerator (CSA) to support entrepreneurs to scale climate solutions (Packard, 2016). Packard has also partnered with other foundations such as ClimateWorks and their network of non-profit organizations to help realize their commitments to combatting climate change through exploring proven and emerging mitigation strategies (Packard Foundation, 2021h).

4.5 Bloomberg Philanthropies

Michael Bloomberg is an entrepreneur and three-term Mayor of New York City (NYC) who brought an innovation-driven approach to city governance (Bloomberg Philanthropies, 2021a). Bloomberg Philanthropies encompasses all of Michael Bloomberg's giving and as such, the organization includes the Bloomberg Family Foundation, Bloomberg Associates (a pro bono consultancy for city mayors) as well as the philanthropic activities of Bloomberg L.P. The operating foundation focuses on five key areas for creating lasting change: public health, environment, education, government innovation (cities), and arts & culture (Bloomberg Philanthropies, 2020a; 2021a; 2021b) (see program summaries below in table 6). Bloomberg Philanthropies emphasizes public-private partnerships and extensively collaborates with prominent American and global organizations to help realize their program goals (Bloomberg Philanthropies, 2021c). The organization also highlights the pivotal role that implementing solutions in cities plays to leverage lasting change (Bloomberg Philanthropies, 2021a).

At the head of Bloomberg Philanthropies is Patricia E. Harris, the chief executive officer. Harris had formerly been appointed as both deputy mayor (2002 – 2005) and first deputy mayor (2006 - 2013) of NYC. Harris oversees all programs that Bloomberg Philanthropies focuses on and is a member of the organization's Board of Directors (Bloomberg Philanthropies, 2021d). The Board of Directors is comprised of academics, philanthropists and individuals elected or appointed in public office as well as Michael Bloomberg's daughters. The board serves to give advice as well as provide capacity oversight (Bloomberg Philanthropies, 2021e).

Table 6. Summary of Bloomberg Philanthropies Program and Grantmaking 2019 (Adapted from Bloomberg Philanthropies, 2020a; 2021f)				
Type of Foundation	Program	Program Summary	Grants Awarded	Amount Granted/Invested (million USD\$)
Operating	Arts & Culture	Support artists, invest in cultural organizations, and improve audience experience to strengthen the cultural and artistic sector.	-	
	Cities	The Government Innovation Program helps mayors around the world creatively tackle their challenges. Bloomberg Associates acts to provide city leaders with customized, in-depth consultation and mentorship to help improve the lives of city residents.	-	
	Education	Ensure that young people have the skills needed to succeed in	-	

		the 21 st century and expand opportunity to maximize student potential.		
	Environment	<p>Address the most serious threats to global sustainability including climate change and overfishing by supporting networks of cities, citizens, and businesses globally. This is done through several initiatives:</p> <ul style="list-style-type: none"> • Transitioning the U.S. to clean energy and Beyond Carbon (<i>Clean Energy Program; Beyond Carbon Campaign; Sustainable Cities program; American Cities Initiative</i> (a suite of investments that empower cities to innovate and advance policies; <i>America's Pledge</i> is part of this initiative) • Supporting the global transition away from dirty fossil fuels like coal (Carbon and Air Pollution Program) • Reducing carbon emissions from buildings and transportation through the <i>American Cities Climate Challenge</i> • Helping businesses quantify, disclose, and manage the risks posed by climate change. • Empowering global networks of cities to reduce emissions and improve sustainability. • Protecting oceans and fish populations by reforming fishing 	-	

		practices, improving data, and preserving endangered coral reefs through the <i>Vibrant Oceans Initiative</i>		
	Public Health	Combat noncommunicable diseases and injuries by spreading solutions at national and local levels.	-	
	Founder's Projects	Founder's Projects are additional, initiatives of Bloomberg Philanthropies that Mike Bloomberg supports, including: <ul style="list-style-type: none"> • Johns Hopkins University • Economic opportunities for women • Advocacy against gun violence through Everytown for Gun Safety • 9/11 Memorial & Museum • Bloomberg Global Business Forum • Promote science education 	-	
	Corporate Philanthropy	Giving back to communities where colleagues live and work.	-	

As an operating foundation, Bloomberg Philanthropies' endowment is spent fulfilling its own programs. The program of interest in this research is the foundation's Environment program. This program is predominantly geared towards addressing climate change as the foundation has determined climate change as one of the most imminent threats to society. The foundation seeks to support the transition away from polluting energy sources towards clean energy. Cities are identified as key strategic target areas for fostering this transition. The foundation takes a collaborative approach to achieve its goals, involving city governments, policymakers, businesses, and grassroots advocates (Bloomberg Philanthropies, 2021f).

4.6 The Top Five Philanthropic Foundations in Climate Philanthropy at a Glance

The following table summarizes the characteristics of the philanthropic foundations discussed above. In this table approach/strategy refers to how these foundations provide support, that is their transaction types.

Table 7. The Characteristics of the top five philanthropic foundations funding SDG 13 – Climate Action. (Bloomberg Philanthropies, 2021b; Candid, 2021b; Hewlett, 2021c; 2021n; MacArthur Foundation, 2021n; Oak Foundation, 2021b; Packard Foundation, 2021h)					
Foundation	Characteristics				
	Foundation type	Funding toward Climate Action (2019)	Board Size	Approach/Strategy	Focus of climate (sub)program
The William and Flora Hewlett Foundation	Family	112 million USD	9 – 15 Board of Directors	Grants	<ul style="list-style-type: none"> ○ Carbon storage ○ Clean energy systems ○ Reduce fossil fuel-use ○ Climate innovation ○ Transportation
Oak Foundation	Family	26 million USD	6-member Board of Trustees	Grants	<ul style="list-style-type: none"> ○ Clean energy systems ○ Transportation ○ Sustainable Cities ○ Creating an enabling climate policy/technology environment
John D. and Catherine T. MacArthur Foundation	Family	60 million USD	Up to 16 Board of Directors	Grants; Mission- and program- related investments	<ul style="list-style-type: none"> ○ Clean energy systems ○ Emission trading ○ Reducing fossil-fuel use ○ Creating an enabling climate policy/technology environment

The David and Lucile Packard Foundation	Family	Unknown	14 - member Board of Trustees	Grants; Mission-related Investing; Direct Charitable Activities	<ul style="list-style-type: none"> ○ Clean energy systems ○ Reduce coal-use ○ Transportation ○ Land use management ○ Climate innovation
Bloomberg Philanthropies	Operating	10 million USD	24- member Board of Directors	Grants; Mission- and Program- related Investment; Pro bono services	<ul style="list-style-type: none"> ○ Clean energy ○ Reducing coal-use ○ Sustainable cities ○ Climate finance and investment ○ Climate change awareness

5.0 Climate Programs

This chapter delves deeper into the climate programs and subprograms of the five foundations of interest in this research. Each foundation's climate action as exemplified by their climate program strategy is analyzed using the theoretical framework set out in chapter 2. As such, the foundations' climate action is analyzed and discussed with respect to its embodiment of the characteristics of transformative climate action. The following sections are therefore arranged according to discussions centered on the foundations' programs' systemic nature, long-term orientation, and justness.

5.1 Hewlett Foundation: Climate & Energy Program

The Hewlett Foundation's Climate & Energy Program is guided by several strategies and sub-strategies. At the core of the program is the foundation's Climate Initiative which highlights general program goals, strategy, and the foundation's rationale for pursuing climate action in the way that it does. The Climate and Energy Program centers on developing policies to broaden support for climate action (2017a). The foundation supports "a mix of analysis, advocacy, communications, technical assistance, innovation, business sector engagement, public-private partnership, and building public support and will for policy change" (Hewlett, 2021n). Support is given through grants in which grantees provide "technical policy development skills and effective advocacy relevant to policymakers" (Gardiner & Wolf, 2017, p.6).

The foundation's work concentrates across five thematic areas which include electricity; transportation and cities; industry; finance/investments; and technology, innovation and research and design (R&D) (Hewlett, 2017a). Two separate sub strategies that outline in greater depth the foundation's goals and approach exist for two themes: finance/investment, and transportation and cities. These strategies are the Climate Finance Strategy 2018-2023 and the Zero-Emission Road Freight Strategy 2020-2025 respectively - both of which were also analyzed (Hewlett, 2017a). In 2019, the foundation identified the need to support effective climate change communication. Hewlett reserved \$20 million USD and devised a three-year strategy – the Climate Communications Opportunity Strategy 2019-2022 - to support such efforts (Hewlett, 2020a; 2020b). This strategy was also analyzed.

In addition to the thematic areas of interest, the Hewlett foundation concentrates its activities in four regions that it considers to be the biggest GHG emitters globally. These regions include Europe, the US, China, and India (Gardiner & Wolf, 2017; Hewlett, 2017a; 2017b; 2020b; 2020c; 2021n). How the foundation's Climate and Energy program contributes to transformative climate action is discussed below.

5.1.1 Systemic Action

Systemic action entails that both the sources and outcomes of climate change are addressed to move towards low-emission and climate-resilient pathways. This means that mitigation and adaptation strategies should be of equal importance. Hewlett foundations' Climate and Energy

program emphasizes supporting and promoting mitigation strategies to address climate change. Mitigation efforts are concentrated around initiatives that reduce and avoid GHG emissions such as promoting clean energy and catalyzing investments for climate-friendly projects that stand to decarbonize capital (Hewlett, 2017a; 2017b; 2020c). The foundation also pursues some ‘negative’ emission efforts which capture and store atmospheric carbon. These efforts are centered on land-management schemes like forest preservation in countries such as Brazil and Indonesia (Hewlett, 2017a; 2021n). Hewlett’s emphasis on mitigation is rationalized as the foundation believes strong mitigation will lead to less warming, and ultimately less need to adapt in the future (Hewlett, 2017a). However, this rationale causes the foundation’s climate action to overlook the outcomes of climate change. Emphasizing future need for less adaptation given mitigation ignores the fact that current GHGs atmospheric concentrations have already caused the effects of climate change to be felt in the here and now. As such, current adaptation is as necessary as future adaptation regardless of successful mitigation. The lack of adaptation strategies as well as the simplistic reflection on how mitigation influences adaptation reduces the foundation’s transformative potential.

Systemic action also entails the considerations of how climate action interacts with other SDGs. Analysis of the foundation’s program strategies highlighted that much of the foundation’s work has intersections with several SDGs. Intersections with the following SDGs were identified: 3- Good Health and Wellbeing; 7 – Clean Energy; 9 – Industry, Innovation, and Infrastructure; and 15 – Life on Land. For example, the foundation’s land-management strategies that enhance negative emissions also directly contribute to SDG 15 as the foundation’s target areas are fauna-rich ecosystems, emphasizing their conservation and sustainable management. Another example is the foundation’s support given to increase the uptake of low-emission vehicles by reducing manufacturing costs and vehicle price (Hewlett, 2017a). Such initiatives directly contribute to SDG 7 and 9 through increasing the adoption of clean energy technology. However, despite the existence of intersections, these intersections are not explicitly acknowledged by the foundation. This disregard is also mirrored in the lack of explicit connections drawn between the foundation’s climate action and the achievement of other SDGs. Arguably, the foundation does not appear to explicitly target climate action and other SDGs simultaneously as it primarily frames its climate action work in terms of climate mitigation potential. As such, any contributions to other SDGs are merely spillovers of the foundation’s work. Finally, the geographical presence of the foundation’s climate action is specific to areas such as India, China, and the US and concentrates its giving in sectors such as the power sector and industry (Hewlett, 2017b). Despite this seemingly limited geographical and sectoral focus, the solutions supported by the foundation may have application elsewhere. The foundation highlights that efforts implemented in India can help guide action in other developing countries in Southeast Asia (Hewlett, 2017a). Moreover, the foundation’s support of some solutions, such as negative emission strategies solutions allow for cross-sectoral integration and engagement.

Overall, Hewlett’s Climate & Energy program does support the low-emission pathways necessary for transformative climate action. However, given the foundation’s emphasis on mitigation, the foundation’s climate action neglects adaptation strategies that are integral to establishing climate resilience. Furthermore, while Hewlett’s climate work does intersect with other SDGs, the

foundation does not appear to consider or target these intersections explicitly. For those reasons, the foundation's climate action can be considered as only partially systemic.

5.1.2 Long-term Orientation

The Hewlett foundation evidently recognizes as well as understands the importance of being long-term oriented. The foundation claims that it “must get beyond [its] present focus on near-term, incremental efforts that reduce emissions today, and identify the longer-term, scaled-up, step changes needed to mitigate the climate problem” (Hewlett, 2021n). This long-term orientation is echoed in the foundation's long-standing commitment to climate action, beginning in 2008 with the inception of its Climate Initiative (Hewlett, 2017a). Although the foundation generally devises strategies in terms of three to five years in length, these strategies appear to be recurring with some revisions based on self-assessments. The foundation's Climate Initiative 2018-2023 - which is the foundation's third revised five-year term core climate strategy (Hewlett, 2017a), is a good example of Hewlett's continuous climate work. The presence of recurring strategies are indicators of long-term orientation as outlined in the theoretical framework. The foundation's long-term thinking is also exemplified in its adoption of a 2050 lens where revisions to their climate strategy are made in accordance with the goal of cutting global emissions by 60% by 2050 (Hewlett, 2017a). By adopting such a lens, the foundation can reflect on how its work's future impact stands to strengthen its transformative potential.

Overall, the foundation suggests that its longstanding commitment to addressing climate change has no definitive end in the near future. Furthermore, the foundation evidently uses midcentury climate goals as guides for its climate action. In such a way, Hewlett's climate action can be characterized as long-term oriented.

5.1.3 Just Action

As the theoretical framework outlines, justice rests in the recognition of vulnerable groups in climate action programs and project profiles as well as distributive and procedural justice. Foundations should not only recognize vulnerability but should clearly define the groups it identifies as particularly vulnerable to climate change and its address. Hewlett climate strategies that were analyzed highlight that women, people of color and low to middle income households are important to overall climate action (Hewlett, 2017b; 2020). Although these groups have been identified as vulnerable groups in the literature, the foundation does not define them as such. To that effect, the analyzed climate strategies exclude any distinction of degrees of vulnerability to climate change or climate action. Instead, the vulnerable groups identified in the literature are framed as groups of missed opportunity to cut carbon emissions by the foundation. The absence of perceived vulnerability has direct implications on distributive and procedural justice. While inclusion, diversity, and equity in climate action appear to be of great importance to the foundation's Climate Finance/Investment Strategy 2018-2023 and Climate Communications Opportunity Strategy 2019-2022 for example, this is not entirely reflected in their core climate strategy- the Climate Initiative.

In terms of distributive justice, which calls for the benefits and burdens of climate change to be distributed fairly, vulnerable groups do not appear to be framed as beneficiaries in criteria for success of the analyzed strategies. The foundation “track[s] progress [in its Climate and Energy

program] by measuring the emission reductions resulting from climate and clean energy policies that governments adopt, and on building political will for action on these policies” (Hewlett, 2021n). Additionally, outcomes and expected impacts from most strategies within the program are framed in terms of contributions to changes in behavior. For example, the foundation expects impacts of their Climate Finance/Investment strategy to significantly increase financing for GHG mitigating activities and decrease it for GHG-causing activities (Hewlett, 2017b). Only two markers of success in this strategy relate to vulnerable groups identified in literature. These are: 1) “within 3 years, dedicate at least 25% of our total U.S. funding to people of color led or owned organizations working on climate-friendly financing solutions” and 2) “within 3 years, dedicate at least 40% of total funding in China, the [EU] and the [US] to women-led or owned organizations working on climate-friendly financing solutions” (p. 31). However, these markers speak more to increasing participation as opposed to ensuring that these groups directly benefit from the foundation’s climate action. Finally, partnership with third party organizations such as NGOs and grassroots organizations that work directly with or represent vulnerable groups can be another indicator of distributive justice. In its Climate Communications Opportunity Strategy, the foundation partners with organization and foundations that are affiliated with or represent vulnerable groups such as the Climate and Clean Energy Equity Fund, and the Center for Cultural Power (Hewlett, 2020a). In this strategy as well as its Zero-Emissions Road Freight Strategy, the foundation seeks to leverage as well as foster growth in civil society, grassroots organization, and social and environmental justice advocates to achieve its programmatic goals (Hewlett, 2020a, 2020b; 2020c). However, these partnerships aim primarily at increasing awareness of climate change and emission reduction. In such a way, these partnerships, appear to do little with integrating the concerns of vulnerable groups in climate action and more to do with increasing public engagement to spur and accelerate policy and behavioral change.

In terms of procedural justice, some of the foundation’s strategies emphasize the participation of groups identified in literature as vulnerable in decision-making process of the foundation’s climate action. This is exemplified in the foundation’s desire to “invest in initiatives that train and develop diverse leaders (particularly women, people of color, and younger generations) to broaden the talent pool of people working on climate-friendly solutions” in their Climate Finance Strategy (Hewlett, 2017b, p.26). Such support strategies stand to increase the capacity of these groups necessary for their participation in decision-making spaces. Other capacity building efforts are central to the Climate Communication Opportunity Strategy which focuses on building communities’ capacity for climate communication (Hewlett, 2020a; 2020b). However, arguably these efforts emphasize communicating the urgency and effects of climate change and not necessarily ensuring that vulnerable groups are able to participate in climate projects. In 2018, the boards and senior staff Hewlett Foundation grantees were comprised of 13% and 17% people of color and 33% and 44% women, respectively. This suggests that members of vulnerable groups - despite not being recognized as such, are leading, and creating the climate projects that the foundation supports, an indicator of procedural justice.

To summarize, the Hewlett’s Climate and Energy program does not define vulnerable groups explicitly. However, it acknowledges that the engagement of women, low-middle income households and people of color as integral to achieving GHG emission targets. While their

inclusion is deemed necessary, no consideration as to how benefits might accrue to these groups is explicitly made. Program success remains largely determined by the scaling of climate solutions and overall GHG emission reduction, and partnerships with organizations that represent the interests of vulnerable groups do not necessarily yield a reflection of these groups' concerns. Therefore, it is suggested that distributive justice is low. Furthermore, some of the capacity building efforts of the foundation stand to increase the participation of vulnerable group in decision-making processes of climate action projects. While the foundation does partner with grantees whose governing bodies consist of members of vulnerable groups, it remains unclear if and to what extent these groups decision-making abilities. This uncertainty increases further when considering these groups' influence on the foundation's program goals and strategies. Therefore, procedural justice can only be considered moderate. Based on the strategy analysis, the foundation's Climate and Energy program does not appear to be very just.

5.2 Oak Foundation: Climate Subprogram

The Oak Foundation's Climate subprogram's strategy has four thematic areas including clean and efficient energy systems; sustainable cities; vehicle efficiency and electrification; and creating an enabling environment for "cleaner, smarter ways of powering homes and economies" (Oak Foundation, 2021e). Oak supports work in several regions of interest including Brazil, Europe, India, China, Southeast Asia, Canada, and the US (Oak Foundation, 2021e; 2021o).

The foundation highlights its commitment to supporting movements towards an equitable future and to that effect, established the Climate Justice Resilience Fund in 2016 through a Special Interest Grant of \$20 million USD (Oak Foundation, 2016a; 2021e). This fund is separate and distinct but aligned with the foundations' Climate subprogram strategy and goals. This fund was established to "invest in communities most impacted by climate change so that it can manage the shocks, rebound and continue on a progressive pathway to sustainable development" (Oak Foundation, 2016a, p.62). Overlap with the foundation's Climate subprogram also exists with its India program (Oak Foundation, 2017b).

It must be noted that over the course of this research, the Oak foundation updated their Environment program strategy mid-May 2021. This update saw that the foundation's Environment program moved from a siloed sectoral approach to a global systems approach focusing on the following systems: Energy, Food and Natural Security (Oak Foundation, 2021o). It is however too soon to discern more concrete actions the foundation intends to take that will explicitly contribute to climate action without too many assumptions. Therefore, Oak's Climate subprogram's transformative potential, accounting for the changes yielded from the strategy update, especially those regarding energy in which explicit connections were made to climate change and action, is discussed in the following sections.

5.2.1 Systemic Action

In terms of mitigation and adaption, Oak's Climate subprogram illustrates that the foundation primarily explores and pursues strategies that support the transition to low-emission pathways. That is, the climate subprogram emphasizes climate mitigation strategies. Mitigation strategies include promoting clean transportation means and reducing car use (Oak Foundation, 2021e). In addition to its grant-making, the foundation's new Environment program will undertake several campaigns of which campaigns to end offshore oil and gas; reduce pollution from aviation; and prevent deforestation imports into the EU stand to reduce GHG emissions (Oak Foundation, 2021o). Climate adaptation strategies are relatively absent from the strategies outlined. While the foundation seeks to create jobs in the clean energy sector (Oak Foundation, 2021e), this adaptation strategy, arguably, is more aligned to the transition towards low-emission pathways as opposed to climate change adaptation. Furthermore, although the Climate Justice Resilience Fund focuses on building climate-resilience (Oak Foundation, 2017b), adaptation strategies pursued are only aligned with the climate subprogram but are not directly reflected in the subprogram's strategies. Finally, given the emphasis on mitigation, it is not entirely clear if the foundation reflects on how its mitigation strategies stand to affect future climate adaptation. This holds true as the new strategy still places emphasis on climate mitigation strategies in the regions it was previously active in apart from North America and Europe (Oak Foundation, 2021o).

Further analysis of Oak’s climate subprogram strategy goals, aims and desired outcomes suggest that the foundation considers the interactions between its climate action and other SDGs. Some goals directly target other SDGs simultaneously through the foundation’s climate mitigation strategies. For example, a strategy the foundation pursues is to support organization that “help [integrate] clean energy solutions into poverty-reduction programs” (Oak Foundation, 2021e). This strategy directly targets both SDG 1 - No Poverty and SDG 13 - Climate Action. Other direct intersection with the targets of SDG 7 - Affordable and Clean Energy are also evident in the subprogram, as many of the foundation’s strategies relate to clean energy technology. Some examples include the foundation’s support of clean energy innovations and infrastructure for electric vehicles (Oak Foundation, 2021e). In its new Environment program, the activities that make direct contributions to SDG 7 also include phasing out fossil-fuel driven vehicles, both privately and commercially operated (Oak Foundation, 2021o). The foundation also makes direct contributions to SDG 15 – Life on Land through its support of Rewilding Britain through their Special Interest Program. While not explicitly an initiative under the foundation’s climate subprogram, the project is aligned with its programmatic goals. Here Oak’s support of the restoration of nature in Britain to reduce climate breakdown stands to absorb carbon but also expand wildlife (Oak Foundation, 2020a). Where the Climate subprogram strategy goals do not directly target other SDGs, the foundation still reflects on how its pursued solutions stand to benefit other SDGs. For example, to Oak, “cleaning up the transport sector is not only an integral part of the climate solutions toolbox, but [has] huge health and economic benefits too” (Oak Foundation, 2019a, p. 21). Here the foundation recognizes that through reducing GHG emissions, a source of air pollution, their work stands to positively impact health (Oak Foundation, 2019b) – having impact on the achievement of SDG 3 - Good Health and Well-being. In such a way, Oak’s Climate subprogram supports multifaceted solutions that have the potential to address climate change and other SDGs and are not bound by geography. However, the solutions pursued under Oak’s Climate subprogram are fixated on the transport and energy sectors, with little to no sector variability. Despite this, the foundation’s move towards a more integrated way of tackling environmental problems and emphasizing co-benefits and impacts across different issues (Oak Foundation, 2021o) may mean that their climate-related work will intersect more with other SDGs and sectors than it previously did.

5.2.2 Long-term Orientation

The Oak Foundation does not indicate any timeline in which it will cease its commitment to addressing climate change. Similarly, the foundation does not outline a strategy term or timeline. However, at the core of the foundation’s approach to philanthropy more broadly is capacity building (Oak Foundation, 2017b; 2019a; 2020a). The foundation aims to help its partners and grantees learn and develop their organizational capacity so that they can maintain momentum and impact as well as become more resilient to externalities (Oak Foundation, 2017b; 2019a). This ethos is applied to all the foundation’s programs. By emphasizing capacity building, the Oak foundation helps its partners and grantees secure impacts beyond their work with the foundation. This suggests that the foundation is not only thinking in the long-term but are practicing long-term planning to implement solutions. Therefore, despite the lack of an outlined timeline or strategy term, it can be argued that Oak’s climate action can be considered long-term oriented as support is provided in such a way that programmatic goals can still be achieved through partners and

grantees outside of the foundation's initial support. This leads to sustained contributions to global climate action. Recent changes to the foundation's Environmental program strategy echo this long-term orientation and does so even more explicitly through adopting and considering 2030 and 2050 climate goals. This new five-year strategy is set to be evaluated, updated, and renewed with no foreseeable end (Oak Foundation, 2021o).

5.2.3 Just Action

As the theoretical framework outlines, recognition of vulnerable groups underpins both distributive and procedural justice. The Oak Foundation's Climate subprogram aims to develop an equitable future. The foundation recognizes that some groups stand to be more affected by climate change and thus are more vulnerable (Oak Foundation, 2019a; 2018a). Through its climate philanthropy the foundation seeks to "reduce the brunt of climate change on the most vulnerable communities and eliminate the most harmful drivers of climate change." (Oak Foundation, 2018a). Although not explicitly defined as vulnerable groups in the foundation's climate strategy, groups identified in literature such as women, Indigenous Peoples and low-income individuals are targeted specifically by the foundation. For example, under the thematic area of sustainable cities, the foundation supports organizations that help improve public transport systems that are safe for women (Oak Foundation, 2021e). The foundation also works to support grassroots community-led campaigns (Oak Foundation, 2021e), which indicates the possible inclusion of vulnerable groups.

Regarding distributive justice, the foundation applies a 'do no harm' approach to all their grantmaking. As such, the foundation strives to understand the potential negative impacts of their grantmaking approach (Oak Foundation, 2020a, p.9). This implies that the foundation acts to minimize the burdens their climate action may have on vulnerable groups. The foundation also partners with and makes grants to organizations that represent the interest of vulnerable groups. An example of one such organization is Tebtebba, an international organization established to advocate for the rights of Indigenous Peoples (Oak Foundation, 2018b). Such partnership or collaborations suggest that Oak intends to represent the interests of such vulnerable groups in their climate strategy. Similarly, this suggests that vulnerable groups are treated as valuable stakeholders. In addition to working with organizations that represent vulnerable groups, some of the foundation's strategies are devised in such a way that vulnerable groups stand to directly benefit from the foundation's initiatives. The foundation's support of efforts that enable the access to electric transport by low-income persons and ensuring clean, safe public transport for women, children and elderly are illustrative of this (Oak Foundation, 2019a). Ensuring that vulnerable groups are represented and stand to benefit from climate action is even more pronounced in the foundation's separate Climate Justice Resilience Fund (Oak Foundation, 2019c). However, despite few examples in the climate subprogram's strategy, most of the outlined strategic support is provided to efforts in which the apparent benefit towards vulnerable groups is not self-evident.

On the other hand, the foundation's capacity building ethos arguably speaks for the foundation's attempts to ensure procedural justice. A key feature of Oak's capacity building is its focus on leadership and management skills (Oak Foundation, 2020a) as well as building capacity that is empowering, participatory and collaborative, all done through skill-sharing and training events

(Oak Foundation, 2016a). Participatory capacity building enables grantees to devise solutions that also suit them. The foundation wants to “meet people where they are” (Environmental Funders Network, 2017, p. 57), collaborating to design projects. Given that the foundation works with organizations such as Tebtebba, it can therefore be argued that vulnerable groups, and those organizations which represent them, are able to participate in the foundation’s decision-making processes, at least at a project level. For Oak, “the participatory approach helps ensure ownership of problems and their solutions. Change [which results from initiatives] is then transformative from within and not just on the surface for the donor’s benefit” (Oak Foundation, 2020a, p.9). Despite this, it remains unclear to what extent vulnerable groups can and do participate in decision-making processes of the foundation’s climate initiatives.

The overhaul of the foundation’s Environment program remains people-centered, particularly focused on engaging those on the frontlines of environmental issues and their corresponding systems (Oak Foundation, 2021o). Oak claims that it “will engage at the intersection of race, equity, gender rights, and climate justice [and]... support widespread efforts to change the cultural narrative about the acceptability of fossil fuels” (Oak Foundation, 2021o, p.3). Furthermore, the foundation will work to “influence and transform systems of finance as a critical lever to challenge the fossil fuel sector and accelerate the shift to clean, safe, and equitable power” (Oak Foundation, 2021o, p. 4). However, as it relates to climate action it remains unclear what groups the foundation will emphasize working with. Similarly, what the foundation considered to be ‘equitable’ is obscure. Furthermore, it is too early in the evolution of the foundation’s Environment program to determine the extent to which vulnerable groups benefit from or can participate in the foundation’s activities aligned with climate action.

In sum, the Oak Foundation’s Climate subprogram can be considered partly systemic. Although the foundation’s climate subprogram strategy captures the interconnectedness of climate change and the achievement of other SDGs, its goals focus on steering movement towards low-emission pathways. As such, the subprogram concentration on climate mitigation is geared towards addressing the sources of climate action, largely neglecting its outcomes. On the other hand, Oak’s climate sub-program arguably is long-term oriented. This is principally given the foundation’s overall capacity building strategy which results in sustained progress. Finally, from a strategy perspective, the Oak foundation appears to be striving for just action. The foundation not only recognizes the disproportionate effects of climate change on particular groups but acts to include these groups in their climate action. From a program strategy perspective, the foundation seeks to ensure benefits and burdens towards these groups are maximized and minimized respectively, and that there is some degree of their participation in the decision-making processes of the foundation’s climate action.

5.3 MacArthur Foundation: Climate Solutions Program

The MacArthur Foundation's *Big Bets* Climate Solutions Program aims to reduce GHG emission drastically by 2050 and onwards by supporting climate-friendly policies, regulations, and solutions, as well as while building international climate philanthropy (Grassroot Solutions, 2019; MacArthur, 2021f; 2021o). The program's geographic focus includes the US, China, and India, which the foundation considers to be largest contributors of GHG emissions globally. By focusing its work in these countries the foundation believes that, collectively, these countries' emission reductions could help avoid catastrophic climate change (MacArthur, 2021f). Grants under this program are guided by the program strategy to reduce GHG emissions, decarbonize the respective economies as well as create political will and demand for climate solutions (Grassroots Solutions, 2019; 2020; MacArthur, 2021f; 2021o). The foundation's climate strategy and grantmaking guidelines as well as commissioned impact evaluations were analyzed to determine the foundation's contribution to transformative climate action. These contributions are discussed in the following sections.

5.3.1 Systemic Action

Regarding its contributions to addressing both the sources and outcomes of climate change, the MacArthur Foundation's Climate Solutions program only addresses the former. The foundation's climate strategy prioritizes climate mitigation strategies. These strategies include supporting work that prices carbon, catalyzes renewable energy adoption, and advances the implementation of laws and regulations that encourage a low-carbon economy (MacArthur, 2021f; 2021o). Given the emphasis on mitigation, the foundation's work contributes towards the transition to low-emission pathways. However, this emphasis leaves much to be desired in terms of climate adaptation and increasing climate resilience. Similarly, there is no reflection on how the mitigation solutions pursued by the foundation will influence current and future adaptation.

Analysis of the goals, aims, and desired outcomes of the foundation's climate solutions highlights little explicit consideration of the interactions between the foundation's climate work and other SDGs. There exist several intersections with MacArthur's climate solutions with other SDGs, particularly with SDG 7 – Affordable and Clean Energy. In fact, most of the foundation's solutions not only emphasize the importance of clean energy solutions but directly contribute to the targets of SDG 7. For example, a goal of the foundation is to “alter the fuel mix for electricity generation by decreasing reliance on fossil fuels and increasing the use of renewable sources” (MacArthur, 2021f). Such an initiative increases the share of renewable energy in the global energy mix, a target to be achieved by 2030 under SDG 7 (United Nations, 2021). Despite these connections, the foundation's strategy and approaches do not appear to reflect on how these solutions may influence or contribute to other SDGs. Similarly, the approaches taken to achieve programmatic goals do not explicitly target climate mitigation and other SDGs goals simultaneously. This narrow focus on only solutions that address climate change sources is echoed in the narrow sector and geographical focus of the foundation's work. Arguably, since the foundation mainly focuses on the policy and regulation as well as local incentivization, it can be said that the solutions pursued, while crucial, cannot be easily employed elsewhere. Furthermore, the foundation's work appears to be confined to sectors such as energy (power), and policy and regulation.

Therefore, MacArthur's Climate Solutions program can only be considered partially systemic given that it focuses primarily on mitigation efforts and thus the transition to low-emission pathways, overlooking adaptation strategies and by extension climate-resilient pathways. Finally, the solutions pursued by the foundation intersect little with most SDGs except for SDG 7, and has limited sector and geographic application.

5.3.2 Long-term Oriented

MacArthur's climate change program began in 2014 (MacArthur, 2021p). Since then, commissioned assessments and evaluations have been done to make necessary changes to the foundation's strategy to maximize impact (Grassroots Solutions, 2019; 2020). The foundation does not stipulate when their commitment to climate change will cease, nor does it outline strategy terms. However, it has identified 2025 as a critical milestone to reduce emissions and so desires to see concrete impact by then (MacArthur, 2021f; 2021o). This appears to be a short-term milestone as the foundation does state that it wishes to continue to contribute to reducing GHG emissions beyond 2025. Despite the lack of specified timelines, continuous self-assessment and impact evaluation suggest that the foundation embraces a long-term perspective. As such, the foundation's Climate Solutions program can be considered long-term oriented.

5.3.3 Just Action

The three elements of just action, that is recognition, and distributive and procedural justice, outlined in the theoretical framework, are largely absent from the MacArthur's Climate Solutions program. Firstly, in terms of recognition, the foundation neither identifies nor acknowledges vulnerability and vulnerable groups in its current strategy. Groups mentioned in the literature are neither targeted nor mentioned in the foundation's approach to addressing climate change. Secondly, there appears to be no distributive justice, as vulnerable groups are not framed as beneficiaries. This is illustrated by the foundation's indicated criteria for program success which are all framed in relation to mitigation potential or impact (Grassroots Solutions, 2019). Furthermore, the foundation does not appear to partner with or make grants to organizations that work directly with or represent the interests of vulnerable groups identified in literature. Finally, there is little evidence to suggest procedural justice. Capacity building efforts undertaken by the foundation, such as building NGOs' capacity to engage government in India regarding climate policies (Grassroots Solutions, 2019), are focused primarily on increasing uptake of climate solutions and policies. Not only is it unclear who these NGOs represent but the capacity building activities of the foundation does not target vulnerable groups' participation in decision-making processes neither at a program nor project level.

Despite the current, relatively poor performance in terms of justice, the MacArthur foundation has recently realized that its Climate Solutions strategy needs to incorporate consideration of diversity, equity, and inclusion (Grassroots Solutions, 2020). To that effect, the foundation will be reorienting its current strategy to create a "climate strategy with equity as a prerequisite [in which it can...] address the climate crisis and simultaneously improve the livelihoods of those living in vulnerable communities" (MacArthur, 2021p). They aim to do so by emphasizing capacity building of and partnership with organizations that represent and engage with these communities (MacArthur, 2021q).

5.4 Packard Foundation: Climate Program

The Packard Foundation's Climate program centers on work under three thematic areas: energy, land use and climate innovation (Packard Foundation, 2021i). The foundation's climate strategy includes supporting work that promotes clean power, increases low-carbon transport, reduces deforestation, and improves agricultural practices as well as identifies breakthrough strategies that will change the trajectory of GHG emissions (2021i). The foundation's work on energy is geared towards accelerating the clean energy transition and reducing GHGs beyond carbon (Packard Foundation, 2021i; 2021s). On the other hand, climate innovation is actively pursued via an initiative in partnership with the Oak Foundation and Good Energies Foundation known as the Climate Breakthrough Project. This project "seeks to launch breakthrough climate mitigation efforts by identifying, supporting, and unleashing innovative leaders with transformative strategies" (Packard Foundation, 2021t, p.1). Furthermore, the foundation's land-use work has several strategic goals. These goals include "[reducing] peatland and native forest destruction for palm oil production in Indonesia, [reducing] emissions from commodity farming in US and [phasing] out high-carbon bioenergy while emphasizing social justice" (Packard Foundation, 2021u). The foundation's land use strategies are guided by two separate strategies: Climate and Land Use revised Palm Oil Strategy 2018-2021 and Toward a Clean Energy and Forest-Positive Future with Social Justice at its Heart Strategy 2020-2024. In addition to these strategies, the foundation also makes several mission-related investment to support its grantmaking over the long term (Packard Foundation, 2020a). The investments also contribute to and strengthens the foundation's climate grantmaking. The foundation's Climate program is discussed in terms of its embodiment of transformative climate action in the following sections.

5.4.1 Systemic Action

It is evident that Packard's Climate Program supports the transition towards low-emission pathways. Some programmatic goals that contribute to this include supporting work to increase low-carbon transportation alternatives and its deployment. Similarly, the foundation's take on climate innovation, identifies and cultivates promising technologies and strategies which contribute to this pathway. For example, through the Climate Breakthrough Initiative, the foundation supported the work of May Mei whose work strives to "make bicycle use in major [Chinese] cities the most alluring and common form of personal transportation and to slow the projected growth in China's red meat consumption by 40 percent" (Packard Foundation, 2021t, p. 2). These initiatives reduce carbon dependence and emissions, and so move towards low-emission pathways. Despite the foundation's support of low-emission pathways, the foundation's attention to mitigation, leaves the overall program devoid of adaptation strategies. At the core of the foundation's strategy is the pursuit of 'proven and emerging mitigation strategies' (Packard Foundation, 2021i). As a result, there is no consideration or pursuit of climate adaptation strategies which is integral to climate resilience.

Furthermore, the foundation's Climate program's goals and programmatic strategies not only align with other SDGs but contribute directly to their attainment. Intersections with SDG 7 – Affordable and Clean Energy is the most evident throughout all themes of work pursued by the foundation, particularly true of work which falls under energy and climate innovation. For example, the

foundation promotes clean power alternatives as well as finances climate breakthrough projects including a project focuses on implementing an oil consumption cap in China (Packard Foundation, 2021s; 2021t). The foundation's land use strategies also directly contribute to SDG 8 – Good Jobs and Economic Growth and SDG 15 – Life on Land, as the foundation “supports changes in land use policies and practices that reduce emissions while protecting biodiversity and people's livelihoods” (Packard Foundation, 2021u). In the Palm Oil Strategy for example, a clear intersection with SDG 8 is the foundation's emphasis on developing labor rights protection of smallholder farmers (Morris & Lui, 2017), corresponding with the SDG's target of creating and promoting decent work (International Labor Organization, 2018). The foundation's bioenergy strategy also aligns with conservation goals of SDG 15, less directly by advocating the phase-out of high-carbon bioenergy such as palm and soy biodiesel that are produced in flora- and fauna-rich ecosystems, and more directly by promoting forest restoration (Packard Foundation, 2020b). Similarly, the projects supported under the Climate Breakthrough Projects initiative stand to have intersections with other SDGs which may vary depending on the mitigation solution supported. Although the foundation undertakes multifaceted solutions which stand to positively contribute to other SDGs, some pursued solutions and strategies are bound by geography. This is particularly true of aspects of the foundation's Palm Oil strategy that take a jurisdictional approach to increasing the sustainability and profitability of palm oil in Indonesia (Morris & Lui, 2017). Given that these solutions and strategies are developed within the context of Indonesian politics and governance, it is unlikely that they are applicable elsewhere. Nevertheless, most of the foundation's work can be considered cross-sectoral, especially that under the land-use and climate innovation themes. Energy initiatives on the other hand focus on the power and transportation sectors.

5.4.2 Long-term Oriented

The Packard foundation claims that it has pursued work related to climate change mitigation since its inception in 1964. The foundation's “initial grants include a focus on land conservation, which establishes one of the core Foundation programs for the next 50 years and serves as a precursor to investments in land use and agriculture to mitigate climate change” (Packard Foundation, 2021w). It is unclear when exactly the foundation's climate work evolved into its current strategies, however, the foundation's commitment to climate change mitigation is arguably a long-standing one. The foundation hardly highlights any milestone years - except for 2030 under the bioenergy strategy (Packard Foundation, 2020b) - in which it wishes to accomplish its strategic goals. However, the presence of monitoring, evaluation and learning practices (Morris & Lui, 2017), suggests long-term orientation. The foundation appears to have recurring strategy terms in which changes are made to existing strategies towards no definitive end. Furthermore, in addition to the foundation's grantmaking, the foundation also makes a series of mission and program related investments. These investments are made to maximize the impacts of their programmatic goals and support their grant-making over the long-term (Packard Foundation, 2020a). An example of such investments is the foundation's program-related investment loan to the Climate Trust in support of carbon-positive agroforestry in the Pacific Northwest of North America (Packard

Foundation, 2020c). These investments sustain the foundation's climate work over the long-term. Overall, the foundation's approach to climate action can be considered long-term oriented.

5.4.3 Just Action

Under its climate program, the foundation recognizes that different groups stand to be disproportionately affected by climate change. However, considerations of vulnerability are more distinct and evident in the bioenergy and palm oil strategies and is largely absent in the climate innovation and energy strategies. Although the foundation does not outright define smallholder farmers, Indigenous Peoples, people of color and low-income individuals as vulnerable, in the above-mentioned strategies, the foundation clearly recognizes these groups' vulnerability (Morris & Lui, 2017; Packard Foundation, 2020b).

In terms of distributive justice, the foundation claims that its overall approach to grantmaking and investments "[has] a strong tradition of support for nonprofits in our local community that directly represent and benefit low-income communities and communities of color" (Packard Foundation, 2021v). This ethos means that the foundation strives to ensure that "policies and practices of nonprofit organizations and the philanthropic community address the interests of diverse communities..." (Packard Foundation, 2021v). In its climate work, the Packard foundation partners with foundations such as Climateworks- on its energy-related initiatives, and the Climate Land Use Alliance (CLUA) – on land-use (Packard Foundation, 2021s; 2021u). The CLUA works with and represents the concerns of Indigenous People and is an integral partner in the foundation's Bioenergy Strategy (Packard Foundation, 2020b). Such partnerships suggests that the concerns of vulnerable groups are reflected in the foundation's climate work. Similarly, it suggests that these groups potentially stand to benefit from Packard's climate action. In fact, several outcomes under the foundation's bioenergy strategy, relay consideration of benefits accruing to these groups. These include "empowering frontline communities and their leaders and enhancing forest carbon sinks in regions where forest biomass is sourced" (Packard Foundation, 2020b, p.7) as well as supporting "Indigenous Peoples, local communities and youth movements advocating for their rights and for natural climate solutions" (Packard Foundation, 2020b, p.7). Beyond this however, the foundation does not make it very clear in what way these groups stand to benefit nor does it outline clear criteria for success regarding accruing benefits to these communities. Furthermore, potential benefit being derived by these groups are only made explicit in two of the four guiding strategic focuses under the foundation's climate program. It is therefore unclear whether vulnerable groups are considered as well as framed as beneficiaries in the entirety of the program.

Concerning procedural justice within its climate program, the Packard Foundation's ethos on diversity, equity, and inclusion, means that they aim to "ensure that [...] foundations and nonprofit organizations have the skills to engage with diverse communities in crafting solutions that meet their needs, and the leadership within the nonprofit sector reflects the diversity of its members and beneficiaries." (Packard Foundation, 2021v). Capacity building efforts are particularly clear once again in the foundation's land-use work. In the Palm Oil Strategy, building the capacity of local and national organizations, as well as emphasizing local ownership and leadership are integral to the foundation's work in Indonesia (Morris & Lui, 2017). Local ownership and leadership suggest that vulnerable groups can participate in decision-making processes. Community participation is

encouraged within the palm oil and bioenergy strategies, particularly through the foundation's partnership with CLUA (Morris & Lui, 2017; Packard Foundation, 2020b). However, it remains unclear if this participation relates to decision-making processes within the foundation's programs/projects or to climate action more broadly. Similarly, given the emphasis on community participation it is also unclear whether the communities engaged indeed consist of the vulnerable groups recognized by the foundation. Furthermore, some capacity building efforts such as those geared towards governance, science, and leadership capacity in Indonesia, appear more as efforts to further the foundation's programmatic goals than to increase vulnerable groups' participation in climate action. Finally, efforts of capacity building, and vulnerable groups' participation is less evident or absent in the foundation's work under the two other working themes.

5.5 Bloomberg Philanthropies: Environmental Program

Bloomberg Philanthropies' Environmental Program consists of several subprograms, initiatives and campaigns that are aimed at combatting climate change. These cover a series of themes including reducing coal dependence, GHG emission reduction across several sectors, fostering sustainable cities and promoting climate-friendly finance and investment practices (Bloomberg Philanthropies, 2021f). The foundation's Global Coal and Air Pollution program also known as the Beyond Coal campaign, given the foundation's partnership with the Sierra Club's campaign of the same name, works to decrease reliance of coal as an energy source and to accelerate clean energy deployment (Bloomberg Philanthropies, 2021f; 2021g). The foundation also has a Beyond Carbon Campaign which supports various works to cut emissions in the US. Works supported include promoting electric vehicle use, encouraging clean production to reduce emissions from industry and manufacturing, and expanding employment opportunities for those who will be directly affected by the transition away from coal and fossil fuels (Bloomberg Philanthropies, 2021f; 2021h). The foundation's work on sustainable cities helps cities "to promote climate action, sustainability, resilience and equity in the fight against climate change" (Bloomberg Philanthropies, 2021f). Two initiatives under this theme are America is All In (also known as America's Pledge) and the Bloomberg American Cities Climate Challenge. The former is an initiative which tracks, and reports progress made towards the US' climate goals as well as catalyzes further action through road-mapping. On the other hand, the latter is a challenge that equips city leaders of 25 of the largest US cities with strategies to decarbonize the building sector and promote low-carbon, equitable transportation (Bloomberg Philanthropies, 2019; 2021i). Furthermore, the foundation in conjunction with other climate actors, has created several guidelines and standards to drive sustainable finance by increasing awareness of climate-related risk and encouraging private investment in climate solutions (Bloomberg Philanthropies, 2021f). These include the Taskforce on Climate-related Financial Disclosures (TCFD) and the Sustainability Accounting Standards Board (SASB) which help companies to understand their climate-related risk; and the Climate Finance Leadership Initiative (CFLI) aimed at "[increasing] private-sector investment in clean energy and climate solutions in emerging markets" (Bloomberg Philanthropies, 2021j, p.86).

In addition to campaigns and initiatives the foundation's founder, Michael Bloomberg, is part of the governing body of organizations and networks such as C40 Cities Climate Leadership Group and the Global Covenant of Mayors (GCoM) for Climate and Energy. These networks focus on climate solutions within an urban context ((Bloomberg Philanthropies, 2021f; 2021i). The C40 Group supports cities in reducing their GHG emission from the transportation and building sectors. The GCoM "[focuses] on equipping cities with the data and technical guidance they need to fight climate change [and its] initiatives center around generating data-based solutions, bolstering cities' access to climate finance, and supporting climate research and innovation." (Bloomberg Philanthropies, 2021i). The foundation also works to increase climate change awareness and has collaborated to publish a book and release two documentaries (Bloomberg Philanthropies, 2021f).

Notably, Bloomberg Philanthropies' approach to climate action appears to be facilitatory. Rather than relying on grantmaking to achieve programmatic goals, the foundation acts as an advisor, devising best-practices and providing actions, roadmaps, and challenges to relevant actors such as

local governments. These actors then undertake proposed climate solutions. The foundation thus conducts research and shares its knowledge and expertise with other climate actors. The transformative potential of the foundation's approach to climate action is discussed in the following sections.

5.5.1 Systemic Action

Bloomberg Philanthropies' initiatives and campaigns emphasize scalable and proven mitigation strategies. These strategies include, reducing building energy use by improving energy efficiency and promoting electrification of vehicles, both publicly and privately owned (Bloomberg Philanthropies, 2019; 2020b). Pursuit and promotion of strategies such as these highlights the foundation's contributions to low-carbon, low-emission pathways. Overall, the climate-related initiatives under the foundation's Environment program champions the clean energy transition and significant reduction of GHG emissions. While the foundation speaks of resilience, particularly with respect to sustainable cities, climate adaptation strategies are largely absent from their campaigns, advice and challenges geared towards city governance (Bloomberg Philanthropies, 2021f; 2021i). For the most part, the foundation's approach to climate action appears to be devoid of adaptation strategies all together.

Analysis of the foundation's climate mitigation campaigns, initiatives and challenges highlight that the foundation's work intersects with several other SDGs. The SDGs include SDG 3 – Good Health and Wellbeing; 7 – Affordable and Clean Energy; 9 – Industry, Innovation, and Infrastructure; 11 – Sustainable Cities and Communities; and 12 – Responsible Consumption and Production. Given the foundation's emphasis on accelerating clean energy technology uptake (Bloomberg Philanthropies, 2020b; 2021f; 2021j), contributions to SDG 7 are direct and more evident. Similarly, the foundation's work to promote sustainable cities (Bloomberg Philanthropies, 2021f) is aligned with and directly targets SDG 11, this includes supporting grid modernization, electric transit, and zero-emission buildings (Bloomberg Philanthropies, 2019). However, not all SDGs where intersections exist in the foundation's work are directly targeted by the foundation. Contributions towards some SDGs are framed as positive spillovers of the shifts the foundation encourages. For example, in supporting work that reduces the dependence on coal, the foundation acknowledges that its work stands to positively affect health. The foundation reported that “since 2011, [the Beyond Coal campaign] has helped close more than 289 [...] coal-fired power plants in the US, helping to reduce premature deaths due to coal pollution from 13,000 per year to 3,000” (Bloomberg Philanthropies, 2020b, p. 56). Evidently, such changes have a positive impact on public health and so contribute to SDG 3. Similarly, the promotion of electric bus fleets in cities stands to improve local air quality, having associated health benefits (Bloomberg Philanthropies, 2019). Despite these spillovers, desired programmatic impacts are framed mainly in terms of climate mitigation potential, not in terms of improved health indicators. For example, the desired outcome is framed as the amount of coal plants retired (Bloomberg Philanthropies, 2019) as opposed to reduce prevalence of lung cancer in locations surrounding former coal-fired plants.

The intersections of the foundation's work with several SDGs and its contributions towards their achievement can be owed to Bloomberg Philanthropies' multi-sectorial approach. The foundation's work includes emphasis on the transport, building, power/energy, industry, and the

agriculture sectors (Bloomberg Philanthropies, 2020; 2021f; 2021j). Despite the multi-sectoral approach, the foundation is seemingly Americentric. Excluding the standards and guidelines created by the foundation, and the networks that Michael Bloomberg holds governing positions, most of the foundation's challenges, campaigns and initiatives emphasize work in America. Arguably, the US is not the only country that needs to drastically cut emissions to avoid catastrophic climate change. However, the foundation has ramped up its US focus given the Trump administration's withdrawal from the Paris Climate Agreement (Bloomberg Philanthropies, 2020). More recently, the foundation has expanded its Beyond Coal campaigns to other countries and regions including Europe (introduced in 2017); Australia (introduced in 2019); and South Korea and Japan (introduced in 2020) (Bloomberg Philanthropies, 2020b; 2021j).

5.5.2 Long-term Oriented

Bloomberg Philanthropies' climate action appears to be long-standing. Some initiatives, such as the Beyond Coal Campaign have been ongoing since 2011 (Bloomberg Philanthropies, 2020b). Given that most of the foundation's work is facilitatory and advisory, there are few milestones indicated by the foundation in which it would like to achieve its programmatic goals. Where milestones exist, they include transitioning the American economy to a net-zero emission economy by 2050 and closing all remaining coal-fired powerplants in the US by 2030 (Bloomberg Philanthropies, 2020c). Furthermore, the only timeline set out is under the American Cities Climate Challenge, where cities have two years to undertake actions that have near-term GHG emission reduction potential (Bloomberg Philanthropies, 2019). Here, emphasis on yielding near-term results can obscure how actions stand to be sustained or influenced over time. This can render these efforts to be only temporary fixes. However, the foundation does acknowledge that for cities to truly usher in deep, long-lasting change, they need to implement policies that have a longer-term (Bloomberg Philanthropies, 2019). As such, although the challenge timespan is considerably short, the foundation does encourage the implementation of longer-termed strategies by city governance bodies.

Bloomberg Philanthropies has shown renewed commitments to addressing climate change, particularly in response to political shortcomings, as evidenced by their response to the US withdrawing from the Paris Climate Agreement. Such responsiveness suggests that the foundation has no definitive end to its climate work. Rather, the foundation's responsiveness implies that work will continue until the climate change crisis is completely resolved. The foundation not only promotes long-term thinking and long-lasting strategy but adopts midcentury climate goals as guiding principles for its climate action. As such, the foundation's work is long-term oriented.

5.5.3 Just Action

Bloomberg Philanthropies acknowledges and recognizes that some groups are disproportionately affected by climate change and so are more vulnerable (Bloomberg Philanthropies, 2020b). The foundation recognizes that several groups are vulnerable; these groups include low-income communities and people of color communities. These groups' vulnerability means that they should be considered in climate action if not prioritized (Bloomberg Philanthropies, 2019). As such, the foundation recognizes the importance of [justice] and suggest it should be targeted by groups

following their guidelines (Bloomberg Philanthropies, 2019; 2020b). Explicit consideration of justice is very evident in the foundation's American Cities Climate Challenge. Accordingly, the foundation encourages "looking for ways to integrate [justice] considerations into a broad range of policies and activities..." (Bloomberg Philanthropies, 2019, p. 7).

Despite the foundation's encouragement of just climate action, it is less evident and more difficult to discern how just the foundation's work is in terms of distributive and procedural justice. This is due to the foundation's approach to climate action which positions the foundation as a facilitator and guider. Since the foundation leaves the actions taken largely up to other parties, it is not inherently evident how just the initiatives pursued by its partners, fellow collaborators and challenge participants are. For example, throughout the American Cities Climate Challenge, the foundation "will support cities to foster climate solutions that address the disproportionate burdens faced by vulnerable community members" (Bloomberg Philanthropies, 2019, p.7). While this suggests considerations of distributive justice, it is unclear what groups are specifically targeted and how they stand to benefit or be relieved of burden. Some activities encouraged by Bloomberg Philanthropies clearly have benefits for the vulnerable groups identified by the foundation. For example, the foundation encourages implementing planned bicycle and pedestrian networks to reduce transport emissions in its Cities Climate Challenge (Bloomberg Philanthropies, 2019). The foundation argues that given the high use of such infrastructure by low-income communities and people of color communities, these groups stand to benefit from improved safety (Bloomberg Philanthropies, 2019). However, this is only a proposed action to city governments that, arguably, not only have different takes on vulnerability and justice but may also not undertake such initiatives. As such, benefit towards these groups is not assured. Regarding procedural justice, there is even less evidence to suggest that the foundation encourages or facilitates the participation of the vulnerable groups in climate action decision-making processes as capacity building and facilitatory efforts are geared towards larger organizations, governing bodies, and networks (Bloomberg Philanthropies, 2021f). Moreover, although the foundation works with some grassroots organizations (Bloomberg Philanthropies, 2021f), it is not clear to what end. Similarly, it is not evident who these organizations represent.

6.0 Philanthropic Foundations' Contribution to Transformative Climate Action

The philanthropic foundations investigated in this research range in size, endowment, and governance. Despite these differences, the analysis highlights that these foundations have quite similar approaches to addressing climate change. This confirms assumed homogenization within the climate philanthropy landscape outlined by scholars such as Morena (2016). The foundations not only focus on pursuing certain activities and solutions toward climate action but also concentrate their work in the same geographical areas and sectors. These geographical areas and sectors include China, India, the US, and Europe, and energy (power) and transportation, respectively. Arguably, these regions and sectors represent some of the biggest carbon emitters globally (Friedrich, Ge & Pickens, 2020; Richie & Roser, 2021). While focus on these areas and sectors create vast potential for climate mitigation, emphasis here can detract from crucial work that needs to be done elsewhere. For example, the agriculture and construction sectors contribute tremendously to annual GHG emissions (Richie & Roser, 2021), yet the analyzed foundations do little work in these sectors. These sectors can represent missed opportunities to increase the foundation's impact regarding climate mitigation.

Focus on similar geographical areas and sectors may in part be due to the shaping of philanthropic foundations' strategic approaches to climate philanthropy by the influential *Design-to-Win: Philanthropy's Role in the Fight Against Climate Change* report published by the California Environmental Associates (CEA) in 2007 (Morena, 2016; 2020; Nisbet, 2018). This report was commissioned and financed by several foundations including the Hewlett, Oak and Packard foundations (Morena, 2016; 2020, Nisbet, 2018) - foundations analyzed in this research. The *Design-to-Win* report suggests that policy reform is essential to combatting climate change. Similarly, that philanthropic interventions should simultaneously target high GHG-emission sectors including power, industry, buildings, transportation, and forestry (CEA, 2007). Arguably, such advice is reflected in the analyzed foundations' sectoral focus. Moreover, CEA (2007) calls for the concentration of philanthropic efforts geographically to maximize climate mitigation potential, which is also evidently mirrored in the geographic regions of focus of the analyzed foundations. In terms of transformative climate action, concentrating transformative efforts on these regions and sectors could catalyze the movement towards more climate-friendly policy, innovation, and behaviors more effectively. This concentration can also help devise strategies and best practices that are widely applicable to climate action elsewhere. However, transformative potential may be limited if change remains confined to these regions and sectors. Transformation may be further limited by replicated missed opportunities owing to homogenization in climate philanthropy. In addition to taking inspiration from the *Design-to-Win* approach, the foundations aim to contribute to the goals set out in the Paris Climate Agreement and in doing so, integrate several key aspects and mechanisms suggested within the agreement. This includes enhancing climate change awareness and education as well as conserving natural carbon sinks (UNFCC, 2021).

The findings of this research are further discussed, in terms of the foundations' climate-related programs' embodiment of the characteristics of transformative climate action and thus, transformative potential. Firstly, the foundations' contribution to a low-emission and climate resilient pathways through mitigation and adaptation strategies as well as interactions with and contributions to other SDGs is outlined. Secondly, the long-term orientation of these foundations' work is discussed. Thirdly, the extent to which the analyzed foundations' climate action can be considered just is discussed in relation to recognition and distributive and procedural justice. Finally, the chapter concludes with a discussion of the limitations of this research after which areas for future research are proposed.

6.1 Systemic Action

Literature suggests that truly transformative climate action addresses both the sources and outcomes of climate change, and so philanthropic foundations should undertake both mitigation and adaptation strategies. However, for all foundations analyzed, only climate mitigation was of strategic focus in the foundations' climate programs and subprograms. The mitigation strategies pursued by the foundations were often technology- and market-based solutions such as scaling clean technology and encouraging carbon-trading system, reminiscent of the telltale signs of liberal environmentalism (Morena, 2016; 2020; Montero, 2020). Philanthropic foundations are further entrenching technology- and market-based solutions as preferential solutions to addressing climate change. However, it was also identified that foundations also seek policy reform and so work to inform and advocate for necessary policy change, arguably moving beyond such technological solutionism. The foundations' emphasis on mitigation saw that adaptation strategies were largely absent from their climate (sub)programs. Interestingly, while the *Design-to-Win* strategy urges philanthropic foundations “[not to] neglect programs that address adaptation” (p. 5), the report does not address climate adaptation and focuses primarily on mitigation (CEA, 2007). Thus, this report yielded insufficient guidance on how foundations can undertake climate adaptation in their program strategies and approach. Aside from the lack of strategic guidance, failure of foundations to pursue climate adaptation strategies could be due to ascriptions of responsibility. Having said that, climate adaptation literature suggests that climate adaption is seen more as a concern of the public sector. As such, the responsibility to create adaptation plans and policies resides chiefly within governmental bodies at a local and national level (Lorenz, Porter & Dessai, 2019; Mees, Driessen, & Runhaar, 2012; Mees, 2017).

In terms of intersections with other SDGs, the most prevalent intersection of the foundations' climate work was with SDG 7 – Affordable and Clean Energy. This is to be expected since accelerating clean energy technology forms the basis of all the investigated foundations' climate strategy. Furthermore, many of the targets of SDG 13- Climate Action and SDG 7- are inextricably linked (Nerini et al., 2019). Other prevalent intersections include SDG3 – Good Health and Wellbeing and SDG – 15 – Life on Land - both SDGs in which climate action has enabling, reinforcing and even indivisible relationships (Nerini et al., 2019). However, beyond SDG 7, most of the foundations' works did not directly target other SDGs nor did the foundations frame desired outcomes or impacts in terms of their contributions to these SDGs. Moreover, the contribution to some SDGs such as SDG 1 – No Poverty (except for Oak Foundation), SDG 2 – Zero Hunger, SDG 6 – Clean Water and Sanitation is absent in the analyzed foundation's climate work. Climate

change stands to hinder the achievement of these SDGs, thus, climate action which takes these SDGs into account can be reinforcing, enabling or even indivisible from the achievement of targets under these goals (Nerini et al, 2019). The foundations' emphasis on mitigation strategies, and often technocentric solutions, potentially has hindered the connection of climate action with the likes of these SDGs. Had foundations more actively pursued climate adaptation strategies, engaging with affected communities, it may have become clearer where climate action could be further aligned with the achievement of these SDGs. Finally, the analyzed foundations' work focused on sectors and geographies reminiscent of those emphasized in the *Design-to-Win* report and seldomly diverged from them. Concentration on the proposed thematic and geographical areas of interest have several implications on transformative potential as previously discussed earlier in this chapter.

6.2 Long-term Orientation

All foundations had seemingly long-standing commitments to addressing climate change. For the most part, major milestones outlined reflect the midcentury climate goals and targets present in several international and national climate change agreements. More specifically, the foundations' work aligned with the milestone years 2030 and 2050 and the goals to be achieved by these dates as outlined by the IPCC. Accordingly, the IPCC suggest that “[global] net human-caused emissions of carbon dioxide (CO₂) would need to fall by about 45 percent from 2010 levels by 2030, reaching ‘net zero’ around 2050” to limit global warming to 1.5 °C (IPCC, 2018). By considering these deadlines and integrating them into strategy planning, foundations are illustrating that they are thinking beyond yearly performance. Commitments to these milestone years was further exemplified by the foundations' undertaking of mitigation strategies that stand to have long-term mitigation potential including increasing energy efficiency and decarbonizing energy sources and end-use electrification (Sugiyama et al., 2019). Arguably, foundation activities that focused on policy creation and implementation as well as capacity building for climate mitigation stand to be even more long-term oriented. This may be particularly true especially in comparison to initiatives that focus on the implementation of individual mitigation solutions such as coal-fired power plant closure. While cumulatively, these solutions add to overall mitigation targets, they may do less to change the sociopolitical environment necessary for long-lasting change (Hasselmann et al., 2003). The long-term orientation of the foundations' climate action helps strengthen global climate change efforts as there is contextual consideration of the adjustments needed to achieve critical climate goals in a timely manner. Finally, all foundations' apparent unwavering commitments to addressing the climate crisis suggest that they intend to keep financing climate action until the crisis is fully resolved, further signaling inclination to long-term orientation.

6.3 Just Action

The analysis of the five foundations of interest in this research highlighted that these foundations – except Hewlett, recognize the disproportionate effects of climate change on different groups. Despite recognition of vulnerability, none of the foundations explicitly defines which groups they consider to be particularly vulnerable. Arguably, this is more so recognition of identity - that is, the recognition of being vulnerable (Nightingale, 2017). However, what is of greater importance is the recognition of vulnerable groups as members of social and political society and thus their consideration as such (Dobai, Riemer & Dreyer, 2020; Guibrunet, 2021; Nightingale, 2017).

Recognition not only supposes membership but also suggests that the needs and rights of these groups should be acknowledged and met (Nightingale, 2017). Therefore, defining vulnerable groups helps frame as well as identify them as relevant climate action stakeholders, increasing the likelihood of their benefit from and participation in these foundations' climate programs. The foundations' failure to explicitly define these groups obscures their role as relevant climate action stakeholders. Transformation is thus limited given the decreased likelihood that these groups' concerns are represented, and that these groups benefit from and are able to participate in climate action.

While several of the foundations analyzed outline the importance of equity and justice, there is limited disclosure of what the foundations consider to be just within the context of climate action. Furthermore, the understanding of just climate action the foundations have seems to miss considerations of integral conditions for climate justice – that is, recognition and distributive and procedural justice. Firstly, regarding distributive justice, benefits from the foundations' climate action seldom accrue to vulnerable groups such as Indigenous Peoples, people of color and low-income communities that are outlined in literature. Where benefits for these groups exist and are acknowledged, they are mainly stated as an 'after-the-fact' outcome. Secondly, in terms of procedural justice foundations appear to be undertaking some activities such as capacity-building that are illustrative of their attempts to engage vulnerable groups. However, capacity building efforts are concentrated on mobilizing vulnerable groups in the fight against climate change and are not necessarily aimed at ensuring these groups can participate in decision-making processes. Overall, foundation's climate action leaves much to be desired in terms of justice. Their climate action as it stands is seemingly unjust. The lack of justice considerations could potentially further entrench global inequality and undermine the achievement of several SDGs, especially those tied to justice, given that the climate action undertaken is not representative. Change that is brought about as a result of these foundations' actions may thus not be entirely holistic as vital experiences, knowledge, and insights to addressing climate change and sustainable development at large are ignored.

However, the year 2020 appeared to be a catalytic year for considerations of climate justice and what it would look like within the context of philanthropic foundations' climate programs. The COVID-19 pandemic and increased racial tensions in the US have ushered in an age of reflection on the part of the foundations. The pandemic has been framed as an opportunity for 'Green Growth': COVID-19 is seen as an opportunity to further efforts towards the clean energy transition and circular economy. For example, Bloomberg Philanthropies (2020) argue that "[the] COVID-19 pandemic has been devastating to public health and the global financial system — but as governments work to recover, they have a once-in-a-lifetime opportunity to accelerate the transition to clean energy and build a more sustainable, resilient, and equitable economy" (p. 81). On the other hand, racial tensions in the US highlighted existing inequality, sparking public outrage, and heightening public scrutiny. In light of this, foundations are becoming more compelled to actively consider their position in the justice debate and evaluate how their programs reflect just action. Thus, this research is taking place during an apparent turning point in philanthropic foundations' approach to climate action. As such, future research may reveal a different picture to the one painted here within a few years.

6.4 Research Limitations and Recommendations for Future Research

Having said that, this research has several limitations. Firstly, the analysis of philanthropic foundation's climate action was only done at a program strategy level. This level of analysis was done given the time constraints of this research. As such, the foundations' activity at the grant- and project-level was omitted. Grants and project descriptions provide added detail on how foundations achieve their programmatic goals and are even more illustrative of what is being funded by philanthropic foundations. Details yield from investigating at a grant- or project-level could further serve in understanding the extent to which the analyzed philanthropic foundations secure distributive and procedural justice. Secondly, the primary data collection method applied in this research was Qualitative Document Analysis (QDA). Documents are not only static but are independent to the research conducted, as such, details of interest to this research may have been limited. Furthermore, this research analyzed the top five foundations contributing to climate action. These foundations are relatively large and embrace an international, globally focused approach to philanthropy. The way in which other more localized and grassroots foundations potentially differs from the analyzed foundations' approaches to climate philanthropy. Therefore, this research may be more illustrative of the climate philanthropy landscape that is created through the activities of other foundations of similar size, governance, and approach to philanthropy.

Given these limitations, future research should analyze these foundations' climate action at the grant- or project-level to tease out details that would stand to strengthen and reaffirm the findings of this research. Furthermore, future research should include interviews with the foundations to extract more detailed information that may not have been captured in their program documents. Interviews should be held with diverse actors including the foundation's grantees, collaborators, and partner organizations to further substantiate findings. A subsequent stakeholder analysis could further shed light on recognition and distributive and procedural justice. Finally, future research should assess how more localized, grassroots foundations approach climate philanthropy to create a more comprehensive description of philanthropic foundations' contribution to transformative climate action.

7.0 Conclusion

Philanthropic foundations have started to play a pivotal role in addressing sustainability challenges, and specifically addressing the global climate change crisis. Foundations' climate action work has been criticized for its embodiment of liberal environmentalism which typifies climate change as a solvable problem remedied through market- and technology-based solutions. Such an approach, coupled with relative homogenization in climate philanthropy can cause climate solutions to represent the concerns of a limited group in society. This narrow understanding of climate action can render many philanthropic foundations unable to foresee the negative effects of their agendas.

For climate action to be transformative, such negative effects must be addressed through considerations of environmental social justice. Transformative climate action is climate action that contributes to a systemic shift towards low-emission and climate-resilient pathways, is long-term oriented and just. This research outlined a novel framework for transformative climate action that integrates transformational change and environmental social justice literature. This framework can be built upon and adapted to assess transformative potential of philanthropic efforts regarding other SDGs. It can also be adjusted to assess the climate action undertaken by other sustainability governance actors. In this research, this framework was employed to assess the contributions of the top five philanthropic foundations – Hewlett, Oak, MacArthur, Packard, and Bloomberg Philanthropies- funding climate action. These foundations were analyzed to answer the following research question: how do philanthropic foundations contribute to transformative climate action?

This research found that these foundations' climate action contributed to the transition to low emissions, however, did little to contribute to climate resilient one. This was due to foundations' climate programs and subprograms emphasizing climate mitigation, largely neglecting adaptation strategies. Furthermore, it was found that the analyzed foundations' climate action intersects with and makes direct contributions to other SDGs. Connections with and contributions to SDGs 7 was the most prominent among all foundations. However, connections with other SDGs whose targets are heavily influenced by climate change and climate action such as SDG 1 and SDG 2 were absent. Moreover, philanthropic foundations' climate work was concentrated in specific sectors and geographies, some strategies having more general applicability than others. Overall, the analyzed foundations' climate action was characteristically long-term oriented, adopting midcentury climate targets as guiding goals. There also appeared to be no apparent intention of the analyzed foundations to cease climate-related works. Finally, the characteristic of transformative climate action least prevalent in the analyzed foundations' climate action was justice. Although vulnerability to climate change is recognized among the foundations, definition of vulnerable groups of interest were absent. Furthermore, there was little evidence to suggest distributive and procedural justice. However, there are indications that foundations are being more reflective on this issue given the recent catalytic circumstances of 2020. As such, the analyzed philanthropic foundations' climate action can potentially evolve to include more concern for and consideration of the recognition of vulnerable groups as invaluable climate action stakeholders and the distributive and procedural justice extended to them.

Based on the findings of this research, philanthropic foundations can fortify their transformative potential, maximizing the overall impact of their climate action through exploring several strategic imperatives. Firstly, philanthropic foundations can more systemically address climate change by placing more emphasis on climate adaptation and contribution to other SDGs. They can do so by more actively integrating strategies for climate adaptation into their programmatic strategies. Foundations can also pursue partnerships and projects in which climate mitigation and adaptation are undertaken simultaneously. By doing so, philanthropic foundations not only contribute to the transition towards low-emission pathways, but to creating climate resilient pathways – the other facet of transformation within the context of climate change. Similarly, foundations can explore its contributions to other SDGs beyond SDG 7 – Affordable and Clean Energy. This can be done by reflecting on the potential to contribute to other SDGs and devising actions and goals to ensure such contribution. Similar processes can be undertaken to explore opportunities for climate mitigation and adaptations in other geographical and sectorial areas. Secondly, philanthropic foundations can seek opportunities to deepen their understanding of climate justice and solidify efforts to safeguarding just action within their climate programs. Foundations can more explicitly communicate what just climate action means and looks like for the foundation as well as work more actively to achieve distributive and procedural justice, particularly concerning vulnerable groups.

Overall, this research found that philanthropic foundations contribute to transformative climate action in several ways. Firstly, the foundations support the transition to low-emission pathways and consider how their climate action interplays with the achievement of some SDGs. Secondly, the foundations evidently adopt a long-term oriented approach to climate philanthropy. However, the foundations' climate action is absent of climate adaptation, is only narrowly connected to other SDGs and has a narrow geographic and sectoral focus. These shortcomings limit the transformative potential of philanthropic foundation's climate action especially within the context of homogenization and technological solutionism. Transformative potential is further limited given foundations' apparently unjust action. Lack of justice considerations renders foundations' climate action nonrepresentative, potentially ignoring vital experiences, knowledge, and insights to addressing climate change and securing sustainable development.

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Appendix A: Coding Examples

Characteristic of Transformative Climate Action	Codes	Data Coded
Systemic	Mitigation & Adaptation:	
	Emission reduction	“Our grants have focused on cleaning up electric power production, using less oil, using energy more efficiently...” (Hewlett, 2021n); “...invest more in research, analysis, and advocacy for policies that drive innovation in advanced energy systems and technologies” (Hewlett, 2017a, p. 4)
	Geographic focus	“...focus on the biggest emitting countries and regions of the world: China, the United States, Europe, and India.” (Hewlett, 2017a, p. 2)
	Interaction with other SDGs:	
	SDG 1 – No Poverty (direct contribution)	“...support organizations that help integrate clean energy solutions into poverty-reduction program” (Oak Foundation, 2021e)
	SDG 7 – Affordable and Clean Energy (direct contribution)	“...continue to work with the private sector on clean-energy investment...” (Hewlett, 2017a, p.4); “alter the fuel mix for electricity generation by decreasing reliance on fossil fuels and increasing the use of renewable sources” (MacArthur Foundation 2021f)
	SDG 11 – Sustainable Cities and Communities (direct contribution)	“...support plans to develop replicable, energy-efficient, mobility systems in cities; promote cleaner transport methods...” (Oak Foundation, 2021e)
	SDG 15 – Life on Land (direct contributions that are acknowledge more as positive spillovers of foundation work)	“Oak is excited to be supporting Rewilding Britain ... We share its hope that the land can repair itself, absorbing more carbon, enriching soils, expanding wildlife, and giving us all a chance to adapt to our changing climate before it’s too

		late.” (Oak Foundation, 2020a, p. 48); “the Packard Foundation supports changes in land use policies and practices that reduce emissions while protecting biodiversity...” (Packard Foundation, 2021h)
Long-term Oriented	Considers midcentury goals	“...we looked farther into the future—to 2050... and asked: What will energy and economic systems need to look like in 2050 to achieve the well below 2°C goal?” (Hewlett, 2017a, p.3); “Beyond Carbon is working to retire all U.S. coal plants by 2030, stop the construction of proposed gas plants, and — through Mike’s personal political support — help win policy changes at the state and local levels.” (Bloomberg Philanthropies, 2021j, p. 80)
	Evidence of long-term thinking	“We must get beyond our present focus on near-term, incremental efforts that reduce emissions today, and identify the longer-term, scaled-up, step-changes needed to mitigate the climate problem” (Hewlett, 2017a, p. 3);
	Long-standing/recurring commitment to addressing climate change	“Our board just made a third five-year commitment to our Climate Initiative... “(Hewlett, 2017a, p.1)
Just	Recognition	
	Acknowledgement of different experiences of the impacts of climate change	“The aim is to reduce the brunt of climate change on the most vulnerable communities and eliminate the most harmful drivers of climate change.” (Oak Foundation, 2018b); “...disadvantaged communities are often the most vulnerable to the effects of climate change, from coastal flooding and violent storms that damage homes to severe droughts that threaten crops and access to clean water. Investing in more clean energy won’t only protect the planet; it will also reduce racial health disparities and help to

		fight inequality” (Bloomberg Philanthropies, 2021j, p.13)
	Mention of vulnerable groups outlined in literature	“...the decisions we have taken as a society across these sectors have often harmed minority communities, Indigenous peoples and the most vulnerable” (Packard Foundation, 2020b, p. 5)
	Mention of justice, equity or relating concepts	“...promoting diversity, addressing structural inequality, and advancing equity and inclusion as it works toward greater environmental protection and equitable access to natural resources and healthy Ecosystems” (Packard Foundation, 2020b, p. 8)
	Distributive Justice	
	Desired program outcome or impacts	“We expect the impact of these investment to be a significant increase in financing GHG-mitigating activities in transportation, energy and agriculture...” (Hewlett, 2017b, p. 25); “...we expect to learn the extent to which the Foundation’s strategy and investments contribute to stabilizing the pace of greenhouse gas emissions growth in developing countries and reducing greenhouse gas emissions in the United States” (MacArthur Foundation, 2021f).
	Partnership with organizations that works with/represents vulnerable groups	“Oak’s grant to Tebtebba is unique in that it emphasizes climate finance, which involves flows of funds from developed to developing nations to help poorer countries to reduce their emissions and adapt to climate change.” (Oak Foundation, 2018b); “... the Climate and Land Use Alliance has helped slow deforestation in Brazil, and helped to change the trajectory of the palm oil industry, slowing the rate of deforestation and peatland conversion while also protecting the rights of Indigenous Peoples affected

		by palm oil production.” (Packard Foundation, 2021u)
	Potential distribution of benefits to vulnerable groups	“our focus at Oak is to ensure that these transport solutions benefit everyone.” (Oak Foundation, 2019a, p. 21); “Equity for underserved communities: Pedestrian fatalities tend to be highest in low-income communities and communities of color. Investing in pedestrian infrastructure across an entire city has the potential to greatly benefit the least privileged road users. Black and Latino cyclists die at higher rates than white cyclists, further highlighting the equity impacts of safety investments” (Bloomberg Philanthropies, 2019, p. 34)
	Procedural Justice	
	Capacity building efforts (not specific to vulnerable groups but to frontline communities)	“Through the broader CLUA network, work under this outcome will include support for communities to understand and defend their rights, take collective action, and become empowered to monitor FPIC and industry social performance.” (Morris & Lui, 2017, p. 12) ; “To scale support for frontline communities and their leaders, we will implement a two-year pilot project to provide small grants for community organizing, coalition building, and storytelling and communication.” (Packard Foundation, 2020b, p. 6)
	Implies that projects that are led or created by members of vulnerable groups of interest	“In 2018, the boards and senior staff of organizations receiving Hewlett Foundation grants were comprised of 33% and 44% women, respectively” (Hewlett, 2017b, p.30)
	Evidence of co-creation and participation	“The participatory approach helps ensure ownership of problems and their solutions. Change is then

		transformative from within and not just on the surface for the donor's benefit" (Oak Foundation, 2016a, p. 6)
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