

Conceptualizing Impact in Sustainability and the Arts:  
Understanding the Role of Arts Organizations Through the Case of CreativePEI

By

Emma Bugg

Submitted in partial fulfilment of the requirements  
for the degree of Master of Environmental Studies

at

Dalhousie University

Halifax, Nova Scotia

June 2023

Dalhousie University is located in Mi'kma'ki,  
the ancestral and unceded territory of the Mi'kmaq.

We are all Treaty people.

© Copyright by Emma Bugg 2023

## Table of Contents

List of Figures .....	iv
Abstract .....	v
List of Abbreviations Used .....	vi
Acknowledgements .....	vii
Chapter 1: Introduction .....	1
1.1 Positionality .....	1
1.2 Background .....	3
1.2.1 The state of SATA scholarship .....	5
1.3 Problem .....	8
1.4 Purpose .....	12
1.4.1 Research in Residence: Arts Civic Impact Project .....	12
1.4.2 CreativePEI .....	13
1.4.3 Research objectives .....	15
1.4.4 Thesis format .....	15
Chapter 2: Methods .....	17
2.1 Methodological approach .....	17
2.1.1 Phase 1 .....	17
2.1.2 Phase 2 .....	20
2.2 Phase 1 methods .....	22
2.3 Phase 2 methods .....	23
2.4 Building the framework .....	25
Chapter 3: Creativity in Climate Adaptation: Conceptualizing the Role of Arts Organizations .....	27
3.1 Introduction .....	27
3.2 Background and Context .....	29
3.2.1 CreativePEI and ClimateSense: .....	29
3.2.2 The state of knowledge on sustainability and the arts: .....	33
3.3 Methods .....	34
3.3.1 Data collection .....	34
3.3.2 Analysis .....	35

3.4 Results and Discussion.....	36
3.4.1 Results of a priori and a posteriori coding.....	36
3.4.2 NAT-guided interview themes .....	38
3.5 Conclusion.....	45
3.6 References .....	47
Chapter 4: Understanding impact in sustainability and the arts: A Delphi study with CreativePEI.....	51
4.1 Introduction .....	51
4.2 Background .....	53
4.2 Methods.....	54
4.3 Results and Discussion.....	56
4.3.1 Results that showed consensus .....	57
4.3.2 Items with feasibility barriers .....	70
4.4 Conclusion.....	75
4.5 References .....	77
Chapter 5: Conclusion.....	83
5.1 Review of major results.....	83
5.1.1 Interview results .....	83
5.1.2 Delphi study results .....	84
5.2 Building an impact framework for CreativePEI .....	85
5.2.1 The framework .....	90
5.3 Limitations .....	93
5.4 Implications for theory .....	96
5.5 Implications for SATA practice .....	97
5.5.1 Recommendations for CreativePEI .....	98
References.....	99
Appendix 1: Semi-structured interview guide .....	107
Appendix 2: <i>A priori</i> and <i>a posteriori</i> codes .....	109
Appendix 3: Full indicator list (results of Delphi Round 1).....	111
Appendix 4: Chapter 3 copyright release letter .....	116

## List of Figures

Figure 1 - Rating categories and the mean and IQR ranges classifying each category ....	24
Figure 2 - Alexis Bulman’s Future Booths, located in rural PEI, feature lavender and quince, both crops that are adaptive to the high temperatures and drought expected on PEI as climate change progresses (photo credit Alexis Bulman). .....	30
Figure 3 - The Riverworks artworks. From top to bottom, Doug Dumais’ Shoreline Palimpsest (photo credit Stewart MacLean), Kirstie MacCallum’s Pollinator Clock (here pictured at the 2022 Riverworks exhibition in Charlottetown), and Alexis Bulman’s Lillian’s Place.....	32
Figure 4 - Interview themes developed from NAT.....	35
Figure 5 - Codes most frequently referenced in the interviews .....	37
Figure 6 - Codes least frequently referenced in interviews .....	38
Figure 7 - Mean and IQR ranges and categorizations.....	55
Figure 8 - CreativePEI's consensus-based indicators (indicators rated as both desirable and feasible).....	58
Figure 9 - Items with agreement on desirability and disagreement on feasibility .....	70
Figure 10 - Preliminary Impact Framework Main View .....	90
Figure 11 - View of indicators in the category "Collaboration" in the preliminary framework.....	91
Figure 12 - Example of selected indicators in the project palette.....	92

## Abstract

The rapidly unfolding climate emergency has thus far proved to be too grand a challenge for society to effectively respond to. As humanity learns more about the enigmatic tasks of mitigating and adapting to the worst effects of climate change, the inextricable link with culture becomes increasingly clear: in order for society to adopt pro-environmental and climate-positive ways of living, culture must change. Western modernist culture has imposed ways of living and being driven by production and consumption that are fundamentally unsustainable and which drive the forces advancing climate change. In recognition of the key role culture must play in climate action, scholars are increasingly contributing to the emerging field of sustainability and the arts (SATA) and encountering myriad ways the arts can aid in fostering sustainable transformations. However, this body of scholarship has not yet effectively tackled the specific role of arts organizations and their potentialities for impact. This thesis responds to this gap in the literature by investigating the role and impact of arts organization CreativePEI in responding to climate change. Using a mixed methods approach over two phases, this thesis used semi-structured interviews and the Delphi method to reveal the potential for CreativePEI to meaningfully engage in climate work through collaborative and multidisciplinary efforts. Results of the interviews with CreativePEI indicated how stakeholders conceptualize the organization's role in fostering sustainable transformations. They indicate an understanding of the multidimensionality of the climate emergency and a sense of responsibility for the arts sector to activate its platform and unique offerings towards climate action. The interviews show that collaborative and multidisciplinary efforts will be a key avenue for CreativePEI to engage in impactful SATA work and that ongoing knowledge sharing within the sector and with researchers will be key to ongoing communal learning about effective SATA work by arts organizations. The Delphi portion of the study resulted in the development of 46 participant-generated indicators that participants agreed to be both desirable and feasible in supporting better understanding of the organization's climate impact. Taken together, the results from both phases of the study helped to inform the development of a preliminary impact framework to be used and adapted by CreativePEI in the future. Overall, this study demonstrates the unique overlap between the organization's skills and things heralded in SATA literature as key offerings the arts can make to sustainability work. The results further showcase a robust engagement with climate change by an organization not explicitly mandated to do climate work, demonstrating how existing arts activities and capabilities can be viewed through a climate lens.

## List of Abbreviations Used

IQR – Interquartile range

NAT – Norm activation theory

PEI – Prince Edward Island

SATA – Sustainability and the arts

## Acknowledgements

A lot of people put a lot of patience and trust into the process of my completing this thesis. I would never have got here without the support I am so lucky to have so here is a small sample of my gratitude:

To Mi'kma'qi and its people who hosted me as an uninvited guest as I did this learning;

To Dr. Tarah Wright, a dream of a supervisor who pushed my learning and accepted me as a whole human – I will continue working to not take you for granted;

To Dr. Melanie Zurba for your insight, perspective, and trust;

To my fellow *Researchers in Residence*: Shanice Bernicky, Sydney Pickering, Missy Leblanc, Audree Espada, and Aaron Richmond. You were my first teachers in this project. To Robin Sokoloski, MaryElizabeth Luca, and all the advisors who supported my learning over the past two years;

To Mark Sandiford, your patience and openness to this process and my learning allowed this work to unfold the way it did;

To everyone at CreativePEI and beyond who supported this process as participants, you are this work and it could not have taken shape without you;

To the professors who helped me begin grasping this role of researcher;

To my parents, your unquestioning and unwavering support along every step of my meandering path is a rare gift;

To my friends, for standing by me and helping me to find my way, you offered laughs and shoulders whenever I needed, and I love you for it;

And to all the places, spaces, people and creatures who hosted me,

Especially Edith and Naiia,

Thank you.

## Chapter 1: Introduction

### **1.1 Positionality**

In the Spring of 2021, Tkaronto-based research organization Mass Culture initiated the Research in Residence: Arts Civic Impact project. This project was intended to support research and knowledge mobilization of the civic impact of the arts in Canada. It was also intended to support new researchers and explore a new relationship between funders and impact assessment by engaging arts funders in impact research. Mass Culture engaged six researchers from five universities to complete research residencies with arts-organizations from across Canada.

As Mass Culture was putting the project together and looking for student researchers to participate, I was living and working in un-ceded Anishinaabe Algonquin territory in Ottawa. At the time, I was preparing to return to school and was looking to find masters-level research that was the right fit for me. I was committed to doing research that would contribute in some way to climate action – to finding a way to dedicate my days to the climate emergency in a way that would fulfill me. I was interested in the imaginative side of climate action, though I would not have put it in those words at the time. I was curious about how humans perceive our role and place in the natural world and about how we can envision and undertake transformations towards a more just and sustainable world. When my supervisor (prospective supervisor at the time), Dr. Tarah Wright received Mass Culture’s call for researchers and sent it my way, it was the first I realized that I could do research that brought together two of my biggest lifelong interests and it sparked a renewed excitement in me to dive into the work.

Since I first began working, I have sought out and gravitated towards positions in environmental advocacy roles, particularly doing public engagement and education on waste management and energy efficiency. Since I first began holding pencils, I have been an artist, spending free time learning and practicing my skills, trying new mediums and styles, and pouring hours into detailed drawings. I came into my role as Researcher in Residence with experience and knowledge to share about working on climate action, but with little experience formally engaging with the arts, or with leading research.



I am white, with European settler ancestry and I grew up in Treaty 6 territory and the homeland of the Métis, in Saskatoon. I lived, studied, and worked there until I moved to Anishinaabe Algonquin territory in 2017 where I lived and worked as an uninvited guest for four years. Then in 2021, I moved to Kijipuktuk where I have lived and studied since, also as an uninvited guest. Before beginning my studies and the Research in Residence project, I had never been to Mi'kma'ki, and specifically I had never been to Epekwitk (Prince Edward Island). Entering these spaces for the first time and rooting myself in these places to live and work meant stepping into a position of power without bringing local experience and expertise. In acknowledgement of this, and towards being, acting, and learning in these spaces with respect and care, I sought to be reflective and transparent throughout all interactions with communities, partners, and the land.

The work presented in this thesis is the result of my two-year learning journey through my masters studies at Dalhousie's School for Resource and Environmental Studies. Over these two years I have conducted interviews, carried out a Delphi study, analyzed data, written up results, and shared findings with a range of audiences. I could not have undertaken that work, learned the skills I needed, or acted as a respectful and responsible research partner without the support and contributions of the everyone who played a role in the Research in Residence: Arts Civic Impact project. In various places throughout this thesis, I refer to either myself or myself and collaborators from this project, as having completed this research. In chapters 1, 2, and 5 of this thesis, I primarily say "I" as I am the primary researcher on the work presented here. In Chapters 3 and 4, both of which are prepared for publication and presented as such, I use "we" to recognize the contributions of my supervisor Dr. Tarah Wright and my committee member Dr. Melanie Zurba, both of whom are co-authors on those papers. I also use "we" throughout the thesis where I am specifically referring to the involvement of Mass Culture staff, and Research in Residence advisors and researchers from other universities, and from arts funding organizations across Canada. At all stages of completing this thesis, I received invaluable support from a broad community of supporters – none of this work was completed in isolation.

## 1.2 Background

The climate emergency is upon us, and its effects are compounding in myriad ways around the globe. Warming has already occurred to 1.1° C above 1850-1900 temperatures and changes in the atmosphere, oceans, cryosphere, and biosphere have all occurred and continue to progress (IPCC, 2023). Climate change driven weather and extreme weather events are happening in all regions of the world and have already negatively impacted nature, including humans. Climate change is here, it is progressing, we must adapt, and with urgent action, we can mitigate its worst effects.

Even with this knowledge in hand, greenhouse gas emissions are still increasing due to ongoing mistreatment of the land and atmosphere driven by a tarnished relationship with the natural world. In their 2023 report, the International Panel on Climate Change (IPCC) says increasing greenhouse gas emissions come from continuing “unsustainable energy use, land use and land-use change, lifestyles and patterns of consumption and production across regions, between and within countries, and among individuals” (pg. 4). This human-caused emergency runs deep and is not simply biophysical. Increased greenhouse gas emissions, destruction of biodiversity, and the poisoning of lands and waters have effects that reverberate through social structures, and ways of living and being. Thus, Tàbara et al. (2017) refer to the climate crisis as a “socio-climate quandary” (pg. 31).

Deepening the social effects of climate change, vulnerable communities have historically contributed the least to the causes of climate change but experience its effects disproportionately (IPCC, 2023). It is Western Modernist culture that has driven us to this point of climate crisis (Maggs, 2021). Colonization and capitalist powers built and sustain the systems that contribute most heavily to causing climate change. Disproportionate effects felt by those who are the least responsible for the climate crisis highlights an important distinction to make in referrals to culture. When I refer to culture throughout this thesis, I do so with the recognition that culture is something that takes as many forms as there are people. I use this term but acknowledge the diversity of ways of knowing and being with nature that exist in different cultural histories, presents, and futures. As I talk about culture throughout this thesis, I speak about it generally in two ways: 1) western, capitalist, colonized and extractive ways of knowing and being with one another, and 2)

those cultures which centre respect, value, stewardship, and relationality with the land. It is the colonized relationships with nature and our place within it as humans that we must disrupt.

These cultural ties to the causes of climate change and the distributions of its impacts illuminate that climate change is not only a social crisis in its adverse effects, but the steps we must take to adapt to and mitigate climate change are fundamentally social and cultural. Climate change demands we change our way of *being* (Kimmerer, 2015). There is significant literature calling for culture-integrated climate adaptations, with UNESCO (2021) calling culture the “ultimate renewable resource to tackle climate change.” For example, heritage sites globally protect significant tracts of land that act as carbon sinks. These sites can also act as testing grounds for resilient management strategies and as observatories and labs for adaptation strategies (UNESCO, 2021). Further, ethnographic and human approaches have identified critical intersections between culture and collective work to understand and navigate the human-environment relationship (Sauvé, 2005). Many marginalized communities who are experiencing climate change the most harshly are communities whose cultural values and practices demonstrate a very different relationship with the land than is seen in Western Modernist culture. Among the world’s many diverse Indigenous cultures and communities, there is a through line of practiced and shared relationality with nature, and it is time for those of us without such practices to hear, respect, and live those lessons (Kimmerer, 2015; UNESCO, 2021). Thus, we can see that culture itself offers climate solutions.

Increasing scholarship surrounding these distinct cultural connections shows entry points at which a climate lens can be integrated into arts activities, towards bridging culture and climate work (Doll & Wright, 2019; Galafassi et al., 2018; Tysczuk & Smith, 2018). The IPCC (2023) highlights existing adaptation gaps and warns that these gaps will grow if current rates and strategies of adaptation implementation continue, but SATA scholarship reveals significant potential for the arts to respond to the barriers and shortfalls of existing efforts to respond to climate change. These offerings are discussed further below.

### ***1.2.1 The state of SATA scholarship***

In response to the recognized potential of the arts to facilitate badly needed cultural shifts, sustainability and the arts scholarship is emerging to explore the possibilities at this intersection. While there is clear and distinct interest in this space from many scholars, publications are limited and disparately located. In two bibliometric studies of SATA literature, one looking at peer-reviewed journal publications and another examining grey literature, Wright and Llang find limited SATA scholarship available through standard repositories. They found only 77 articles published between 2000 and 2018, and only 44 pieces of grey literature from 1991-2018 (T. Wright & Llang, 2019, 2020). These findings suggest that there may be challenges with codification of traditional scholarly works, but it also indicates that significant relevant work on this topic may exist outside of traditional scholarly databases.

There are a number of examples of artists and practitioners active at the SATA intersection in Canada. The Creative Green Tools are a resource created for the Canadian context, based on UK organization Julie's Bicycle's *Creative Green* program. These resources are a compilation of carbon calculators and similar tools, specifically tailored to the inputs, activities, and impacts of the arts and culture sectors (Creative Green Coalition, n.d.). The Centre for Sustainable Practice in the Arts (CSPA) is another organization doing SATA work in Canada. CSPA is a think tank which convenes the arts and culture sector through research, training, and consulting regarding sustainable development, and particularly ecological responsibility (The Centre for Sustainable Practice in the Arts, 2011). Finally, newly launched organization SCALE (Sectoral Climate Arts Leadership for the Emergency) aims to mobilize arts and culture capacity in Canada towards a “coordinated, artful and impactful response to the climate emergency” (SCALE, 2021).

Several theatre-focused organizations work in the SATA space across Canada. In x<sup>w</sup>məθk<sup>w</sup>əyəm (Musqueam), Sk<sup>w</sup>xwú7mesh (Squamish) and səliłwətaʔl (Tsleil-Waututh) territory, The Only Animal “creates immersive work that arises from a deep engagement with place... Here we forge new ways of understanding of how to be on earth” (The Only Animal, n.d.). In Tiohtià:ke, Écoscéno works to reduce harmful environmental impacts from cultural production (Écoscéno, 2023). In Mi'kma'ki, The River Clyde pageant

brings land-based summer pageantry to communities on PEI, engaging audiences with climate change by presenting a celebration of the river that sustains the community and “promoting values of environmental stewardship, civic practice, and artistic bravery.” (The River Clyde Pageant, 2022).

In a broader view of practice, Doll & Wright (2019) review over 200 visual and performance artworks that engage with climate change from primarily North American and European artists. Studying how the arts community expresses climate change, they find 28 themes within four “meta-themes”, listed here alongside select examples: cause (politics, materialism, disconnection), outcome (dystopia, health), solution (education, responsibility, connection), and abstract (community, gender, metaphor, and time) (Doll & Wright, 2019). They also find significant overlap of the themes throughout these categories, suggesting an understanding within the artistic community of the deep multidimensionality of the climate emergency. From their analysis, they suggest three characteristics of climate art: 1) it is a means of expressing fear for the future; 2) overconsumption is represented as a primary driver of the climate emergency; and 3) knowledge-sharing is a solution to the challenge we are experiencing (Doll & Wright, 2019). This preliminary review shows huge breadth of types of engagement with climate change that are taking place within the arts, just in North America and Europe, suggesting a strong possibility of rich practice around the world, particularly considering the disproportionate nature of climate impacts which does not see North America or Europe facing the harshest of all climate disasters.

Of the limited peer-reviewed scholarship that exists in SATA, many disciplines are represented, with works appearing in journals dedicated to the arts, education, geography, environmental science, environmental studies, museums research, activism, futures studies, technology, and sustainability. This reflects the highly dynamic nature of the field as is reflected in artworks emerging at this intersection. Reviewing literature at the SATA intersection reveals a significant range of ways in which these fields were brought together to explore dimensions of the climate emergency. Literature in this field explores emotional engagement with climate change, merges art and science, explores specific climate artworks or SATA initiatives, speaks to the utility of the arts in climate

communications and education, explores accessibility advantages of artistic engagement, considers how art provokes new ways of thinking, and engages with future scenarios thinking and challenges the human-nature relationship.

Many scholars speak to the power of the arts to push engagement with climate change deeper than other modes of engagement can. Galafassi et al. (2018) argue that the arts can power social learning which is a key requirement for sustainable transformations. They state: “what makes art a unique contributor is its freedom to pursue open-ended explorations of any topic through an ever expanding set of practices not wedded to finished ‘outcomes’ or ‘solutions’” (Galafassi et al., 2018, pg. 14). Thus, they argue that art should be applied to climate change as an open inquiry process. Similarly, Bentz (2020) echoes the importance of social learning to climate adaptation and argues that art has the power to facilitate deep and transformational learning, and is particularly well-suited to engaging audiences with new or unfamiliar perspectives on issues.

Scholars have made attempts to characterize the work occurring in SATA. One example comes from Maggs (2020) who presents three modes for SATA work: 1) greening the sector, 2) raising the profile, and 3) reauthoring the world. In this framework, “greening the sector” refers to efforts to reduce waste and emissions from arts activities, “raising the profile” refers to activities seeking pro-environmental awareness and behaviour change, and “reauthoring the world” represents aesthetic activities that seek to drive visioning and harness imagination towards new futures (Maggs, 2020). Maggs argues that most current SATA work engages with “raising the profile” but that “reauthoring the world” is where the arts can have the most unique and transformative impact. Bentz (2020) provides another characterization, arguing that engagement with climate change can occur in, with, and through art. In this classification Bentz argues that we can engage with climate change *in* art by incorporating climate change into the conversation in arts courses for example. Engaging *with* art refers to engaging with climate change through art-making, and engaging *through* art refers to experiencing climate-engaged art made by others (Bentz, 2020). These characterizations help frame and make sense of a complex and dynamic field of study.

### 1.3 Problem

From the overview of existing SATA literature above, we can see significant potential for the arts to play a role in climate adaptation. However, as is noted above, research in this field is limited and lacking codification makes existing scholarship hard to find. This presents a problem for scholars looking to contribute new knowledge towards effectively activating the capacity of the arts. In the literature, I found very limited focus on the particular contexts of arts organizations seeking to engage in SATA work. However, arts organizations are key players in climate action, and public recognition of this is rising (Vermeulen & Maas, 2021). This not only increases demand for new understanding of the kind of impact measurement discussed above but also motivates organizations to demonstrate accountability to the civic impact of their missions. Hudson Hill (2020) echoes the need to “count arts organizations in” in climate action, saying arts organizations and museums are important conduits to public engagement. Investigating the role of arts organizations also responds to the call from Tàbara et al. (2017) for boundary organizations focusing on transformative solutions as a key way forward on climate solutions.

Within the work that was found during this research, I also encountered very little focused investigations of impact measurement of SATA activities. Impact measurement is a dynamic concept, and is one scholars have grappled with defining, often blending the terms evaluation, impact measurement, and impact assessment (Vermeulen & Maas, 2021). For this thesis I work from this understanding: impact measurement is an examination of how an organization is working to achieve certain outcomes and have larger impacts and stems from accountability and progress towards goals (Vermeulen & Maas, 2021; Wahlén, 2014). Impact measurement also includes attribution, which is “the ascription of a causal link between observed (or expected to be observed) changes and a specific intervention” (Vermeulen & Maas, 2021, pg. 99). Wahlén (2014) defines improvement-focused evaluation as that which “aims to improve implementation and organisational, management or project effectiveness” (pg. 80).

In the arts and cultural sectors, existing impact measurement tends to take the form of cost benefit analyses or the contingent valuation method. Cost-benefit analyses provide information about the market demand for culture, but do not demonstrate social

impact. Similarly, the contingent valuation method, which represents the public's willingness to pay for certain public goods, focuses on a cost-based valuation of culture (Vermeulen & Maas, 2021). While the contingent valuation method gets closer to examining social impact as a reflection of public perceptions of the social impact of cultural organizations, it focused on monetization, and does not measure concrete, achieved impact. In another challenge to evaluation, much existing evaluation practice exists as a requirement of funding and investment for arts and culture organizations. This contributes to inflating impact and misrepresentations of impact that risks hindering investment in the cultural sector long-term (Anzel et al., 2022).

I have encountered one example of an impact measurement framework designed specifically for understanding SATA impacts, which incorporates a broad and multidimensional understanding of climate impacts. Pop & Borza (2016) present 33 indicators for measuring the sustainability of museums. The indicators were created with a recognition of the role of culture in environmental sustainability and from a perspective of museums contributing to sustainable development. They are contextualized within a framework that presents four dimensions of sustainability: natural, cultural, economic, and social environments. While this is a dynamic perspective of sustainability, the resulting indicators ultimately do not push the bounds of environmental impact beyond indicators of energy consumption, water use, and use of fuels and other consumables.

Another relevant resource can be found in the Creative Green Tools from Julie's Bicycle, previously discussed under *Background*. The Creative Green Tools compile various carbon footprint calculators relevant to activities and impacts in the arts sector (such as production, festivals, and venues) (*Creative Green Tools*, n.d.). While these are tailored to the specific biophysical concerns stemming from the sector's activities, such calculators receive varied support for validity in the literature. Carbon footprints do not provide a full picture of the sustainability of an action or impact. Other dimensions of environmental impact such as pollution, over-consumption of resources, and land use, are not reflected in carbon footprints (Laurent et al., 2012). Additionally, like with Pop and Borza's (2016) indicators, the Creative Green Tools do not capture the unique impact the arts may have on cultural and social dimensions of climate change. Thus, there is a



significant gap in SATA literature regarding how arts organizations can assess the impact of their climate-engaged activities, particularly regarding impacts that reflect the multidimensionality and cultural nature of the climate emergency.

While there is limited work to point to best practices of measuring the climate-impact of the arts, there are other relevant fields that can be drawn from to inform an understanding of how to measure impact in SATA. As the challenge of doing social impact measurement in the arts and cultural sectors is well recognized, efforts have been made both in the sector and in academia to respond and provide tools, strategies, and qualitative research approaches for capturing unique and often intangible impacts. Vermeulen & Maas (2021) present a framework which aims to enable cultural organizations and arts practitioners to measure their social impact in a way they can learn from. This framework sheds light on the elements that are important for inclusion in impact frameworks in cultural organizational contexts, and thus it will be revisited in Chapter 5 of this thesis where I present a preliminary impact framework for SATA work. While their work provides useful insight for impact measurement in the arts, the Vermeulen & Maas (2021) framework still does not incorporate a climate-lens into their consideration of impact.

Other resources of interest here include the Opera Civic Impact Framework, the Canada Council for the Arts Qualitative Impact Framework, and the Aesthetic Perspectives framework (Animating Democracy, 2017; Brown et al., 2019; Davis, 2020). Each of these frameworks focus on qualitative impact measurement of civic or social impacts of arts activities. The frameworks explore the complexity and multidimensionality of the impact of arts activities and do so with a clear understanding of the unique value of the arts. For these reasons, the frameworks are informative in the construction of a new framework in Chapter 5 of this thesis, but like the other resources discussed here, they do not include specific consideration of environmental impact on a significant scale.

In addition to the above insights from the fields of arts and culture, I draw on impact measurement literature from conservation and environmental education to balance this understanding of SATA impact. Conservation education is a field which boasts

significant literature related to evaluation, in part due to recognition from practitioners and scholars that evaluating the effectiveness of such programs is extremely challenging (Carleton-Hug & Hug, 2010; Peterson St-Laurent et al., 2022; Thomas et al., 2019; Wahlén, 2014). Authors cite challenges with evaluation due to the diversity of the field of environmental education, and highlight the importance of context-specific evaluation practice (Carleton-Hug & Hug, 2010; Thomas et al., 2019). This echoes calls for context specific evaluation in arts-impact measurement discussed above.

Authors also speak to risks associated with evaluation, warning that it is not a neutral task, and can itself impact outcomes. Speaking on the challenge of measuring impact in non-governmental conservation organizations, Wahlén, (2014) finds burdensome evaluation can reduce or impede desired program outcomes. Carleton-Hug and Hug (2010) highlight specific challenges of evaluation in environmental education and make recommendations for bolstering the quality of evaluation practices. These recommendations include defining clear program objectives, conducting formative evaluation on an ongoing and long-term basis, employing frameworks to guide evaluation, and diversifying researcher approaches in evaluation to utilize mixed methods (Carleton-Hug & Hug, 2010). Towards mitigating the negative impacts of evaluation, Peterson St-Laurent et al. (2022) recommend 16 criteria under four categories which incorporate meta-evaluation and program learning into the evaluation process: 1) use of information (how well do initiatives make use of the best available evidence, how did ongoing evaluation practices inform changes in the project); 2) project management (the extent to which the project was collaborative, financial and human resources used sustainably); 3) ecological and social outcomes (how the project enhanced community resilience, how the project reduced the vulnerability of wildlife or spaces); and 4) advancing the field of adaptation (building capacity for future adaptation work).

A lot of scholars speak to the difficulty of actually measuring some of the outputs or impacts that might be of particular interest. As mentioned, this is a prevalent issue in conservation and environmental education and evaluators and scholars have looked for solutions in response. A popular solution is in identifying conditions that contribute to desired outcomes, and instead measuring those. For example, evaluators interested in

provoking pro-environmental behaviour changes but who lack the resources necessary to measure that directly, might instead measure things like action competence, or nature affinity (Thomas et al., 2019; Zhan et al., 2019). This also speaks to the method employed with Norm Activation Theory in Chapter 3, where I am looking at the conditions for taking action to assess the readiness and positioning of CreativePEI to have impact through SATA activities.

From the above review, it is clear that some relevant literature and tools exist, and while none provide exactly the insight I am looking for here, these tools are helpful for contextualizing this inquiry and reinforce the need for this novel study. Responding to the knowledge gap surrounding social impact of the arts, Belfiore and Bennett (2010) state: “the crucial question that still needs answering is ‘what types of research approach are best suited to investigating the social effects of the arts?’” (pg. 123). They suggest the potential utility of humanities-based approaches being useful to investigate arts-impact measurement contexts. In conservation education, Thomas et al. (2019) highlight the potential utility of using more qualitative methods for understanding educational outcomes, and call for future study in the area. It is such calls that inspire and motivate the work outlined over the next four chapters.

## **1.4 Purpose**

The research outlined in this thesis contributes new understanding to the impact of SATA activities and creates direct value for arts organizations seeking to improve and articulate the impact of their climate-engaged work.

### ***1.4.1 Research in Residence: Arts Civic Impact Project***

This thesis is situated within a broader effort to contribute new understanding to civic-impact measurement in the arts in Canada. The research presented in the following chapters was completed as part of a residency with arts organization CreativePEI. This residency was initiated by research organization Mass Culture for the *Research in Residence: Arts Civic Impact Project* which saw six researchers complete residencies with arts organizations, each focusing on a particular impact area. In addition to climate impact explored in this thesis, researchers investigated arts impact in diversity and

inclusion, health and wellbeing, and Indigenous cultural knowledge (*Research in Residence: Arts' Civic Impact – Mass Culture • Mobilisation Culturelle*, n.d.).

#### **1.4.2 CreativePEI**

CreativePEI was identified as a partner for this research in September of 2021. CreativePEI is the sector council for the arts on Prince Edward Island (PEI) located in the province's capital, Charlottetown. In 2021, the organization began their engagement with climate change via the University of PEI's ClimateSense program. ClimateSense is a program that places interns with community organizations and provides the interns with education on the climate crisis and on climate action leadership skills. Through this program, artist Alexis Bulman joined CreativePEI as the ClimateSense Intern. With the support of ClimateSense and Bulman, and in partnership with the PEI Watershed Alliance and the River Clyde Pageant, CreativePEI initiated three climate-engaged arts projects, two of which are complete and one of which is ongoing as of the writing of this thesis.

The completed projects, *Future Booths* and *Riverworks*, both represent artistic engagements with climate change in which artists were supported in the creation of climate-engaged artworks. *Riverworks* was a collaborative project with the River Clyde Pageant and the PEI Watershed Alliance. Images of works resulting from *Future Booths* and *Riverworks* can be found in the third chapter of this thesis in and in Figure 3. The third project, *The Rite of Passage*, is a documentary film currently in production produced by Mi'kmaq filmmaker Eliza Knockwood, with the support of the same trio of collaborators behind *Riverworks*. The film explores loss of land and culture due to colonization and climate change and looks at rebuilding through reclamation of identity and connection to land for the L'nu of Epekwitk (Knockwood, 2022).





Figure 2 - Alexis Bulman's Future Booths, located in rural PEI, feature lavender and quince, both crops that are adaptive to the high temperatures and drought expected on PEI as climate change progresses (photo credit Alexis Bulman).

As Mass Culture initiated the *Research in Residence* project in the spring of 2021, *Riverworks* was in full swing and by the time organizational collaborators were sought out for residencies, *Riverworks* was in its final stages, situating CreativePEI in a reflective moment regarding their climate-engagement as an organization. This created an opportunity to engage together as researchers and practitioners to undertake an investigation of the impact and role of arts organizations in climate action.

#### ***1.4.3 Research objectives***

In response to the gaps in SATA research identified above, and the context of the residency with CreativePEI, the research presented in this thesis sought to address two questions:

- 1) How does CreativePEI conceptualize their role in fostering transformations towards climate action and adaptation? And,
- 2) What indicators can be used to measure CreativePEI's impact in this space?

This research also included an objective to configure the findings from the above research questions, with support from the literature, into a preliminary impact framework for understanding CreativePEI's impact in SATA. Through this inquiry, I was also interested in reflecting on the utility of the research process outlined in the following chapters to shed light and facilitate thought on SATA impact within an organizational context. Towards this objective I also include discussion of how this research process can be translated to other situations throughout the thesis.

#### ***1.4.4 Thesis format***

This thesis is written in a multiple manuscript format and includes five chapters. This introductory chapter presented the background and basis of the work in this thesis and situated the research within a gap in current SATA scholarship. Chapter 2 presents the methodological approach taken in this work and justification for that approach, followed by a detailed description of the methods used. Chapters 3 and 4 are each written in publication format and are in various stages of preparation for publication (the details of which are presented in the chapters). These chapters each present the results of one of the research questions presented above. Finally, Chapter 5 is an overall conclusion which presents findings and conclusions from both phases of study and includes discussion of

the limitations and implications of this research. This structure leads to a small amount of repetition between the chapters, as each of Chapters 3 and 4 can be read independently from the rest of the thesis. Methods which are presented in detail in Chapter 2 are revisited briefly in each of these embedded chapters, as are details on the research context and existing field of knowledge discussed in Chapter 1. Norm activation theory (NAT) is a key concept guiding this research, and thus it is also discussed in a number of instances throughout this thesis. Readers will first encounter a discussion of NAT in Chapter 2 where it is introduced as a theoretical framing for the interviews. It is then discussed again in more detail in Chapter 3 where it is used to guide data collection and analysis. Finally, NAT is revisited in Chapter 5 where its relevance to the overall findings and the impact framework is discussed.

## Chapter 2: Methods

### **2.1 Methodological approach**

This study employed a mixed methods approach over two phases to explore the research questions identified in the chapter above. These methods were selected with the understanding that stakeholder engagement would be essential to meaningfully explore the research questions. Both Geist (2010) and Jackson et al. (2003) stress the importance of involving stakeholders in organizational evaluation efforts. Scholars also recognize the utility of qualitative data for understanding decision-making in conservation-related contexts (Moon et al., 2019). This led us to approach the research questions using semi-structured interviews in Phase 1, and the Delphi method in Phase 2.

#### ***2.1.1 Phase 1***

Undertaking interviews in Phase 1 allowed access to unique experiences, values, and understandings of climate change and CreativePEI's current and prospective role in climate adaptation. Interviews are spoken information exchanges suited for revealing differences or consensus on meaning, opinion, and experiences within groups (Dunn, 2000, pg. 102). These characteristics make them an appealing method for use in this context. As I sought to explore CreativePEI's conceptualization of the organization's role in climate adaptation, interviews provide a means for accessing the knowledge of key individuals within CreativePEI. Semi-structured interviews provide a setting conducive to storytelling and rich responses as they elicit open ended answers, guided by a general script and select topics. The use of an interview guide also allows for comparison across interviews without restricting the conversation to the questions developed by the researchers, thus centring the participants' voices as much as possible (Bernard, 2006). Interviews are particularly well suited for learning what participants think is relevant to a particular topic or question, and this is a major benefit of their use in this research (Dunn, 2000).

To guide the interviews, I turned to Norm Activation Theory (NAT). Originally proposed by Schwartz (1997), NAT has been widely used and adapted to research scenarios regarding prosocial behaviours. Most simply, NAT provides insight into the likelihood that an actor will take certain actions (Stern, 2018). In this context, I



considered whether and how CreativePEI will engage in impactful SATA activities. NAT is based on the quest to activate individuals' personal norms to spur them to take prosocial actions. Norms are our deeply held beliefs about what is right and wrong. NAT proposes that norms must be activated to motivate prosocial behaviours and that this requires individuals to have two things: 1) an awareness of the consequences of a problem; and 2) an acceptance of personal responsibility for those consequences (Blamey, 1998; Oh & Ki, 2022; Schwartz, 1997; Stern, 2018).

NAT is one of the most common and influential theories used to explain how people move towards pro-environmental behaviours (Blamey, 1998; Oh & Ki, 2022; Stern, 2018). It has been used to explore myriad environmental behaviours including yard-burning, consumer responses to energy efficiency changes, recycling and hazardous chemical handling, and more (Blamey, 1998). Sommer et al. (2019) bring NAT into SATA research, designing an immersive artwork and measuring participants' awareness of environmental consequences, their feelings of responsibility for those consequences, and the level of relevance they believe environmental problems have to their daily life. From this work they recommend emphasizing personal responsibility and personal consequences of climate change in artworks as an effective avenue of climate-engagement. Oh and Ki (2022) consider how individuals' awareness of environmental consequences translates into a sense of responsibility for organizations to act and influences organizational norms and supportive behaviour towards organizations. In doing this Oh and Ki show an example of effectively adapting the context under which NAT is applied, pushing the theory beyond analysis of just individual behaviour, and exploring how organizations are brought into the fold of responsibility.

Blamey (1998) considers how NAT has been applied to individual contributions to public goods and how it can be extended to reflect all behavioural determinants in those situations. They call for extension of the model and specifically for "the role of organizations, policy initiatives, and notions of justice to be more explicitly incorporated into the model" (pg. 676). They also identify a gap in the literature and highlight the importance of considering NAT in situations involving contributions to the public good that occur at the level of the collective, not the individual. Individuals are also more

motivated to take actions themselves when they see organizations contributing to the public good (Cordero et al., 2022). While Blamey (1998) still discusses NAT primarily from the perspective of how individuals can be moved to action, they also stress the importance and possibility of extending NAT beyond a simplified dynamic of isolated individual actions. This reinforces the possible utility of NAT for understanding behaviour beyond the individual. In another interpretation that takes NAT beyond the confines of pro-environmental behaviour by individuals, Cordero et al. (2022) apply NAT (alongside other theories) in an organizational setting to look at the adoption of green information technologies. Similarly to the context and goals of the research in this thesis, Cordero et al. (2022) seek to uncover ways of promoting pro-environmental behaviour (green information technologies) by organizations. Their theoretical model, which also incorporates the theory of planned behavior, a green information technologies adoption model, and environmental sustainability variables, effectively informed their research on what factors determine the intent to adopt certain technologies (Cordero et al., 2022). This is a further suggestion that NAT has utility in contexts like ours.

Broadly, NAT is applied when trying to understand the activation of pro-social or pro-environmental behaviour (Stern, 2018). The research in this thesis ultimately seeks to contribute new knowledge towards the activation and enablement of arts organizations to take part in climate-engaged activities, contributing artistic value and capacity to a complex challenge. I do this in response to the impact potential presented by existing SATA scholarship, as discussed in the previous chapter. Stern (2018) directs readers to use NAT in “efforts to persuade groups or corporations to enroll in different efforts, change their practices, or promote specific ideas” (pg. 25). Its applicability in such situations makes it an appealing theory to explore in the context of this research for two reasons. First, NAT highlights awareness of consequences and sense of responsibility as important dimensions of how actors conceptualize climate change. Recall that the first research question asks, “How does CreativePEI conceptualize its role in fostering transformations towards climate action and adaptations?”. Second, the curiosity about conceptualizations is linked to the research objective of building a preliminary impact framework. Investigating conditions for “readiness” to take SATA action, provides insight into the type of impact that might be appropriate to expect in the future. I

undertook the research in this thesis with the goal of contributing to climate solutions by providing new knowledge on how we can tackle this emergency effectively, meaningfully, and justly. As we seek to learn more about what arts organizations can contribute to climate action by exploring CreativePEI's conceptualization of their role in the emergency, NAT provides a theoretical framework within which to situate that conceptualization. As I embark on contributing new understanding to how arts organizations can contribute to climate action, this framing allows me to explore CreativePEI's context with a forward-facing lens.

From the above, and from the understanding that norms guide “a wide range of organizational and personal behaviours and consequences”, I found this to be an appropriate context in which to apply NAT (Cordero et al., 2022, pg. 65637). I integrated investigation of the first research question with NAT by looking at the conditions for awareness of consequences to evoke an acceptance of responsibility as outlined by Stern (2018). Stern lays out three conditions: recognition of the problem, awareness of potential solutions to that problem, and feelings of capability to enact that solution (pg. 31). Using these conditions as thematic focus areas for the interview questions allowed me to assess the presence of those things which translate personal norms into action as per NAT: awareness of consequences and acceptance of responsibility. This application and its outcomes are discussed further in Chapter 3.

### ***2.1.2 Phase 2***

The Delphi method is a consensus-building tool designed to convene stakeholders or experts on a certain topic and provides a facilitated process for answering a question (de Loë et al., 2016; Rieckmann et al., 2021; Winkler & Moser, 2016; T. S. A. Wright & Defields, 2012). As the second research question asks what indicators can contribute to CreativePEI's understanding of its role and impact in sustainable transformations, I turn to the Delphi method to facilitate a reflection on SATA impact with key stakeholders. Geist (2010) highlights the importance of stakeholder involvement when doing organizational evaluation and speaks to the utility of the Delphi in facilitating that process.

The Delphi method is also heralded for its utility towards providing insight into situations characterized by complex dynamics (Winkler & Moser, 2016). van Lente & Peters, (2022) describe the Delphi as a method that produces futures and point out that this method is often used to articulate future scenarios for domains or sectors, from the point of view of a group of experts. Further, the Delphi method has been used to measure the success of climate adaptation techniques related to biodiversity and natural resource conservation, used towards implementation of sustainability policies in University settings, and is well suited for prioritizing in the face of complex challenges or tasks (Peterson St-Laurent et al., 2022; T. Wright, 2006; T. S. A. Wright & Defields, 2012). de Loe et al. (2016) note the Delphi is particularly useful for “proactive identification of emergent and future issues” a critical perspective for considering future engagement with climate change from within the arts. As the aim of this exercise was to understand how those within the arts might approach considering their impact through a climate lens, the Delphi method is appropriate as it centres the ideas and approaches generated by the participants. All these characteristics are reflective of the task at hand here, and thus the Delphi method was selected as a robust approach for investigating the second research question. This choice is further reinforced by Winkler and Moser (2016) who state: “The Delphi is best suited to fields and circumstances of application where objective factual data is scarce and knowledge necessary to make profound decisions is incomplete” (pg. 64).

The Delphi is a robust method clearly suitable for this research, but like all methods, it does not come without limitations. One limitation of the Delphi study is the risk of participants being able to tell who made which comments, and thus introducing bias impacting the way items are rated (Winkler & Moser, 2016). I tried to mitigate influence during the in-person session by alleviating pressure for participants to claim ownership of any indicators being discussed. I also held space for feedback about the session and questionnaires during the in-person meeting ahead of Round 3. This included reminding participants of open and ongoing streams of communication to the researchers.

## 2.2 Phase 1 methods

In Phase 1 of this research, I conducted semi-structured interviews with nine key stakeholders from CreativePEI in order to explore the question: “How does CreativePEI conceptualize its role in fostering sustainable transformations?”. Participants were selected using non-probabilistic purposeful sampling of key CreativePEI stakeholders. This was done with the support of CreativePEI’s Executive Director, Mark Sandiford. The participants represented CreativePEI staff, Board members, and representatives from collaborating organizations. All the participants held roles in the arts sector as administrators or artists at the time of the interviews, which took place between February and April of 2022. Interviews ranged from 30-90 minutes depending on the participant’s engagement with the questions. None of the participants had prior professional, volunteer, or other sustained engagement with climate change beyond awareness through media or informal personal research. However, all the participants expressed some level of concern about climate change, and all recognized climate change as an important problem. Levels of personal concern about climate change ranged from minimal, to what they described as “significant”, among the participants.

The interview questions were focused on the participants’ conceptualizations of climate change along three themes: conceptualizations of climate change; key issues at the intersection of sustainability and the arts; and barriers to CreativePEI participating in climate-engaged work. These themes, guided by NAT, explore the realities of the climate crisis and its consequences, the role of the arts sector in climate action, and the ways in which CreativePEI is well positioned, or prevented, from engaging in SATA activities. The interview guide (see Appendix 1) includes nine questions, and 12 follow-up questions and prompts. This guide was developed with the support of advisory members of Mass Culture’s *Research in Residence* project, and the guide was tested and adjusted with the help of two volunteers from Canadian arts organizations. Early in the interview process, analysis was conducted across the questions to monitor whether they were eliciting responses on the topic of interest. These strategies are supported by Bryman (2016) for helping to verify the utility of the interview approach, and of the specific questions being asked, and for determining that the interview guide was successfully eliciting discussion and reflection on the desired topic areas.

Interviews were held on Zoom. Transcripts were generated using Zoom's transcription feature and were confirmed and repaired using the recorded audio and video from the interviews. During transcription, identifying features of the participants were removed, disaggregating the data from the participants. Completed transcripts were then sent to participants and participants were offered the opportunity to clarify, correct, or add to their transcripts. Following this member-checking process, transcripts were uploaded to qualitative data analysis software NVivo (Release 1.7.1).

Upon completion of all nine interviews, the transcripts were first coded using an *a priori* code list, developed from a review of existing SATA literature. Following *a priori* coding, further themes not captured by the initial code set were identified and developed into a list of sixteen *a posteriori* codes. The transcripts were analyzed again using the *a posteriori* codes. Both the *a priori* and *a posteriori* code lists can be found in Appendix 2.

### **2.3 Phase 2 methods**

For Phase 2, I conducted a Delphi study, which took place between October and December of 2022. The Delphi engaged 15 participants. Participants were purposively selected based on their engagement with CreativePEI's activities, and engagement and expertise in PEI's artistic and environmental communities. Many of the participants (n=7) had already been involved in Phase 1 of this study, and the group was augmented by additional stakeholders including artists and community members.

Recall that the purpose of a Delphi study is to convene a group of experts or stakeholders, with the goal of reaching consensus on an answer to a specific question. This Delphi sought to investigate the question: "What would be important to measure, monitor, or reflect on to determine the impact of CreativePEI's climate-engaged work?" Over three rounds, participants generated and then considered the desirability and feasibility of impact indicators for CreativePEI. In Round 1, participants received an online questionnaire, with the above, open-ended question. Participants responded to this question in brief paragraphs, or list formats, suggesting areas of interest for considering the organization's climate impact.

Upon receiving the questionnaire responses, I translated the answers into individual indicators to inform the second questionnaire. As much as possible, participants' original words were maintained though in some cases changes were made for readability. I also chose to include items that were very similar to one another in order to capture all the nuances of the participants' responses. The results of Round 1 were a list of participant-generated impact indicators.

In Round 2, participants received another online questionnaire, this time containing the list of impact indicators generated in Round 1 and asking them to rate each item for both feasibility and desirability on a five-point Likert-scale. The ratings were then analyzed for both measures of central tendency and dispersion by calculating the mean and the interquartile range (IQR) of the feasibility and desirability ratings for each item. This analysis resulted in five categories of indicators, shown in Figure 1 below, alongside the mean and IQR ranges classifying each category.

<b>Mean:</b> 0-2.5 = Low	2.51-3.49 = Unsure	3.5-5 = High
<b>IQR:</b> 0-1.49 = Low	1.5+ = High	
<ul style="list-style-type: none"> <li>a) <b>Consensus</b> – Items the group rates as desirable and feasible (high mean scores, low IQRs)</li> <li>b) Items with disagreement on <b>feasibility</b> (high desirability mean, low IQR on desirability, unsure on feasibility, or high IQR on feasibility)</li> <li>c) Items with disagreement on <b>desirability</b> (high mean scores, high IQR on desirability)</li> <li>d) Items with disagreement on <b>feasibility and desirability</b> (high means, high IQRs)</li> <li>e) Items rated as “unsure” (midrange means)</li> </ul>		

*Figure 1 - Rating categories and the mean and IQR ranges classifying each category*

Following the second questionnaire and the analysis of participant ratings, the lead researchers gathered in Charlottetown, PEI with 10 of the original 15 participants for a full-day meeting. The purpose of this gathering was to discuss the results of the first round of ratings and provide participants with an opportunity to hear from their peers and discuss the feasibility and desirability of items. The discussions were focused on items the group had not reached consensus on in the first rating round. Three structured discussion sessions were held, each focused on a segment of indicators which were not agreed upon through the first round of ratings: (1) items the group agreed were desirable, but where there was disagreement on feasibility; (2) items the group agreed were feasible,

but where there was disagreement on desirability; and (3) items that had disagreement on both desirability and feasibility. For the purpose of including as many indicators in the day's discussion as possible, indicators from group E (items rated as "unsure") were grouped in with the third discussion of the day (items with disagreement on feasibility and desirability).

At this meeting, the group agreed that a number of items needed to be reworded for clarity, prior to the third and final rating exercise. One of the lead researchers, Dr. Wright, spent the in-person session capturing notes on the discussions and in doing so identified indicators with wording challenges and ways the group discussed altering them. Dr. Wright then drafted new wording for those indicators based on the discussion, and participants were offered the chance to review and respond to those changes before the Round 3 questionnaire. Then, the final questionnaire, containing only items that were discussed at the meeting was sent to participants, asking them to complete the same rating exercise as in Round 2. Following Round 2, the same analytical process was followed, applying the same IQR and mean ranges to the new ratings.

## **2.4 Building the framework**

In the conclusion of this thesis, I present a preliminary impact framework for evaluating CreativePEI's SATA activities. The inputs for the framework are the findings from the interviews (Chapter 3), the indicators generated through the Delphi study (Chapter 4), and relevant SATA literature. Initial exploration of how the Delphi-generated indicators could inform an impact framework was done by analyzing them for commonalities, themes, and redundancies. The construction of the framework was also informed by the evaluation literature and the structures of existing arts impact frameworks discussed in Chapter 1. I take a theory-based approach to evaluation, an approach cited in the literature as promising for building effective impact measurement in arts and culture contexts (Anzel et al., 2022; Belfiore & Bennett, 2010). I also recognize Anzel et al.'s (2022) recommendation of "coping" with impact measurement. They describe "coping" as impact measurement which recognizes the limitations of impact



measurement, and the accidental harm or degradation of effectiveness that cumbersome evaluation and reporting requirements cause. They call for funding structures to shift in response to this understanding in order to require less reporting, and they encourage the piloting of context-specific impact measurement techniques that capture contextual nuance, a call also supported by Belfiore & Bennett (2010). It is with this in mind that I approach the construction of a preliminary impact framework using the results of the two phases of study, and further explanation of how the framework was constructed is provided in Chapter 5. It should be noted that the research in this thesis was only meant to inform the creation of the impact framework, but not to offer a conclusive framework. Development of a final impact framework would be an iterative process requiring more ongoing consultation and collaboration with CreativePEI and its stakeholders. The studies within this thesis provide the solid foundations for that work.

## Chapter 3: Creativity in Climate Adaptation: Conceptualizing the Role of Arts Organizations

Bugg, E. (Lead author), Wright, T., and Zurba, M.

Submitted for publication to the Journal of Culture and Local Governance. Currently under review.

### **3.1 Introduction**

As humanity grapples with the scale and complexity of the climate crisis, and with the slow pace of progress on activating existing climate solutions, we are collectively seeking new ways to mobilize resources and shift public and political will towards sustainable transformations. In the face of climate change, many point to the critical role culture must play in ensuring humanity's survival. Navigating the tremendous and inevitable shifts we are facing with the climate crisis requires deep reflection on our relationships to the natural world and how those relationships often translate to destructive behaviours and systems (Martusewicz et al., 2014). Maggs, (2021) calls climate change a consequence of a western modernist approach to reality. Thus, our collective climate mitigation and adaptation strategies must include cultural shifts that move us towards new ways of being in the natural world.

Answering the need for climate-engaged cultural work, artists and researchers are beginning to grow their practice and scholarship around sustainability and the arts (SATA) (Galafassi et al., 2018; Hudson Hill, 2020; T. Wright & Llang, 2019). While arts administrators are beginning to join this movement, arts organizations to date have not been engaged on a meaningful scale in discussions of how they can contribute to sustainable transformations (Julie's Bicycle, 2021). Similarly, a lack of understanding of the role the arts have the potential to play in climate work, paired with a lacking sense of collective responsibility to contribute arts capacity to climate efforts, have kept work in the space disparate and small scale (Julie's Bicycle, 2021). Even so, we understand that both artists and arts organizations play a significant role in the development of cultural norms (Ernstman & Wals, 2013). In 2011, artists represented 0.78% of the labour force in Canada, and other cultural workers represented 3.82% (Toronto Artscape, 2015). Arts

organizations hold a significant portion of the capacity that exists within the arts and by determining their own work priorities, these organizations hold meaningful power in what the arts collectively offer to society. In efforts to mobilize the arts sector towards climate work, arts organizations cannot be ignored.

This study offers a better understanding of the role of arts organizations in climate transitions by undertaking an in-depth engagement with CreativePEI. CreativePEI is a sector council for creative industries on Prince Edward Island (PEI) with a mandate to contribute resources, build capacity, and advocate for artists, arts organizations, and arts initiatives on PEI (CreativePEI). PEI is a small island province located on the East Coast of Canada, and CreativePEI operates out of its capital, Charlottetown, a city with a population of approximately 40,000 (Statistics Canada, 2023). In this paper I aim to answer the question “How does CreativePEI conceptualize its role in fostering transformations towards climate action and adaptation?”. In answering this question, I hope to learn how to better integrate evidence and practice and continue the process of contextualizing artists and arts organizations in the work of climate change. Better understanding of where arts organizations see themselves playing a role can help us as researchers to understand how to better uplift, support, and enhance their work by providing new understanding in priority areas. I turn to Norm Activation Theory (NAT) to help frame and direct this engagement. NAT provides an explanation for how personal norms can be activated towards changed behavior (Stern, 2018). NAT suggests that in order for personal norms to be translated into behavior aligned with those norms, individuals must have both an awareness of the consequences of a problem, as well as a sense of personal responsibility for the problem (Schwartz, 1997). This theory is often employed in conversations around pro-environmental behavior (Blamey, 1998). In this context, NAT helps us understand whether CreativePEI’s conceptualization of its role in climate change situates them well to participate in SATA activities.

While this research seeks to understand how one arts organization and its members conceptualize their role in climate action, this paper serves as an example of meaningful engagement between SATA researchers and arts organizations and contributes new understanding to the benefits of and barriers to successful climate work taking place within the arts. Further, this paper provides one window into understanding

how arts organizations can be activated and how climate-engaged work can be integrated into their activities.

## **3.2 Background and Context**

### ***3.2.1 CreativePEI and ClimateSense:***

CreativePEI's first foray into climate work was their 2021 partnership with The River Clyde Pageant to host an intern through the University of Prince Edward Islands' ClimateSense program. Through this program, artist Alexis Bulman joined the two organizations to explore ways in which the arts can help audiences to navigate the negative emotions brought by climate change. In this role, Bulman created *Future Booths* (see Figure 2 below), an installation piece engaging with PEI's culture of road-side produce stands and with the ways in which climate change is set to alter agricultural yields on PEI (CreativePEI, 2021). The booths represent an engagement between PEI farmers, the public, and the multidimensional changes climate change will bring to the island's industries and culture.





*Figure 2 - Alexis Bulman's Future Booths, located in rural PEI, feature lavender and quince, both crops that are adaptive to the high temperatures and drought expected on PEI as climate change progresses (photo credit Alexis Bulman).*



Also in 2021, CreativePEI and The River Clyde Pageant launched *Riverworks*, a project in which three artists independently created artworks on the topic of ecological transformation. On PEI, erosion is a key impact of climate change and a priority area in PEI's climate adaptation plan (Province of Nova Scotia, 2022). Several shoreline preservation techniques exist, and living shorelines are one such solution. Living shorelines provide a nature-based alternative to more common hard-armouring techniques, using natural materials to reinforce the shoreline without destroying habitats (Howard et al., n.d.). Each *Riverworks* artwork (Figure 3 below) is (or was) located on a different living shoreline in Charlottetown or the neighbouring town of Stratford. Together, the shorelines and artworks present an opportunity for the public to engage with transformations in their communities brought about by climate change.





*Figure 3 - The Riverworks artworks. From top to bottom, Doug Dumais' Shoreline Palimpsest (photo credit Stewart MacLean), Kirstie MacCallum's Pollinator Clock (here pictured at the 2022 Riverworks exhibition in Charlottetown), and Alexis Bulman's Lillian's Place.*

Together, these projects represent CreativePEI's first foray into SATA work and the starting point from which they will approach future climate work. With the success of *Future Booths* and *Riverworks*, CreativePEI now turns their sights towards the possibility of continued engagement with climate change related projects. It is within this context that I engaged with CreativePEI. Through this work, I explore how CreativePEI understands their role in climate adaptation and contribute new insight to the burgeoning scholarly field of SATA to better activate artistic capacity towards climate action.

### ***3.2.2 The state of knowledge on sustainability and the arts:***

It is well established in the literature that climate change is more than a biophysical challenge (Dessein et al., 2015). Martusewicz et al. (2014) argue that climate change presents us with a “cultural crisis”. In describing the failure of governments to successfully respond to the enigmatic challenge of the climate crisis, Maggs (2021) describes climate as a “hopeless entanglement of natural, social, and technological forces”. (pg.31) This understanding that we must undergo cultural transformations to tackle the climate emergency is where scholars have found access points for the arts to meaningfully contribute to climate adaptation (Doll & Wright, 2019; Galafassi et al., 2018; Tyszczyk & Smith, 2018). UNESCO (2021) calls culture the “best renewable resource for fighting climate change”. Recognizing the potential for the arts to deploy this renewable resource has led to increased work at this intersection, both within academia and the arts sector, in turn leading to growing understanding of the many ways the arts can contribute to overall efforts in this domain (Marcuse, 2011; Packalén, 2010).

While we are learning more and more about the potential of the arts to play a meaningful role in climate adaptation, there remains a limited amount of scholarship in the field of SATA. In their 2019 bibliometric study of SATA literature, Wright and Llang identified a mere 77 articles published between 2000 and 2018. Among existing SATA literature, there is very little discussion of the role of arts organizations in climate adaptation and with that, a lack of recommendations or roadmaps for practitioners. This gap in understanding represents a roadblock for further mobilizing the arts sector to contribute capacity to the climate crisis. Without an understanding of how their work



relates to climate change, arts organizations may lack the motivation and know-how to meaningfully engage in SATA projects.

### **3.3 Methods**

#### ***3.3.1 Data collection***

Our research involved interviews with nine participants who were selected using non-probabilistic purposeful sampling (Palys & Atchison, 2014). At the time of the interviews, all participants were members of CreativePEI's staff and Board of Directors and represented several artistic disciplines. All the participants in the study have prior experience working in the arts, either in roles at arts organizations or as independent artists. Many of the participants have ongoing artistic practices and hold one or more professional roles with various arts organizations. None of the participants reported directly engaging with climate change through their professional work experience to date, but all participants reported some level of personal concern about climate change, with half of the participants describing it as a passion or area of major concern in their personal lives.

Participants took part in semi-structured interviews over Zoom between February and April of 2022, and the interviews ranged from 30-90 minutes. Interview questions focused on three themes, guided by NAT. NAT has been used heavily in environmental contexts, particularly regarding individual pro-environmental behaviour (ie. recycling) and is lauded as an effective model outlining the conditions that lead to activating behaviours (Blamey, 1998). In order to garner a sense of responsibility (a core condition within NAT), Stern (2018) also highlights the importance of awareness of solutions and a feeling of capability to employ those solutions. This brings into focus a few important conditions for understanding how CreativePEI conceptualizes their role in sustainable transformations. These conditions can help us to understand how to activate arts organizations into SATA engagement. It is from these conditions that interview themes were determined for this study, as shown in Figure 4 below.

### NAT-informed interview themes

Awareness of consequences + sense of responsibility → Questions about conceptualizations of climate change

Awareness of potential solutions → Questions about the role of the arts in climate adaptation

Feeling of capability to enact solutions → Questions about what CreativePEI can offer and what barriers exist

Figure 4 - Interview themes developed from NAT.

### **3.3.2 Analysis**

A hybrid coding approach incorporating both *a priori* and *a posteriori* coding techniques, as outlined by Palys & Atchison (2014) was carried out in this study using the qualitative analysis software NVivo. In order to develop the *a priori* codes, an initial literature review took place which systematically analysed articles at the intersection of art and climate change. In total, 28 themes were identified during this review, but only 14 were included in the *a priori* code list for this study. The 14 codes that were not used were removed due to an expectation that they would be too specific and unlikely to come up in the interviews or because they were less relevant to the research questions. All transcripts were then reviewed to see the extent to which the participants discussed each of the 14 codes. While examining each interview, I also began to develop a list of topics and responses that were brought up during the interviews but were not captured by the 14 original *a priori* codes. This process led to 69 topics and responses being identified. From these items, seven thematic categories emerged, many of which aligned with the questions asked: 1) conceptualizations of climate change; 2) conceptualizations of addressing climate change; 3) reflections on what CreativePEI can offer to climate work; 4) climate change and the art sector; 5) climate change and CreativePEI's mission; 6) barriers to CreativePEI doing climate-engaged work; and 7) climate art and artmaking. The items within each category were then analyzed for commonalities and from that analysis a list of 16 codes of particular interest to this research was established. Through the *a priori* analysis and identification of *a posteriori* codes, 3 *a priori* codes which had initially been excluded from the code list were added back to the *a priori* list: the arts increasing the accessibility of climate discourse; art playing an important role in the climate response; and making localized connections to climate change. All transcripts were then analysed again using the *a posteriori* code set and the newly added *a priori* codes. The findings were explored through a lens of NAT by arranging the final *a priori*

and *a posteriori* codes under the interview themes as outlined above (Figure 4). By structuring the data collection and analysis to investigate the key conditions for norm-driven behavior, I was then able to identify the extent to which each of these conditions is present in CreativePEI's conceptualization of their role in climate change.

### **3.4 Results and Discussion**

The analysis of the interviews provides a glimpse into how CreativePEI situates itself in the world of SATA, as well as revealing benefits and barriers to engagement. The major results of the analysis are presented below beginning with a detailed discussion of the codes that were present and followed by a discussion of each of the three NAT-guided interview themes.

#### ***3.4.1 Results of a priori and a posteriori coding***

Of the 17 total *a priori* codes used (original list of 14 plus three added later), all were mentioned to varying degrees, but some with more frequency than others. Knowledge co-creation was the least present, with one participant making a single, indirect comment. Exploring or provoking new ways of thinking and emotional engagement were somewhat more present though still not widely referenced. Each of these codes were referenced by four or fewer participants and received between one and seven mentions. On the topic of emotional engagement, which was represented in the codes by one parent and four child codes, a total of 10 references were made from five participants across all five of the relevant codes. This is a departure from the expectation that emotional engagement would be a more directly and frequently discussed element of the interviews. With the 10 *a priori* codes that were mentioned with higher frequency, all were mentioned by seven or more participants, and were referenced between 10 and 34 times. The variation in the ways the *a priori* codes were reflected in the interviews suggests that existing research is shedding meaningful light on the many possible activations of the arts towards climate adaptation, but that we have a way to go to develop a fulsome understanding in particular of how practitioners conceptualize the role of the arts in climate adaptation. Of the *a posteriori* codes, seven were less commonly cited in the interviews. This included maintaining authenticity and aesthetic value in

climate art, the value of aesthetics, and advocacy, each of which were referenced by three to four participants. Trust in artists, the rural-urban divide, the role of CreativePEI to inform the public, and direct references to CreativePEI as a catalyst, were all referenced by only two participants. Figure 5 and Figure 6 below show the more frequently and less frequently referenced codes respectively. In both figures, the codes are presented under the interview question themes.

<u>Frequently referenced codes</u>	
<i>Codes about conceptualizations of climate change</i>	<i>Codes about the role of the arts in climate adaptation</i>
<p>A priori</p> <ul style="list-style-type: none"> <li>- Need for cultural shifts to address climate change</li> <li>- Climate change as an emotional issue</li> <li>- Localized connections to climate change</li> </ul> <p>A posteriori</p> <ul style="list-style-type: none"> <li>- Moral responsibility to contribute to climate work</li> <li>- Climate-related career opportunities for artists</li> </ul>	<p>A priori</p> <ul style="list-style-type: none"> <li>- Arts have an important role in the climate response</li> <li>- Creating climate art               <ul style="list-style-type: none"> <li>- Climate art as a venue for public engagement</li> <li>- Need for new public engagement strategies and the unique ability of the arts to offer this</li> <li>- Arts contributing to accessibility</li> </ul> </li> </ul> <p>A posteriori</p> <ul style="list-style-type: none"> <li>- Arts contributing to awareness</li> <li>- Boosting the creation of climate art</li> </ul>
<i>Codes about what CreativePEI can offer and what barriers exist</i>	
<p>A priori</p> <ul style="list-style-type: none"> <li>- Collaboration among artistic disciplines</li> <li>- Collaboration with partners outside of the arts</li> </ul> <p>A posteriori</p> <ul style="list-style-type: none"> <li>- Connecting individuals or initiatives</li> <li>- Informing the sector</li> <li>- Supporting others</li> <li>- Funding</li> <li>- Capacity</li> </ul>	

Figure 5 - Codes most frequently referenced in the interviews

### Infrequently referenced codes

#### *Codes about the role of the arts in climate adaptation*

##### A priori

- Knowledge co-creation
- Exploring or provoking new ways of thinking
- Emotional engagement
  - Connecting emotionally to climate change and its urgency (for artists)
  - Connecting emotionally to climate change and its urgency (for audiences)
  - Helping to deal with the emotions around climate change (for artists)
  - Helping to deal with the emotions around climate change (for audiences)

##### A posteriori

- Maintaining authenticity/aesthetic value in climate art
- Trust (in artists)
- Value of aesthetics

#### *Codes about what CreativePEI can offer and what barriers exist*

##### A posteriori

- Catalyzation
  - Advocacy
  - Informing the public
- Rural/urban divide

Figure 6 - Codes least frequently referenced in interviews

### **3.4.2 NAT-guided interview themes**

#### **3.4.2.1 How do individuals conceptualize climate change as engaged members of CreativePEI and as practitioners in the arts sector?**

This category had the least codes, with three *a priori*, and two *a posteriori* codes, all of which were more frequently referenced in the interviews, as seen in . The participants were asked several questions related to how they think about climate change and the feelings they associate with climate change. When considered under NAT, these questions help us to understand the participants' awareness of climate change and its consequences. As outlined above, an awareness and understanding of the consequences of an event or challenge is a critical first step in moving towards taking action (Schwartz, 1997). In response to this theme, participants made connections to their local communities or experiences living on PEI, and they frequently spoke about the emotional effects of climate change. While there is limited existing research on the way arts practitioners conceptualize climate change, Yakamovich & Wright, (2021) find an

“existential immersion with place” in their study of environmentally engaged artists (pp. 41). Artists describe deep connections to their local community and environmental surroundings which is reflective of the ways in which participants in this study expressed their conceptualization of climate change. Remembering that the participants in this study have limited prior direct engagement with climate change (such as through professional or volunteer roles) adds to the context of this. The local context on PEI was very present in the interviews, including through references to shorelines, landscape change, and the particular vulnerability of the island. Participants also talked about the importance of thinking in local terms for both their own comprehension of climate change and for connecting effectively with others on the topic. As Participant 2 stated: “...it also makes learning and researching and working in climate change a little bit easier for mental health, [thinking] about it as a localized thing and not globally, because that gets *really* scary.” While participants were asked how they think climate change is impacting CreativePEI and its community (and what impact it might have down the road), they were not otherwise prompted to speak specifically to the ways in which climate change is already experienced in their communities, or things they anticipate are to come. These reflections show that the participants’ awareness of the consequences of climate change is linked to both local and global scales, but with the local scale showing up more prominently in these interviews.

The above quote from Participant 2 also touches on the participants’ use of emotional descriptors when talking about climate change. Participants mentioned feelings of frustration, gloominess, anxiety, fear, hope, passion, grief, worry, disappointment, empathy, pessimism, and depression. Participant 11 states: “I feel tons of anxiety and tons of fear, because it’s hard to kind of move through the world without holding on to those emotions these days.” While participants were prompted to share how they feel about climate change, in many cases specific emotions came up before participants were asked the question “What do you think of or feel when you hear the term climate change?”. These expressions of emotion strongly indicate an awareness of the consequences of climate change among this group of participants.

Finally, participants shared the belief that climate change is a grand challenge that requires action and effort from everyone and through all channels. They also described

the arts sector as having a responsibility to contribute efforts to climate action due to the unique skills, the deep-rooted connection to society and culture, and the platform the sector has to offer. Participant 11 captured this concisely stating that “the arts can serve as a model for behaviors and for shared action on climate change.” These comments came up throughout the interviews, frequently in response to questions about the role of the arts in climate action. In these reflections, we see both direct statements from participants acknowledging the consequences of climate change, as well as a sense of responsibility for these consequences within the arts sector.

While existing SATA literature makes strong calls for culture to be a valued element of climate action, participants did not convey a strong sense of climate change as a cultural issue through the interviews. The closest participants come to discussing culture change is when reflecting on what adaptation might look like in their own lives, and when two participants brought up the challenge of cultural divides making certain conversations difficult and certain communities hard to reach. While we cannot conclude from this that participants do not believe culture change to be an important part of climate action, it does not appear to be a top-of-mind connection for them, even among a group of individuals who are situated within the arts and who, for the most part, expressed deep personal concern about climate change. This may represent a gap in how CreativePEI understands the nature of climate change and its consequences and is an area for further reflection by the organization.

These reflections situate CreativePEI in terms of the perspectives, understanding, and opinions towards climate change of a selection of key members. Participants conveyed a strong sense of connection between climate change and its consequences on PEI, as well as near consensus that climate change requires action and adaptations from all sectors and communities, including the arts. Overall, the interviews show that an awareness of the consequences of climate change is present among this group, and that they recognize the responsibility of all sectors to contribute solutions.

#### *3.4.2.2 What do participants perceive to be the role of the arts in the climate response?*

First and foremost, the interviews revealed that participants do see an important role for the arts in climate adaptation, echoing the presence of an acceptance of

responsibility outlined above. Participants listed many ways the arts can make important contributions to climate action including by boosting the creation of climate art, providing new modes of public engagement on climate, provoking new ways of thinking, contributing to accessibility, adding aesthetic dimensions to climate adaptations, and by taking part in collaborative initiatives. The importance of climate art and of creating opportunities for artists to explore climate change through their artistic practice was strongly represented in these interviews. It became clear that for CreativePEI, creating more opportunities for artists to create climate art and see it as a viable avenue for work is a clear goal. Participants illustrated climate art as a challenge and opportunity for artists and as a way to reach and connect with more people on climate change. Participants also revealed a synergy between supporting climate work in the arts and CreativePEI's existing mandate. Participant 1 said: "If we're able to energize a group of the community to take on this subject matter, actually make an impact, and do well on their careers, do work they're proud of, then we're totally doing our job."

Within and outside discussions of climate art, participants highlighted the power of the arts to provoke new ways of thinking and the ability of the arts to make climate discourse more accessible. As Participant 11 stated: "Art has the capacity to unsettle your sense of self and I think that sort of unsettling is really important in being able to challenge your thinking or perspectives." Comments such as this demonstrate the participants' recognition of the arts' capacity to be thought-provoking and disruptive, and how those qualities can contribute to climate solutions.

Accessibility was discussed in terms of physical, cultural, and intellectual accessibility. As Participant 3 stated: "...people might see [climate art] as a little less intimidating to engage with than just being confronted with facts... It's kind of like mediated information that makes people feel a little bit more comfortable." Other participants echoed this, highlighting the ability of the arts to create multiple entry points into engagement with climate action and adaptation.

Much of what was highlighted by participants as important ways for the arts to make contributions to climate work is in line with what the SATA research has highlighted to date. For example, a key theme of existing SATA literature is the unique ability of the arts to offer new strategies for meaningful public engagement – a badly



needed element of climate adaptation (Gibbs et al., 2020; Hudson Hill, 2020; Shugar et al., 2019; Yusoff & Gabrys, 2011). While this group of participants did not explicitly talk about the need for new public engagement strategies in climate work, as mentioned above, they do talk of the arts' capacity to contribute to accessibility, and the power of the arts to provoke new ways of thinking and relating to our surroundings. Such statements suggest that the participants see ways in which the arts can engage audiences in new ways. This also speaks to the ability of the arts to contribute creative capacity and imagination to the climate response. Further, and along this theme, participants highlighted the arts' unique way of grabbing attention and the power of arts to direct the conversation.

Where there is more divergence between the results of this work and that of the existing literature, is in discussion of emotional engagement. While emotional engagement was a major theme of the power of climate art in the literature, it came up very little in the interviews. Participants who did speak directly on emotional engagement spoke about the potential of the arts to help with grief, about the arts as a mode for us to talk about what is going on around us, art as a tool to help people adjust to change and remain resilient, and to combat climate despair. These comments are in line with the literature but were not widely cited by participants, perhaps suggesting space to expand the participants' awareness of potential solutions, specifically within the context of what the arts can uniquely offer. Overall, the participants demonstrate an abundance of awareness of potential solutions, or ways the arts can contribute to climate work, and there is alignment between those solutions and CreativePEI's existing mandate and activities.

#### *3.4.2.3 What can CreativePEI offer to climate work and what stands in their way?*

Throughout these interviews, participants demonstrated a clear, shared understanding of what CreativePEI's strengths are and what they have to offer to the collective climate project. The things CreativePEI brings to the climate table are aligned with what they offer outside of the climate context and seem to present a natural place for CreativePEI to play a role in facilitating the creation of climate art. Participants described CreativePEI as being good at connecting individuals, sectors, and initiatives; informing

and communicating with the public and the sector; supporting others (through capacity building, funding, and administrative support for example); and doing advocacy. Participant 1 described CreativePEI as the “organization of requirement”, saying “CreativePEI is what it needs to be at any given time.” With this, participants expressed a desire for CreativePEI to sustain some level of engagement with climate change through their work.

Collaboration emerged as both a core pillar of how CreativePEI operates, as well as a key strategy for enhancing the quality of projects in the arts sector. For CreativePEI, collaboration emerged as an important element of the organization’s ability to enact the climate solutions identified in the section above. Collaborations both among artistic disciplines, and between the arts and other sectors, was brought up by almost all participants. The main through-line here was the significant power of collaboration to build capacity and realize larger goals. Collaboration also allows for projects to be strengthened by bringing in a creative component with intentionality. As Participant 5 stated: “...CreativePEI isn’t sector specific so they talk to all these other different sectors and we might be seeing more [climate work from within the arts], because as the climate impacts everybody around, CreativePEI could be the bridge to the artists.” This direction of supporting artists and fostering connections within and outside of the creative sector towards meaningful collaborations is established through these interviews as a clear goal for the organization’s climate work. Participants clearly express ways in which CreativePEI is capable of participating in SATA activities.

Participants were also asked about barriers to CreativePEI making meaningful contributions to climate work within the sector. In response, funding and capacity were highlighted as key concerns. Many participants commented on the fundamental need for funding to carry out projects. Participants also linked the funding challenge to their desire for impact measurement tools (in order to demonstrate success in grant applications for example), and to capacity challenges (the need to hire staff to lead projects). Funding challenges were generally linked to the underfunding and precarity of funding in the arts more broadly, rather than being linked specifically to climate related work. This is in line with what we know about the state of employment and the challenges of precarity facing the arts sector (Maggs, 2021; The Conference Board of Canada, 2019). Six of the nine

participants also made direct connections between climate change and possible career opportunities for artists. For CreativePEI, this is another way in which participants see the organization's principal role in climate work – through the tangible support and engagement of artists in the creation of climate-engaged work.

Comments on capacity challenges were closely linked to those on funding. When asked about what might prevent CreativePEI from engaging further in climate work, many participants highlighted the small size of CreativePEI as an organization and the challenges that brings. Two participants also mentioned burnout as a common issue both among artists and those working on climate. Participant 2 highlighted the need to not only build but also sustain capacity through things like ensuring artists are paid for their work, and having mental health supports in place when working on emotional issues like climate change. They stated: "I fear that artists, like other climate professionals, will be expected to contribute without being offered mental health support. If that's the case, the turnover will be rapid and that will negatively impact everyone's ability to create sustained and meaningful work."

Another challenge that was brought up by two of the participants was the rural-urban divide that exists on PEI in terms of both the variations in those populations' access to the arts, and in terms of cultural differences and their intersections with climate change. These participants highlighted that this is an area of weakness for CreativePEI, and others trying to undertake public engagement through the arts. The rural-urban divide on PEI is closely tied to shoreline challenges and this requires that climate communications are sensitive to these cultural differences. While this specific challenge was only brought up by two participants, it is an important consideration under the accessibility conversation. When thinking about the accessibility of climate art and SATA programming, practitioners will need to reflect on who the work is being made accessible to and what the limits of its accessibility are. For CreativePEI, this will mean reflecting on who their community does and does not include. This, along with the funding and capacity challenges discussed above, suggest that CreativePEI's sense of capability to enact solutions varies with context. This makes the context in which SATA activities take place an important consideration for the organization, and for those seeking to boost SATA engagement in arts organizations.

Scholars in the field of SATA have documented and highlighted the lack of shared language and existing work in the field. Researchers document a lack of shared keywords, a lack of understanding of who all is working in the space, and a lack of clarity around what work has happened or is planned (Galafassi et al., 2018; Maggs, 2021; Wright & Llang, 2020). This challenge was also made evident through these interviews. While this challenge was only directly addressed by one participant (who brought up the lack of best practices and codification around climate art), it also emerges through the disparate and vague ways participants discussed the contributions the arts can make to climate adaptation. As outlined above, participants showed a deep understanding of the unique role the arts play in society and the ways in which the arts are reflective of and integrated into the grand challenges we collectively face. However, these deeply engrained beliefs about the arts had not been translated into clear links to climate work for many participants, most of whom had very limited experience marrying climate work and the role of the arts. This was demonstrated by a comment from Participant 10 in response to being asked if they had done any professional or volunteer work related to climate change: “Not really... I’m more into the culture than into the science part”. This comment shows that for this participant, even though they have spent their career in the arts and spoke to the transformative power of the arts, climate change does not register as a cultural issue. This desire to separate culture from climate is reflective of climate discourse over time and demonstrates a need for connecting those dots explicitly for practitioners within the arts to demonstrate the clear connections between the arts and climate work. This will also allow artists and other practitioners to see the unique value of their own skills to addressing a challenge many in the community care deeply about, removing barriers to feeling able to contribute to solutions.

### **3.5 Conclusion**

Reflecting on these interviews through the lens of NAT shows that with a continued commitment to collaboration, and with support and connection to SATA education, CreativePEI is well poised to engage in SATA work in the future. The interviews demonstrate an understanding of the consequences of climate change and a feeling of responsibility for the arts sector to participate in mobilizing solutions. Participants’

awareness of the consequences of climate change is strongly linked to the local context on PEI and is demonstrated through the use of emotional descriptors such as fear, anxiety, frustration, and empathy. There is a strong expression that climate change is a grand challenge that requires action from all sectors, including the arts sector. Participants also highlight the platform the arts sector has and the responsibility that brings.

We also find significant awareness of potential solutions among the participants, with many references to the unique value of the arts and the distinct skills those in the arts have to offer. Finally, I find conditional feelings of capability to participate in enacting solutions. There are strong links made between CreativePEI's existing mandate, and what they can offer to climate action. The participants in these interviews uncovered a natural compatibility between what CreativePEI already offers and is good at, and what is needed to support the creation of climate art. CreativePEI operates as a "sector catalyst and connector that empowers Prince Edward Island's arts, culture and creative professionals to improve their outcome and incomes" and in these interviews, participants identify a desire to take part in SATA activities, with a focus on enabling the creation of climate art. The sentiment of responsibility extends to this, with participants expressing a responsibility to uplift others doing SATA work in the sector.

In addition to the many potential solutions discussed, real barriers to CreativePEI engaging in SATA activities are identified, showing that CreativePEI's capability to enact solutions is circumstantial. While there are barriers to CreativePEI enacting climate solutions on their own, when collaboration is introduced, a strong sense of capability can result (particularly if that collaboration comes with funding and capacity).

This lends to the implications of this work for both future SATA research and for the field of practice. The growing field of SATA in academia must include more consideration for those on the ground carrying out SATA work and how to bring them into SATA research in ways that are meaningful and relevant for their unique structures, goals, and contexts. We must consider both what conditions will be necessary for this, and what conditions these practitioners require to meaningfully engage in SATA research. As this study focuses on one organization, further research is needed on how those across the arts sector conceptualize climate change and what

they see as the role of the arts in fostering sustainable transformations. This, accompanied by efforts to bring language and current knowledge around SATA to those in the sector, as well as initiatives to pay artists to create climate art, will bolster capacity and work on climate within the arts.

From the position of policymakers, this research has implications for both cultural and climate policy. Funding was identified as a key barrier to arts organizations undertaking SATA work. At the same time, these participants strongly echoed the unique and powerful ways the arts can contribute to climate action as are identified in the literature. Recognition of arts organizations as powerful actors and incorporating support for SATA work in climate policy, would lend to building the capacity arts organizations will require for this undertaking. Similarly, cultural policymakers must realize the very real cultural dimensions to the climate crisis and the sustainable transitions we must undertake, thus ensuring climate considerations are integrated into cultural policy.

By showcasing the ways in which one arts organization situates itself within the broader project of climate change, this work sheds new light on the current state of climate work in the arts in Canada and how cultural organizations can reimagine their role to align with the evidence about what the arts can uniquely offer to climate action.

### **3.6 References**

Blamey, R. (1998). The Activation of Environmental Norms: Extending Schwartz's Model. *Environment and Behavior*, 30(5), 676–708.

<https://doi.org/10.1177/001391659803000505>

CreativePEI. (2021, November 19). ClimateSense. <https://creativepei.ca/climatesense/>

Dessein, J., Soini, K., Fairclough, G., & Hurlings, L. (Eds.). (2015). *Culture in, for and as Sustainable Development: Conclusions from the COST Action IS 1007 Investigating Cultural Sustainability*. University of Jyväskylä. <http://www.culturalsustainability.eu/conclusions.pdf>

- Doll, S., & Wright, T. (2019). Climate Change Art: Examining How the Artistic Community Expresses the Climate Crisis. *The International Journal of Social, Political and Community Agendas in the Arts*, 14(2), 13–29.  
<https://doi.org/10.18848/2326-9960/CGP/v14i02/13-29>
- Ernstman, N., & Wals, A. E. (2013). Locative Meaning-making: An Arts-based Approach to Learning for Sustainable Development. *Sustainability*, 5(4), 1645–1660. <https://doi.org/10.3390/su5041645>
- Galafassi, D., Kagan, S., Milkoreit, M., Heras, M., Bilodeau, C., Bourke, S. J., Merrie, A., Guerrero, L., Pétursdóttir, G., & Tabara, J. D. (2018). ‘Raising the temperature’: The arts on a warming planet. *Current Opinion in Environmental Sustainability*, 31, 71–79. <https://doi.org/10.1016/j.cosust.2017.12.010>
- Gibbs, L., Williams, K., Hamylton, S., & Ihlein, L. (2020). ‘Rock the Boat’: Song-writing as geographical practice. *Cultural Geographies*, 27(2), 311–315.  
<https://doi.org/10.1177/1474474019886836>
- Howard, Q., Granzoti, J., & Large, C. (n.d.). Getting Started with Coastal and Estuarine Living Shoreline Projects: Guidance and resources for PEI Watershed Groups. Prince Edward Island Watershed Alliance. Retrieved February 15, 2023, from [https://drive.google.com/file/d/1Af7Npt\\_ucl-NIXlq2kgIDbxjw4MVeHbL/view?usp=embed\\_facebook](https://drive.google.com/file/d/1Af7Npt_ucl-NIXlq2kgIDbxjw4MVeHbL/view?usp=embed_facebook)
- Hudson Hill. (2020). A Terrible Beauty: Art and Learning in the Anthropocene. <https://www.tandfonline.com/doi/epub/10.1080/10598650.2020.1723357?needAccess=true>
- Julie’s Bicycle. (2021). Culture: The missing link to climate action. British Council. <https://juliesbicycle.com/news-opinion/the-british-council-executive-report/>
- Maggs, D. (2021). Art and the World After This. Metcalf Foundation. <https://metcalffoundation.com/wp-content/uploads/2021/06/Art-and-the-World-After-This.pdf>

- Marcuse, J. (2011). Arts for Social Change. In C. McLean & R. Kelly (Eds.), *Creative Arts in Research for Community and Cultural Change*. (pp. 113–118). Detselig Temron Press.
- Martusewicz, R. A., Edmundson, J., & Lupinacci, J. (2014). *EcoJustice Education: Toward Diverse, Democratic, and Sustainable Communities*. Routledge.
- Packalén, S. (2010). Culture and sustainability. *Corporate Social Responsibility and Environmental Management*, 17(2), 118–121. <https://doi.org/10.1002/csr.236>
- Palys, T., & Atchison, C. (2014). *Research Decisions: Quantitative, qualitative, and mixed methods approaches*. Nelson Education Ltd.
- Province of Nova Scotia. (2022). *Weathering what’s ahead: Climate change risk and Nova Scotia’s well-being*.  
<https://climatechange.novascotia.ca/sites/default/files/uploads/climate-change-risk-report.pdf>
- Schwartz, S. (1997). Normative influences on altruism. In L. Berkowitz (Ed.), *Advances un experimental social psychology* (Vol. 10, pp. 221–279). Academic Press.
- Shugar, D., Colorado, K., Clague, J., Willis, M., & Best, J. (2019). ‘Boundary’: Mapping and visualizing climatically changed landscapes at Kaskawulsh Glacier and Kluane Lake, Yukon. *Journal of Maps*, 15(3), 19–30.  
<https://doi.org/10.1080/17445647.2018.1467349>
- Stern, M. (2018). *Social Science Theory for Environmental Sustainability—A Practical Guide*. Oxford University Press.
- The Conference Board of Canada. (2019). *Labour market information study of the cultural labour force 2019*. Cultural Human Resources Council.  
<https://www.culturalhrc.ca/sites/default/files/research/LMI2019/LMI%202019%20Report.pdf>
- Toronto Artscape. (2015). *Canadian arts, culture, and creative sector compendium of key statistics: Volume I: Sector Characteristics*. Toronto Artscape Inc.



[https://www.artscape.ca/wp-content/uploads/2017/06/Arts-and-Culture-Statistics\\_Vol\\_I.pdf](https://www.artscape.ca/wp-content/uploads/2017/06/Arts-and-Culture-Statistics_Vol_I.pdf)

Tyszczuk, R., & Smith, J. (2018). Culture and climate change scenarios: The role and potential of the arts and humanities in responding to the ‘1.5 degrees target.’ *Current Opinion in Environmental Sustainability*, 31, 56–64.  
<https://doi.org/10.1016/j.cosust.2017.12.007>

UNESCO. (2021). Cutting Edge | Culture: The ultimate renewable resource to tackle climate change | UNESCO. <https://www.unesco.org/en/articles/cutting-edge-culture-ultimate-renewable-resource-tackle-climate-change>

Wright, T., & Llang, Y. (2019). Examining the Scholarly Literature: A Bibliometric Study of Journal Articles Related to Sustainability and the Arts. *Sustainability*, 11(14), 3780. <https://doi.org/10.3390/su11143780>

Wright, T., & Llang, Y. (2020). Forty Shades of Grey: A Bibliometric Study of the Grey Literature Related to Sustainability and the Arts. *The International Journal of Social, Political and Community Agendas in the Arts*, 15(4), 29–39.  
<https://doi.org/10.18848/2326-9960/CGP/v15i04/29-39>

Yakamovich, J., & Wright, T. (2021). Care-full, convivial, curious: Weaving Canadian artists’ conceptions of art as a form of transformative environmental education. *The Journal of Environmental Education*, 52(4), 223–238.  
<https://doi.org/10.1080/00958964.2021.1929801>

Yusoff, K., & Gabrys, J. (2011). Climate change and the imagination. *WIREs Climate Change*, 2(4), 516–534. <https://doi.org/10.1002/wcc.117>

## Chapter 4: Understanding impact in sustainability and the arts: A Delphi study with CreativePEI

Bugg, E. (lead author), Wright, T., and Zurba, M.

To be submitted to the International Journal of Social, Political, and Community Agendas in the Arts (July 2023).

### **4.1 Introduction**

The arts provide critical value to society, and are inextricably intertwined with culture, thus having a powerful role in cultural fluctuations and evolution (Allen & Jones, 2012; Maggs, 2021). The arts engage with our deepest beliefs and values and open up expansive understandings through emotive and aesthetic experiences (Bendor et al., 2017; Tyszczyk & Smith, 2018). As such, the arts have been identified as one of the key stakeholders in helping humanity in the transition to a more environmentally sustainable society. While there are numerous examples of the arts engaging in environmental and climate-related work, the emerging field of SATA is an academic discipline that critically examines how the arts can engage with sustainability and climate change issues (Bendor et al., 2017; Burke et al., 2018; Hudson Hill, 2020). The growing body of literature in SATA suggests that a union of arts and climate change work has the potential to facilitate and mobilize the culture shifts needed to navigate already unfolding environmental and climate change challenges (Galafassi et al., 2018; Maggs, 2021). To date, SATA literature has come from a diverse range of fields and explored a rich landscape of ways for the arts to facilitate transformation. This includes significant potential for engaging new audiences and in new ways, facilitating emotional and embodied experiences essential for transformational learning, and unsettling the human-nature relationship, among other avenues (Bendor et al., 2017; Bentz, 2020; Galafassi et al., 2018). With this potential comes a need to understand whether we are successfully activating the arts towards climate adaptation. However, SATA scholars have not yet engaged in significant exploration of measuring the impact of the arts within the context of environmental and climate change. It is this need that this research responds to.

Measuring the impact of a sector or organization is important in both evaluating and validating an organization's work, and SATA scholars and practitioners alike have

expressed curiosity around how to better understand the climate impact of their activities (See Chapter 3; Burke et al., 2018). Vermeulen & Maas (2021) emphasize the importance of impact measurement in the cultural sector, describing evaluation as boundary-setting and defining what is being measured in order to “conceptualize what might happen if an intervention is implemented” (pg. 99). Various studies and initiatives have highlighted the importance of impact measurement in the arts. Among arts practitioners there exists an appetite for better ways of understanding and articulating the multifaceted and complex impact of arts activities on communities (Mass Culture, 2022; Vermeulen & Maas, 2021). This has led to the development of a number of frameworks which begin the process of trying to capture and articulate the true values of the arts to society (See *Animating Democracy*, 2017; Brown et al., 2019; Davis, 2020; Vermeulen & Maas, 2021). While these frameworks include significant insight into ways nuanced impacts can be explored, only *Aesthetic Perspectives* includes any indicators directly tied to climate change. This falls under the framework attribute “Resourcefulness”, in which they prompt users to reflect on how the work uses resources in engaging and sustainable ways (*Animating Democracy*, 2017).

Another example of efforts to bring evaluation understanding to SATA work comes from Julie’s Bicycle, a UK-based non-profit organization committed to mobilising the arts on climate. They provide the Creative Green Tools - a set of calculators designed for the arts and culture sectors to measure energy use, water consumption, waste generation and management, travel, and production materials (*Creative Green Tools*, n.d.). While this resource is helpful for facilitating impact measurement of biophysical indicators, it does not go further to explore the unique ways the arts can contribute to sustainable transformations. As previously discussed, climate change is not purely a biophysical challenge, it is one deeply intertwined with culture – with our ways of living and being. The fundamental offering of the arts, the unique value art provides to society, is not biophysical. Thus, any fulsome understanding of the impact of SATA activities must include consideration of impact beyond the biophysical.

This paper contributes to this specific gap in the literature and describes one study from a larger program of research within this research group that focuses on developing

the foundations for the creation of an impact framework with the case study of arts organization CreativePEI. The first study involved interviews with members of CreativePEI to better understand how they conceptualize their role in climate action, what benefits and barriers they encounter in their climate work, and how they envision integrating climate-engaged work into their activities (Chapter 3).

For the second study, described in this paper, I facilitated a Delphi study which sought to respond to the question: “What indicators can be used to inform CreativePEI’s understanding of their climate impact?”. The resulting indicators and how they are situated within existing knowledge of the impact potential of SATA is the focus of this paper. With this question, I work towards the research objectives of providing a preliminary framework for CreativePEI, as well as contributing new understanding to measuring SATA impact more broadly and exploring how arts organizations can be activated towards contributing meaningful impact to sustainable transitions. The indicators discussed here, along with other data collected through this engagement process, will inform the development of a preliminary impact framework for CreativePEI. That process and the resulting framework will be discussed in future publications.

## **4.2 Background**

CreativePEI is a sector council for creative industries on PEI, a small island province on the East Coast of Canada. In 2021, CreativePEI took part in a collaborative project called *Riverworks* with the River Clyde Pageant and the PEI Watershed Alliance. *Riverworks* saw three artists complete residencies on living shoreline sites around Charlottetown (the province’s capital) and the neighbouring town of Stratford (*Riverworks*, n.d.). Living shorelines are sites where planting techniques have been used in place of hard armoring techniques to protect sections of the shoreline from erosion (Howard et al., n.d.). Now, following the conclusion of *Riverworks*, CreativePEI faces the possibility of future engagement with climate change with an appetite to ensure their contributions as an organization are meaningful and in-line with their environmental and climate goals. For this study, the Delphi facilitated a dreaming exercise for CreativePEI

and key stakeholders to begin imagining how CreativePEI's activities might be understood through a climate lens.

For CreativePEI, participating in the Delphi study represents a deep engagement with the organization's role in and impact on cultivating a sustainable future. The indicators discussed in this paper and the framework they will ultimately inform reflect the specific context, capabilities, and values of CreativePEI, providing a resource grounded in the organization's own context.

## **4.2 Methods**

The Delphi method is an iterative consensus building tool based on structured communication and interaction among a group of experts or stakeholders. A typical Delphi study involves three rounds of questionnaires, interspersed with review and feedback by the group. The use of the Delphi method in this study ensured that the resulting indicators from the exercise were reflective of CreativePEI's values, mission, capacity, and climate-related goals. Further, the use of the Delphi method allowed the researchers to convene a gathering of key CreativePEI stakeholders and take participants through a fulsome exercise of conceptualizing what indicators might be helpful for understanding the impact of the organization's activities through a climate lens.

This Delphi study engaged 10 purposively selected participants in three rounds of questionnaires between October and November of 2022. In Round 1, participants received an online questionnaire containing a single, open-ended question: "*What would be important to measure, monitor, or reflect on to determine the impact of CreativePEI's climate-engaged work?*" Participants responded to this in brief paragraphs, lists, or point form answers. Responses were translated into items for the second questionnaire. In this process, original wording from the participants was maintained as much as possible though some edits were made for readability. This process yielded a list of 78 individual impact indicators from the participants' responses (this list can be found in Appendix 3).

In Round 2 participants were asked to rate each of the 78 items separately for both their desirability and feasibility using a 5-point Likert-scale. Participants were prompted to consider the indicators’ desirability for better understanding the impact of CreativePEI’s climate-engaged work, and to consider the feasibility of measuring, monitoring, or reflecting on each indicator. They were also asked to consider the items individually, rather than in relation to each other. The resulting ratings were then analyzed for measures of central tendency (mean) and dispersion (interquartile range – IQR) to determine which items the group agreed upon as well as where opinions diverged. Based on this analysis, the questionnaire items were organized into 5 categories, determined by their means and IQR ranges. These categories were then used as a basis for discussion at the in-person gathering prior to administering Round 3. Figure 7 shows the ranges that were used and the final categories:

<b>Mean:</b> 0-2.5 = Low	2.51-3.49 = Unsure	3.5-5 = High
<b>IQR:</b> 0-1.49 = Low	1.5+ = High	
<ul style="list-style-type: none"> <li>a) <b>Consensus</b> – Items the group rates as desirable and feasible (high mean scores, low IQRs)</li> <li>b) Items with disagreement of <b>feasibility</b> (high desirability mean, low IQR on desirability, unsure on feasibility, or high IQR on feasibility)</li> <li>c) Items with disagreement on <b>desirability</b> (high mean scores, high IQR on desirability)</li> <li>d) Items with disagreement on <b>feasibility and desirability</b> (high means, high IQRs)</li> <li>e) Items rated as “unsure” (midrange means)</li> </ul>		

Figure 7 - Mean and IQR ranges and categorizations

Before Round 3, participants attended a full day of discussions in Charlottetown, PEI in November 2022. The meeting focused on three categories of interest from the analysis of the Round 2 questionnaire: (1) items the group agreed were desirable, but where there was disagreement on feasibility; (2) items the group agreed were feasible, but where there was disagreement on desirability; and (3) items that had disagreement on both desirability and feasibility. Each of the discussions for these three areas began with the participants dividing into smaller breakout groups, each receiving a handout with a portion of the indicators from the category being discussed. After discussing the indicators within their smaller groups, participants came back together, each group reporting their thoughts

back. This was followed by space for response and discussion before moving on to the next group.

Following this gathering, the participants received a final online questionnaire (Round 3), which asked them to repeat the same rating exercise that they had completed in Round 2 in light of the day's discussions. The list of indicators in Round 3 included only those items from Round 2 that did not receive consensus, so the Round 3 list included fewer items. Ratings from Round 3 were analyzed for mean and IQR ranges and then re-categorized using the same categories established for Round 2. The final items that received consensus were then coded according to an *a posteriori* coding scheme and placed into various categories for ease of explanation and discussion (Figure 8).

### **4.3 Results and Discussion**

The 78 items that were generated in Round 1 covered a wide range of considerations for the climate impact of CreativePEI's work and included both qualitative and quantitative indicators. The quantitative included measures related to physical waste and emissions produced by CreativePEI's activities as well as indicators to measure the number of climate-engaged initiatives the organization is involved in, and the number of audience members engaged in these programs. The qualitative indicators included indicators of emotional engagement with climate change, indicators of levels of interdisciplinarity and collaboration in climate-engaged activities, and indicators related to influencing and engaging public audiences.

In Round 2 of the Delphi study (the first rating round), participants reached consensus on 27 of the original 78 items. The ratings also resulted in 12 items under category B (Figure 9), 13 items under category C, 16 items under category D, and 10 items under category E. These items all represent disagreement (categories B, C, D, and E), and thus became the focus of Round 3 of the Delphi. There was also one item the group agreed was desirable, but not feasible to measure. This item is discussed further alongside other indicators with feasibility barriers in the discussion below. Round 3 saw participants reach consensus on an additional 19 indicators. The new ratings also resulted in 11 items under category B, 13 items under category C, four items under category D, and one item under category E.

#### ***4.3.1 Results that showed consensus***

By the end of Round 3, the participants agreed on 46 indicators that they view as both desirable and feasible for inclusion in a climate-impact framework for CreativePEI (Figure 8). These indicators demonstrate areas of concern and interest for the climate-impact of CreativePEI's activities and can be divided amongst nine general categories: 1) Audiences, 2) Accessibility, 3) Public engagement, 4) Emotional engagement, 5) Collaboration, 6) Behaviour, 7) Building SATA engagement in the sector, 8) Biophysical impacts, and 9) Other. The indicators reveal goals of CreativePEI's climate-engaged work (biophysical impacts, behavioral impacts, building SATA engagement in the sector, and emotional engagement) as well as guidance for how those goals should be pursued (audiences, accessibility, and public engagement).

It is important to note that I do not wish to diminish the multi-dimensional and intersecting nature of the items by assigning them into one of these nine categories. "Emotional engagement" is a good example of the multi-dimensionality of these indicators. This category highlights both a goal and a mode of doing SATA work in CreativePEI's context. The indicators of emotional engagement produced through this study (4A-E) ask questions about how participants feel after engaging with SATA initiatives. This suggests that CreativePEI hopes to foster emotional experiences through their work, and that they are interested in what emotional effects the work has, further demonstrating the multidimensional nature of these categories and indicators. Another example is found in the indicator "Are CreativePEI's climate-engaged activities using local resources?" (8D) which could provide insight in several ways. Using local food for an event might mean fewer food miles, and thus be an indicator of lower emissions, but it can also foster connection to place and community, which in turn can contribute to our relationship to the land and the ways we interact with it (Autio et al., 2013; Kimmerer, 2015; Sims, 2009).



<p><b>1. Audiences</b></p> <p><b>A</b> The number of people engaged online for CreativePEI climate-engaged programming.</p> <p><b>B</b> The number of people engaged in person for CreativePEI climate-engaged programming.</p> <p><b>C</b> To what extent do CreativePEI's initiatives receive professional media coverage?</p> <p><b>D</b> Who is engaging with CreativePEI's climate-engaged work?</p> <p><b>E</b> What demographics do the people engaging with CreativePEI represent?</p> <p><b>F</b> Who is absent from audiences engaging with CreativePEI?</p> <p><b>G</b> To what extent does CreativePEI support the development of new ways of involving community members outside of the typical audience?</p>	<p><b>2. Accessibility</b></p> <p><b>A</b> How accessible are CreativePEI's initiatives for the public?</p> <p><b>B</b> How accessible are CreativePEI's initiatives for the artistic community?</p> <p><b>C</b> Can CreativePEI's climate-engaged activities be easily recorded via photos or video</p>
<p><b>3. Public engagement</b></p> <p><b>A</b> To what extent does CreativePEI build capacity for public engagement?</p> <p><b>B</b> To what extent are CreativePEI's climate-engaged initiatives participatory?</p> <p><b>C</b> To what extent has CreativePEI's climate-engaged work created a platform to speak with audiences about topics related to climate change?</p> <p><b>D</b> To what extent does CreativePEI's work open tangible pathways to conversations about climate change with the general public?</p> <p><b>E</b> To what extent does CreativePEI's work contribute to raising public awareness about climate change and its impacts?</p>	<p><b>4. Emotional engagement</b></p> <p><b>A</b> How do participants feel after engaging with CreativePEI's climate-related work? (i.e. hopeful, sad, anxious)</p> <p><b>B</b> To what extent does CreativePEI's work foster conversations that make people feel hopeful?</p> <p><b>C</b> To what extent does CreativePEI's work reduce feelings of isolation related to climate anxiety?</p> <p><b>D</b> To what extent do people feel overwhelmed after engaging with one of CreativePEI's climate initiatives?</p> <p><b>E</b> Do CreativePEI's climate-engaged activities aim to inspire?</p>
<p><b>5. Collaboration</b></p> <p><b>A</b> To what extent does CreativePEI make conversations between different fields more accessible (ex. By creating space for interdisciplinary discussion)?</p> <p><b>B</b> To what extent do CreativePEI's climate-engaged initiatives contribute to connecting people with those outside their usual spheres for collaboration, especially regarding topics that might be considered controversial?</p> <p><b>C</b> To what extent does CreativePEI contribute to multidisciplinary initiatives (between artistic fields and between arts and other disciplines. i.e science including human sciences)?</p> <p><b>D</b> To what extent does CreativePEI assess partners and sponsors for their climate impact?</p>	<p><b>6. Behaviour</b></p> <p><b>A</b> Do CreativePEI's climate-engaged activities have specific calls to action?</p> <p><b>B</b> To what extent does CreativePEI contribute to people's feelings that their actions will make a difference?</p> <p><b>C</b> To what extent do people feel they have the information they need for their actions to be effective?</p> <p><b>D</b> To what extent do CreativePEI's initiatives spark emotions that inspire people to action?</p> <p><b>E</b> To what extent do people feel empowered/disempowered after engaging with one of CreativePEI's climate initiatives?</p> <p><b>F</b> To what extent does CreativePEI's work contribute to mitigating feelings of helplessness?</p> <p><b>G</b> To what extent does CreativePEI's work contribute to mitigating feelings of apathy?</p> <p><b>H</b> To what extent does CreativePEI's work push the needle towards alternative ways of being in and with nature?</p>
<p><b>7. Building SATA engagement in the sector</b></p> <p><b>A</b> To what extent does CreativePEI create opportunities for artists to engage actively in creating dialogue around climate issues?</p> <p><b>B</b> The number of CreativePEI-affiliated artists who incorporate or include a sustainability aspect in their work.</p> <p><b>C</b> The creation of highly qualified professionals and climate leaders within the arts community.</p>	<p><b>8. Biophysical impacts</b></p> <p><b>A</b> Physical emissions produced overall</p> <p><b>B</b> Are CreativePEI's climate change activities accessible by active transportation routes?</p> <p><b>C</b> Are CreativePEI's climate-engaged activities using sustainable resources?</p> <p><b>D</b> Are CreativePEI's climate-engaged activities using local resources?</p> <p><b>E</b> Carbon footprint of packaging and materials used for the creation of work.</p>
	<p><b>9. Other</b></p> <p><b>A</b> To what extent are CreativePEI's initiatives multi-faceted?</p> <p><b>B</b> Do CreativePEI's climate efforts reflect the urgency of the climate emergency?</p> <p><b>C</b> In what ways does CreativePEI's work impact people's perceptions of the climate crisis?</p>

Figure 8 - CreativePEI's consensus-based indicators (indicators rated as both desirable and feasible)

Another example is the indicator: “In what ways does CreativePEI’s work impact people’s perceptions of the climate crisis?” (O3). “Perceptions” could encapsulate emotional connections to climate change, cognitive understandings of climate change and its consequences, political opinions related to climate change, traumatic memories from climate disasters, and more. Thus, the indicators are presented in these categories not to suggest that this is the best or only way of categorizing them, but rather for the sake of sharing these findings in an organized and fulsome discussion. The following sections explore the consensus-based indicators in more detail, by category.

#### *4.3.1.1 Audiences*

In these indicators, we can see a curiosity regarding who is, and who isn’t engaging with CreativePEI’s climate-engaged initiatives (1D-F). These indicators also reflect on the reach of activities, both in terms of attention from the media (1C), and in terms of reaching atypical audiences (1G). Existing literature highlights the power of the arts to create new entry points into climate engagement and to bring new audiences into climate discussions and actions (Gibbs et al., 2020; Shugar et al., 2019). For example, Hudson Hill (2020) states that “[the arts offer] unique pathways to forge engagement” (pg. 79). Stevens et al. (2019) highlight the specific value of integrating art and science for reaching beyond the usual audiences of climate communications. Reflecting on CreativePEI’s audiences can lead to monitoring whether their climate-engaged initiatives are reaching audiences that do not traditionally engage with climate change, or perhaps whether these initiatives are reaching folks who do not traditionally engage with the arts.

Monitoring who is and who is not taking part in CreativePEI’s initiatives also lends significantly to the process of monitoring the next category in this discussion, accessibility. By considering who is and is not taking part in climate-engaged activities, the organization can consider what barriers to participation might exist, and how programming can better integrate new audiences.

#### *4.3.1.2 Accessibility*

These indicators consider the accessibility of CreativePEI’s climate-engaged initiatives to both the public and the artistic community. This is reflective of the nature of CreativePEI’s activities, as other practitioners in the creative sector are the core community they serve and part of that work involves bringing the arts to public audiences

(CreativePEI, n.d.-b). Thus, asking questions about both the accessibility of initiatives to the artistic community, and to other public audiences, aligns with the organization's existing structure.

While CreativePEI expressed an interest in accessibility through the inclusion of these indicators, the literature suggests there is room for a more nuanced understanding of accessibility. Accessibility is a prominent theme in the existing, albeit limited, body of SATA scholarship, and many dimensions of accessibility are highlighted. Peco et al. (2021) illustrate the power of multidisciplinary initiatives and of art and science collaborations (explored further below), to make lessons and messages related to climate change both more physically and cognitively accessible. Hudson Hill (2020) speaks to the power the arts have to transport us, allowing us to see and experience things happening around the world, and far away. Thus, the arts contribute to accessibility by providing connection points to large scale challenges that go beyond the community level.

CreativePEI does include one example of a more specific accessibility consideration with an indicator that asks "Can CreativePEI's climate-engaged activities be easily recorded via photos or video" (2C), which suggests an interest in sharing work through multiple modes or channels, a key strategy for reaching new audiences (Peco et al., 2021; Rock & Gilchrist, 2021; Stevens et al., 2019). Overall, this exercise clearly established accessibility as a concern for CreativePEI but the indicators presented to measure this take a broad rather than nuanced approach.

#### *4.3.1.3 Collaboration*

Many of the indicators the group agreed on show participants identifying ways in which CreativePEI's existing skills, strengths, and resources can be leveraged towards climate impact. This is particularly reflected in the categories of "Collaboration" (5A-C) and "Building SATA engagement in the sector" (7A-C). Collaboration, networking, and making connections are core elements of CreativePEI's mission and activities outside of climate-engaged work (CreativePEI, n.d.-a).

Two of the four indicators in the collaboration category relate to facilitating connections between disciplines: “To what extent does CreativePEI make conversations between different fields more accessible?” (5A) and “To what extent do CreativePEI’s climate-engaged initiatives contribute to connecting people with those outside their usual spheres for collaboration, especially regarding topics that might be considered controversial?” (5B). CreativePEI plays a connecting and facilitating role in the sector already, and this shows an understanding of the value of that role to building multidisciplinary initiatives. This is further reflected in the indicator: “To what extent does CreativePEI contribute to multidisciplinary initiatives?” (5C). Multidisciplinary is highlighted in SATA literature as an effective mode of engaging audiences (Stevens et al., 2019). Rock & Gilchrist (2021) argue the importance of using multi-modal approaches to communicate and educate audiences on complicated topics like climate change. They explain that providing multiple modes of engagement allows for people with different learning styles, strengths, and existing beliefs to benefit from the same lesson or experience.

Finally, this category includes the indicator “To what extent does CreativePEI assess partners and sponsors for their climate impact?” (5D). This demonstrates a desire to collaborate responsibly on the part of CreativePEI. A core argument from Wahlén (2014) is that accountability in organizations can be an influential factor on individual behavior. This not only reinforces the need for more understanding of how to demonstrate accountability in SATA work, but also aligns with multiple categories of impact highlighted by CreativePEI through this study. In particular, by expressing accountability beyond the scope of just their organization, this indicator also lends to the category of behavior change. Assessing partners for their climate impact suggests an interest in using assessment to influence others towards pro-environmental behaviours.

#### *4.3.1.4 Public engagement*

Indicators reflecting on public engagement with SATA initiatives formed another focal point for impact. The public engagement indicators reflect on the degree to which public audiences are engaged in SATA projects, and the extent to which audiences are

participating and talking about topics related to climate change with one another. The focus in this category is on whether audiences are being reached, rather than on the outcomes audiences are being engaged towards. Outcomes are reflected more prominently in other categories of consensus-based indicators such as in categories 4) Emotional engagement; 6) Behaviour; 7) Building SATA engagement in the sector; and 8) Biophysical impacts.

The first indicator in this category is “To what extent does CreativePEI build capacity for public engagement?” (3A). This reinforces public engagement as an important dimension of SATA activities for CreativePEI. Public engagement is also a frequently referenced element of SATA work in the literature, with many SATA projects focusing on public engagement as a primary goal and the importance of public engagement to sustainable transformations is echoed in sustainability literature (Galafassi et al., 2018; Tàbara et al., 2017). This indicator also lends to “Building SATA engagement in the sector” (Category 7) with its focus on capacity building, though it does not necessarily limit reflection to capacity building within the arts sector and could be reflected in capacity building that happens in other sectors, through collaborations.

This category also includes “To what extent are CreativePEI’s climate-engaged initiatives participatory?”. The literature demonstrates the importance of this question. Participatory engagements are known to be more effective for achieving emotional experiences, and help to localize experiences and climate messaging (Allen & Jones, 2012; Burke et al., 2018). Bendor et al. (2017) speak to the importance of experiential resonance in sustainability related engagements. By prioritizing this question in their understanding of climate-impact, CreativePEI prioritizes integrating participatory elements into their SATA work, which has the potential to enhance the impact of their public-engagement efforts.

Together with the inclusion of public audiences in the accessibility concerns discussed above, these indicators show a desire for public engagement to be part of how CreativePEI engages in SATA activities. The indicator “To what extent has CreativePEI’s climate-engaged work created a platform to speak with audiences about topics related to climate change?” (3C) also connects public engagement with

accessibility, questioning how the organization contributes to making those connections possible and whether it is creating entry points to climate conversations. Similarly, “To what extent does CreativePEI’s work open tangible pathways to conversations about climate change with the general public?” (3D) relates to accessibility above and is supported by the literature. Stevens et al. (2019) describe blending science, art, and education in climate communications to “...provide a unique way into the science for a variety of audiences, and help to build new audiences” (pg. 289). Rock & Gilchrist (2021) speak to the power of creative outputs, in their individuality, to “diversely evoke sentiment through creative expression”. This speaks both to the arts as a diversely accessible mode of engagement, and to its particular strength in crafting emotional experiences, further discussed below.

The indicators in this category mostly focus on public engagement as a mode for doing SATA work, but they also reveal another goal of CreativePEI’s SATA initiatives: raising awareness about climate change. As Maggs (2020) presents, most existing SATA activities can be categorized under the mode “raising the profile”. A few indicators in this category reflect this: “To what extent has CreativePEI’s climate-engaged work created a platform to speak with audiences about topics related to climate change?” (3C); “To what extent does CreativePEI’s work open tangible pathways to conversations about climate change with the general public?” (3D); and, most directly, “To what extent does CreativePEI’s work contribute to raising public awareness about climate change and its impacts?” (3E). It is clear from these indicators that raising awareness about climate change is part of what CreativePEI hopes to achieve through their SATA work. Raising awareness about climate change and its impacts also lends significantly to the goal of behaviour change. As is discussed further below, awareness of a challenge and its consequences is a critical pre-condition for activating behaviours (Stern, 2018).

#### *4.3.1.5 Emotional engagement*

The inclusion of emotional indicators here show contributing to the creation of emotional experiences as a distinct goal for CreativePEI in their climate-engaged activities. This also reinforces CreativePEI’s clear understanding of the unique offerings

the arts can make to climate action. Facilitating emotional experiences is identified in the literature as a key point on which the arts can make substantial contributions to sustainable transformations (Haring et al., 2018; Hudson Hill, 2020; Maggs, 2021; Yusoff & Gabrys, 2011). Through the production of affective experiences, the arts connect with audiences in ways that information-focused sustainability communications cannot (Galafassi et al., 2018; Klein & Brosius, 2022; Rock & Gilchrist, 2021). The last indicator in this category reflects this, asking: “Do CreativePEI’s climate-engaged activities aim to inspire?” (4E). This is another indicator that speaks to the unique offering of the arts, that of sparking inspiration and imagination (Bendor et al., 2017; Galafassi et al., 2018). In a review of SATA projects Galafassi et al. (2018) investigate how scholars perceive the role of the arts in climate action. In this review, they find work focused on using inspiration to craft climate adaptations and stress the utility of that approach for engaging public audiences. They also define climate-related art as “activities, gestures, and interventions conducted through an art practice that are... inspired or catalysed by the general discourse or scientific findings on climate change” (Galafassi et al, 2018, pg. 2). From this perspective CreativePEI could also use this indicator to investigate how their work inspires artists to create climate art, as well as how it inspires other audiences.

The emotional indicators generated in this study investigate emotions including hope (4A & 4B), sadness (4A), anxiety (4A), isolation (4C), and feeling overwhelmed (4D). These indicators are on track with literature which argues for the significant utility of the arts to create emotional experiences, and the importance of emotional engagement for better understanding and navigating climate change (Burke et al., 2018; Galafassi et al., 2018; Rock & Gilchrist, 2021). Hudson Hill (2020), highlights the utility of positive and negative emotions experienced together and the importance of such experiences for memory and learning. Bendor et al (2017) argue for the utility of unpleasant or complex experiences for provoking deep reflection. Emotional indicators are also important in this study because of the significant link between emotional engagement and behaviour change, explored further below.

#### *4.3.1.6 Behaviour*

There is significant study linking behaviour change and emotional engagement. Emotional engagement has been shown to be as important for affecting behaviour (if not more so) than cognitive engagement and its neglect in behaviour change campaigns has been linked to campaign failures (Burke et al., 2018; Thomas et al., 2019). The final list of consensus-based indicators included eight indicators directly related to fostering pro-environmental behaviour through SATA activities. Of those eight indicators, six reflect on how audiences feel after engaging in a climate initiative including “To what extent do CreativePEI’s initiatives spark emotions that inspire people to action?” (6D); “To what extent does CreativePEI’s work contribute to mitigating feelings of helplessness?” (6F); and “To what extent does CreativePEI’s work contribute to mitigating feelings of apathy?” (6G). While these indicators could also be considered under “Emotional engagement”, each of these is asking specifically about preconditions for action.

Evaluating preconditions for behaviours is a common way of approaching outcome evaluation of behaviours (Thomson et al., 2010). The concepts of NAT and action competence both support this approach. In NAT, norm-based behaviours are activated when an individual has an awareness of a challenge’s consequences, a sense of responsibility for those consequences, an awareness of solutions, and an ability to enact those solutions (Stern, 2018). Action competence comprises an individual’s ability and willingness to take intentional actions aimed at addressing environmental issues. Similar to NAT, action competence requires knowledge of the challenge and solutions, a desire to act, belief in one’s ability to take action, and action experience (Zhan et al., 2019).

These prerequisites for taking pro-environmental action are reflected in CreativePEI’s behaviour indicators (see indicators 6B-G). Through these indicators, CreativePEI demonstrates an understanding of the complexity of measuring behaviour change. This is further affirmed through the indicators CreativePEI was interested in, but ultimately decided were not feasible to measure, discussed below. In response to the challenge of measuring behaviour change, the Delphi participants made links to specific conditions that drive behaviour change. The resulting indicators investigate feelings that actions will be impactful, feelings of empowerment, and interest in solutions.



Recalling Wahlén (2014), accountability in organizations can be an influential factor on the behaviour of individuals. CreativePEI’s expressed desire to measure the impact of the SATA activities it participates in lends to its ability to influence the behaviours of audiences. In spite of the interest shown here in assessing behaviour change as a SATA outcome, there is a lack of literature exploring behaviour change specifically resulting from arts-based sustainability activities (Burke et al., 2018). However, behaviour change is a very commonly considered outcome in other sustainability related fields of evaluation, such as conservation education for example (Monroe et al., 2019). Studies in this field similarly turn to indicators regarding the conditions for behaviour change such as affinity with nature, appealing to social norms, and conditions of action competence (Monroe et al., 2019; Thomas et al., 2019; Zhan et al., 2019).

Finally, the group included an indicator in this category: “To what extent does CreativePEI’s work push the needle towards alternative ways of being in and with nature?” (6H). This investigates behaviour by asking for “alternative ways of being in and with nature”, while also indicating a broader goal of shifting our relationship with nature. Recalling insights from conservation education above, affinity for nature is another commonly examined pre-condition for pro-environmental behaviour in evaluation of conservation and environmental education programming (Monroe et al., 2019). By asking about alternative ways of being *with* nature, this indicator also suggests a desire to engage with transformative thinking about how we view the natural world, and we are asked to reconsider our behaviors and relationships.

#### *4.3.1.7 Building SATA engagement in the sector*

Two indicators in this category focus on supporting and engaging with artists to create art in the SATA realm: “To what extent does CreativePEI create opportunities for artists to engage actively in creating dialogue around climate issues?” (7A) and “The number of CreativePEI-affiliated artists who incorporate or include a sustainability aspect in their work” (7B). These indicators connect strongly to CreativePEI’s existing capabilities. As an organization mandated to support the “outcomes and incomes” of

artists on PEI, indicator 7A presents a direct connection between existing skills and capacities, and ways of engaging in SATA. In this case, the climate lens turns “create opportunities for artists” into “create climate-focused opportunities for artists”.

These indicators also respond directly to calls from the literature to the arts sector to grow engagement with climate art (Galafassi et al., 2018; Yakamovich & Wright, 2021). A number of scholars speak to the utility of climate art projects to achieving outcomes such as public engagement, emotional engagement including garnering empathy, and sparking cultural transformations toward sustainability while others make direct calls for increased practice of climate art, and collaborations between artists and researchers (Gibbs et al., 2020; Hudson Hill, 2020; Peco et al., 2021; Rock & Gilchrist, 2021; Shugar et al., 2019). Galafassi et al. (2018) identify a growing practice of climate art but find limitations in the range of climate-related topics addressed, suggesting room for expansion of engagements that root in the multidimensional nature of the climate crisis. The diversity of indicators generated in this study suggests a degree of recognition and engagement with that multidimensionality.

The last indicator in this category, “The creation of highly qualified professionals and climate leaders within the arts” (7C), suggests that CreativePEI does not see themselves as the climate experts and leaders in the community, but rather as an organization that can uplift the development of this expertise in the broader arts community. This is also reflected in their previous and ongoing collaborations with The River Clyde Pageant, a pageant that “draws attention to the history, mythology and contemporary environmental issues associated with PEI rivers and waterways” (The River Clyde Pageant, 2022). By engaging with artists and organizations experienced in SATA activities, CreativePEI can apply complementary capacity and support existing expertise.

#### *4.3.1.8 Biophysical impacts*

A number of indicators on biophysical dimensions of climate impact were included in the final set of 46. These indicators considered physical impacts of climate change in a few ways, looking at emissions and resources used as well as accessibility of activities by active transit. This demonstrates a bottom-line desire from CreativePEI to contribute

towards physical climate mitigations and adaptations through their activities in addition to the emotional, collaborative, and behavioural goals that have been outlined above.

Conservation scholarship lends some insight to these indicators. Wahlén (2014) presents a theoretical framework for understanding evaluation in conservation NGOs which is grounded in part in a reflection on the state of existing indicators in conservation evaluation scholarship. This reflection shows an inclination towards quantitative measures, and in particular towards biodiversity related indicators, regardless of whether the goals of the organization are to directly impact biodiversity (Wahlén, 2014). The inclination to include quantitative, biophysical indicators in climate-impact measurement, is reflected in this study.

Conversely, Thomas et al. (2019) find limited study of conservation education evaluations that actually measured ecological impact, with evaluations focusing instead on cognitive and behavioural outcomes. They suggest that barriers to operationalizing impact measurement of ecological indicators may have prevented those indicators from being studied in program evaluation. In this context, this may represent a knowledge gap among the participants of this study, of some of the practical challenges of meaningfully measuring things like overall emissions and footprints. Thus, it is possible challenges with operationalizing these indicators will emerge for CreativePEI.

#### *4.3.1.9 Other*

These final indicators were difficult to categorize and reflect the multidimensional nature of SATA. The first two indicators in this category, “To what extent are CreativePEI’s initiatives multifaceted?” (9A) and “Do CreativePEI’s climate efforts reflect the urgency of the climate emergency?” (9B), could be considered alongside collaboration indicators and behaviour or emotional indicators, respectively. 9A and 9B could also be considered indicators of the content CreativePEI is interested in including in their SATA activities.

A “Program content” category could be identified from the indicators discussed in this paper, but its boundaries are not obvious. For example, indicators 6H “To what

extent does CreativePEI’s work push the needle towards alternative ways of being in and with nature?” and 6A “Do CreativePEI’s climate-engaged activities have specific calls to action?” draw clear links to specific program content. However, as these are indicators designed to assess programs, most ultimately inform the content of activities to some degree, thus making it hard to delineate a distinct category, without losing the other nuances that are present in these indicators.

The third indicator in this category, “In what ways does CreativePEI’s work impact people’s perceptions of the climate crisis?” (9C), is an important and broad indicator that nods to a key theme of existing SATA literature, that of the power of the arts to shift hearts and minds. The multidisciplinary potential of the word “perceptions” is explored above, but this indicator gets to the core of what existing SATA practice and scholarship suggest, that the arts have a unique offering to make in cultural shifts towards sustainable futures (Boulton, 2016; Galafassi et al., 2018; Hudson Hill, 2020; T. Wright & Kent, 2015). This indicator also suggests that cultural transitions is another emergent theme from these indicators. This is discussed further in the next section.

Altogether, the diverse and robust set of consensus-based indicators resulting from this process show the utility of the Delphi method in facilitating reflection on impact in SATA work. These indicators represent a foundational starting point, with significant links to the literature, upon which CreativePEI can build further understanding of their climate impact. They will also inform the development of a preliminary climate-impact framework for CreativePEI.

In addition to these consensus-based items, there are 32 indicators which the group did not reach consensus on. Though these items were not deemed by participants to be both desirable and feasible in CreativePEI’s context, they may still prove useful to other organizations exploring evaluation of their work through a climate lens. In particular, I am interested in those indicators which participants agreed are desirable, but where they were unable to reach agreement on feasibility. These indicators are the focus of this section.

### 4.3.2 Items with feasibility barriers

Of the final ratings made by participants, 12 were indicators the group agreed were desirable, but where there was disagreement on feasibility. Expanding the discussion to these indicators opens new questions regarding measuring challenging outcomes. The 12 indicators with feasibility barriers add to existing categories presented above and reveal two new impact areas of interest: dialogue and discourse, and cultural transformations. All indicators deemed to be desirable, but not feasible, are presented in Figure 9 below.

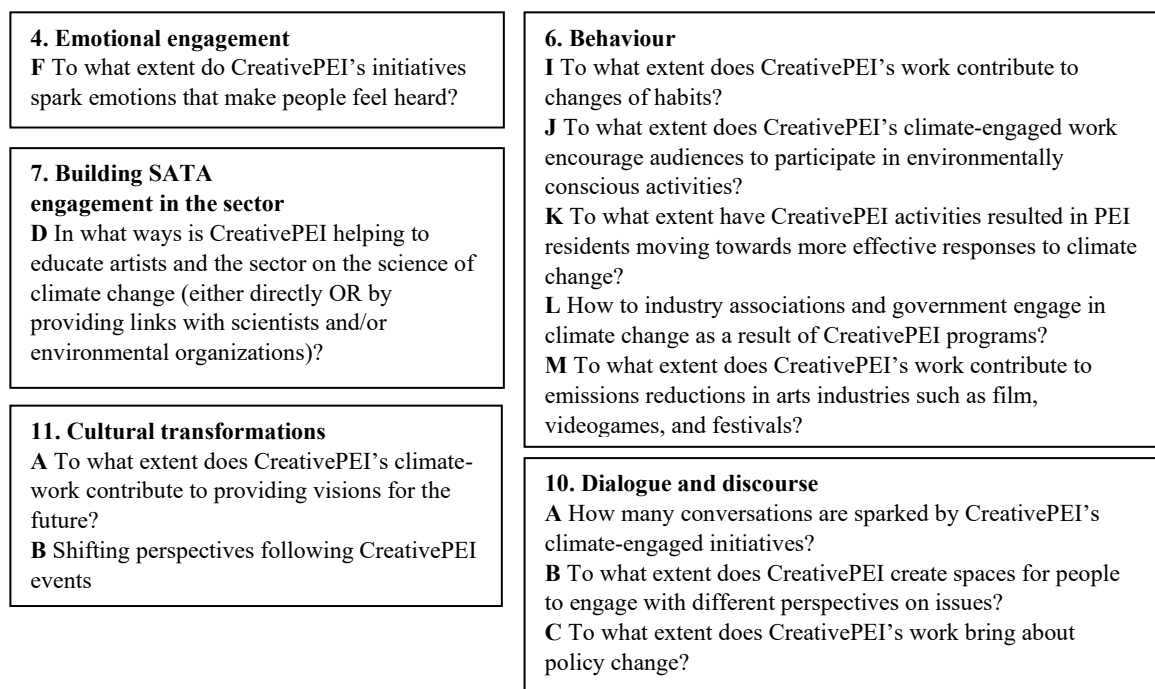


Figure 9 - Items with agreement on desirability and disagreement on feasibility

#### 4.3.2.1 Behaviour

The indicators in this category further reinforce the above finding that CreativePEI is interested in behaviour change as an outcome of their work, and that they recognize the challenges in measuring behaviour change. In Figure 8 above, there are three indicators directly questioning the impact of CreativePEI's activities on pro-environmental behaviour (6I, 6J, & 6K). Whereas the indicators in the above consensus-based category explore questions about conditions for behaviour change (6B, 6C, 6D, 6E, 6F, 6G), those that fell in this category ask bigger questions about the extent to which

behaviour change is actually happening as a result of the organization's activities. This strategy is reflected in the literature and is a supported method for evaluating impact on behaviour change, when direct measurement is not feasible in a given context (Thomas et al., 2019).

Two more indicators in this category consider behaviour on an industry level, asking how industry and government engage with climate change (6L), and reduce emissions (6M), in response to CreativePEI's work. The scale of these could be a reason they were not rated consistently as feasible. That said, advocacy is not an unfamiliar concept for CreativePEI. In fact, they describe "[Becoming] the key voice of the sector", via advocacy, as a key strategic direction for the organization (CreativePEI, n.d.-a). Thus, influencing the provision of funding to the creative sector on the island, and advocating for cultural policy that includes climate considerations (and vice versa), could be considered as relevant SATA activities for CreativePEI's mandate and the feasibility of these indicators might benefit from further consideration by the organization.

#### *4.3.2.2 Emotional engagement*

One indicator related to emotional engagement was rated as desirable but not feasible: "To what extent do CreativePEI's initiatives spark emotions that make people feel heard?" (4F). This indicator stands out slightly from the five indicators on emotional engagement that landed in the consensus-based category, though it does not represent a dramatic departure from the others, which raises questions. The indicators that were rated as feasible ask somewhat more straightforward questions about emotion. The difference in the rating indicates that the ambiguity of what specific emotions might be measured, or how that indicators would be practically approached, may have caused it to be rated with low feasibility. Second, literature on environmental education evaluation shows a well-established practice of measuring cognitive outcomes of programs (which includes emotional engagement), showing that such practices are common and well supported (Thomas et al., 2019). This suggests a potential knowledge gap among the practitioners who participated in this study where there may be space to expand the understanding of measuring emotional engagement, beyond asking for reports of specific emotions. A

solution in this case could be providing the organization with that information to support an evidence-based approach.

#### *4.3.2.3 Building SATA engagement in the sector*

One indicator related to building SATA engagement in the arts sector was rated by the participants as desirable, but not feasible. Indicator 7D asks “In what ways is CreativePEI helping to educate artists and the sector on the science of climate change?”. Feasibility might have been considered a challenge by participants here due to a perceived distance between CreativePEI’s existing skill set, and the specifics of climate education. However, this indicator could be made relevant if considered through the lens of collaboration, where CreativePEI might play a facilitating or connecting role, rather than as the educators. Further, CreativePEI does play an educational role within the arts sector, offering training on “pan-sectoral skills” (CreativePEI, n.d.-a). Thus, while this indicator may have ended up here due to the organization’s lack of internal capacity to provide education on climate-science, it is not immediately clear why this indicator would not be feasible when considered alongside the organization’s highly collaborative approach.

#### *4.3.2.4 Dialogue and discourse*

With the addition of indicators with feasibility barriers to the analysis, another category of interest appeared: dialogue and discourse. The indicators in this category ask questions about the extent to which we talk to one another about climate change (10A), and how opportunities are created for people to engage with different perspectives on issues (10B). Had more of these items been rated as feasible, this category may have captured a significant number of the consensus-based indicators and appeared earlier. Regardless, it now suggests a prominent category of interest. “Dialogue and discourse” includes indicator 10A: “How many conversations are sparked by CreativePEI’s climate-engaged initiatives?”. It is clear why this was likely rated as unfeasible; conversations are hard to track. But it hints at a theme that stands out clearly when we reflect on the consensus-based indicators above. At least seven consensus-based indicators (see 4B, 3C, 3D, 5A-C, and 7A) ask questions about conversations and dialogue among groups. Feasibility challenges aside, this shows a distinct impact area of interest to CreativePEI.

It is also an important area of engagement for facilitating the transformational learning that must occur for climate adaptation (Tyszczyk & Smith, 2018). Engaging with new and different perspectives on issues, and engaging with community to build resilience are needed climate adaptations and are entry points for the arts to engage on climate (Bentz et al., 2021; Galafassi et al., 2018; IPCC, 2023; Province of Nova Scotia, 2022).

Also in this category is an indicator that asks: “To what extent does CreativePEI’s work bring about policy change?” (10C). The inclusion of this indicator raises the same question as posed in above categories. As mentioned, advocacy is part of CreativePEI’s existing, non-climate focused work, making it unclear why this may have been considered unfeasible to measure. Finally, like in the consensus-based categories above, the indicators here remind us that the boundaries between these groupings of indicators are blurred. Indicators 10B and 10C in particular lend to the next category in this discussion: “Cultural transformation”.

#### *4.3.2.5 Cultural transformation*

Like the above category of dialogue and discourse, analysis of the indicators rated as desirable but not feasible revealed another emergent category, this one comprised of two indicators related to achieving cultural transformations towards sustainable futures in the face of climate change. The indicators in this category are “To what extent does CreativePEI’s climate-work contribute to providing visions for the future?” (11A) and “Shifting perspectives following CreativePEI events” (11B). Both indicators push past common climate-impact measures like behaviour change and emissions reductions, into the deep relational cultural values and ways of being and knowing, that are inevitably transforming in the face of climate change (Tyszczyk & Smith, 2018).

Recalling indicators from the consensus-based categories above, there are further points of interest related to achieving cultural shifts via SATA (see indicators 9C, 4E, and 6H in Figure 9 above). These indicators ask how CreativePEI impacts perceptions of climate change (9C), whether the activities aim to inspire (4E), and the extent to which CreativePEI pushes people towards new ways of being in and with nature (6H). These indicators, alongside 11A and 11B above, investigate the ways we think about climate



change and our place and role in the natural world. In the literature, these things (changing perceptions, imagining futures, and inspiring new relationalities) are heralded as the unique value offering the arts has to make to the climate emergency. Bendor et al., (2017) find that experiential exhibits that engage audience's perceptions and deeply held beliefs is an effective engagement avenue for the arts. Tyszczyk & Smith (2018) find that the arts support a more fulsome understanding of climate change and join "fact-making" and "meaning-making", an essential exercise in imagining future scenarios. Maggs (2020) identified "reauthoring the world" as the essential offering the arts have to make to climate action. As Maggs defines it, "reauthoring the world" applies imagination and creativity to "embolden communities to find their own climate visions through the aesthetic". This dimension of SATA impact is reflected in the indicators in this category.

The indicators shown in Figure 8 and discussed in this section are of particular interest as indicators CreativePEI found to be desirable, but which they did not feel they have ways of monitoring, measuring, or reflecting on. Finding feasible ways of measuring the indicators from this category that were deemed not feasible would allow for transformational impact to be better understood and documented and help with communicating the unique value of the arts and its utility in the face of the climate emergency.

In the development of the preliminary impact framework for CreativePEI, these indicators will be considered for their desirability, and consideration will be given to ways of making their measurement more feasible. In conversations around feasibility, we can also recall the focus of CreativePEI on collaboration. These indicators were produced with CreativePEI's context in mind. In collaborative projects, capacities and capabilities change. Thus, it is possible that the feasibility of the indicators could change depending on who CreativePEI's future collaborators are. Also, further discussion with the participants about how they considered feasibility, and how they picture measuring or monitoring certain indicators, would add further insight to how these items were categorized.

#### **4.4 Conclusion**

In response to the research question, “What indicators can be used to determine the impact of CreativePEI’s climate-engaged work?”, participants generated 78 impact indicators, 46 of which participants agreed to be both feasible and desirable. The 46 consensus-based indicators revealed both goals of the organization’s work, and qualities and characteristics of how that work should be carried out. Consensus-based indicators were found in nine categories that developed in the analysis of the results: 1) Audiences, 2) Accessibility, 3) Public engagement, 4) Emotional engagement, 5) Collaboration, 6) Behaviour, 7) Building SATA engagement in the sector, 8) Biophysical impacts, and 9) Other.

The Delphi process also revealed a number of indicators which members of CreativePEI saw as desirable but not necessarily feasible for inclusion. Indicators were added to categories 4) Emotional engagement, 6) Behaviour, and 7) Building SATA engagement in the sector and highlighted two additional categories of indicators: 10) Dialogue and discourse and 11) Cultural transformations. Reflection on these indicators showed that, when we expand our understanding of what is feasible, both “dialogue and discourse” and “cultural transformations” become important focal points within CreativePEI’s conceptualization of impact. The indicators identified in this study reveal synergies between existing literature on the potentialities of SATA work and the impact areas CreativePEI conceptualizes for their engagement with climate change. This overlap also demonstrates a clear understanding within CreativePEI of the unique value of the arts, and how that value might be applied to climate change, even without significant climate-specific expertise in the participant pool.

The 46 consensus-based indicators developed by the participants in this Delphi process will inform the construction of a preliminary impact framework for adaptation and use by CreativePEI. These indicators will be supplemented with findings from interviews with key CreativePEI stakeholders presented in Chapter 3, as well as with findings derived from the literature. As such, the Delphi results presented here should be understood as a major component of building the framework – one that is reflective of the organization’s values and capabilities. Thus, these findings represent an in-depth engagement with climate impact as well as a significant resource for CreativePEI. It

should also be noted that this marks an early engagement with SATA activities for CreativePEI, a process which only began in 2021. With further discussion, reflection, and experience with SATA work, CreativePEI's perception of the desirability and feasibility of indicators may change, and as such the indicators presented in this paper should not be considered static. These categories and their contents could evolve as CreativePEI learns more about how their own activities intersect with climate change and sustainable transformations. That said, the indicators also overlap significantly with CreativePEI's existing mandate and activities, suggesting that the Delphi method is an effective approach for facilitating thought and discussion in which a climate-lens is applied to an organization's context.

The results of this research also feed curiosity about how this process might be used by or with other organizations. The success of this exercise in identifying relevant indicators suggests that the Delphi method is useful for generating impact indicators within an organization's specific context. This is particularly supported by the significant overlap found between what SATA scholarship asks of the arts in the face of climate change, and the impact CreativePEI wants to have and feels suited to work towards. This study also injects new understanding of civic impact measurement in the arts, lending to an appetite within the sector for new tools (Bendor et al., 2017). Finally, the full indicator list (those which CreativePEI reached consensus on and those they did not) can be useful for other practitioners considering impact in their unique contexts. While CreativePEI's desirability and feasibility ratings are unique to them, the list of potential indicators serves as a resource which I hope others will draw from as they investigate and approach measuring the impact of future SATA activities.

The success of the Delphi method in this study also presents implications for SATA researchers. This study is a preliminary exploration of how the Delphi method can be used to help organizations conceptualize their own understandings and framings of impact, and specifically the impact of SATA activities. The success of this case suggests an interesting thread for researchers to pull on, and more exploration is needed to further verify the utility of the Delphi method for generating SATA impact indicators in contexts outside of CreativePEI.

Another question raised in this study is around the feasibility of measuring indicators that reflect the unique value of the arts. In some cases, items that were rated as not feasible may have been rated in that way due to the scale of work that would be required to provide meaningful measurement. This is an area where researchers have the potential to contribute capacity. By conducting further study of the impact of SATA activities, particularly investigating the perspectives of organizations carrying out the work, we can engage in reciprocity with practitioners as we learn from them and share knowledge in return.

In addition to posing new questions, this study also suggests that existing SATA literature is accurately reflecting what those within the sector understand to be the unique value offering of the arts. This area of scholarly inquiry is still very much in its infancy, and there is significant space for new questions and study to inform SATA mobilization. Going forward, deeper engagement with implementing impact measurement, and exploring ways of improving the feasibility of measuring complex goals, are priority areas identified by this research. As discussed previously, further engagement is needed with questions of feasibility, both within the context of CreativePEI and regarding the measurement of deep cultural shifts resulting from SATA work.

This paper explored the development of impact indicators, but the implementation and process of evaluation is out of the scope of this work. A limited number of resources exist to support the implementation and execution of evaluation processes, but few are designed with a focus on the specific impact of SATA activities. Thus, further research and development can help guide the unique power of the arts towards essential sustainable transformations.

## **4.5 References**

Allen, J., & Jones, S. P. (2012). Tilting at Windmills in a changing climate: A performative walking practice and dance-documentary film as an embodied mode of engagement and persuasion. *Research in Drama Education: The Journal of*

- Applied Theatre and Performance, 17(2), 209–227.  
<https://doi.org/10.1080/13569783.2012.670423>
- Animating Democracy. (2017). Aesthetic Perspectives.  
<http://animatingdemocracy.org/aesthetic-perspectives>
- Autio, M., Collins, R., Wahlen, S., & Anttila, M. (2013). Consuming nostalgia? The appreciation of authenticity in local food production. *International Journal of Consumer Studies*, 37(5), 564–568. <https://doi.org/10.1111/ijcs.12029>
- Bendor, R., Maggs, D., Peake, R., Robinson, J., & Williams, S. (2017). The imaginary worlds of sustainability: Observations from an interactive art installation. *Ecology and Society*, 22(2), art17. <https://doi.org/10.5751/ES-09240-220217>
- Bentz, J. (2020). Learning about climate change in, with and through art. *Climatic Change*, 162(3), 1595–1612. <https://doi.org/10.1007/s10584-020-02804-4>
- Bentz, J., do Carmo, L., Schafenacker, N., Schirok, J., & Corso, S. D. (2021). Creative, embodied practices, and the potentialities for sustainability transformations. *Sustainability Science*. <https://doi.org/10.1007/s11625-021-01000-2>
- Boulton, E. (2016). Climate change as a “hyperobject”: A critical review of Timothy Morton’s reframing narrative. *WIREs: Climate Change*, 7(5), 772–785.  
<https://doi.org/10.1002/wcc.410>
- Brown, A., Carnwath, J., & Doeser, J. (2019). Qualitative Impact Framework. Canada Council for the Arts. <https://canadacouncil.ca/research/research-library/2019/12/qualitative-impact-framework>
- Burke, M., Ockwell, D., & Whitmarsh, L. (2018). Participatory arts and affective engagement with climate change: The missing link in achieving climate compatible behaviour change? *Global Environmental Change*, 49, 95–105.  
<https://doi.org/10.1016/j.gloenvcha.2018.02.007>
- Creative Green Tools. (n.d.). Julie’s Bicycle. Retrieved February 23, 2023, from <https://juliesbicycle.com/our-work/creative-green/creative-green-tools/>

- CreativePEI. (n.d.-a). About – Creative PEI. Retrieved February 25, 2023, from <https://creativepei.ca/about/>
- CreativePEI. (n.d.-b). Services and Initiatives. Retrieved March 14, 2023, from [https://creativepei.ca/services\\_initiatives/](https://creativepei.ca/services_initiatives/)
- Davis, M. (2020). Opera Civic Impact Framework. Opera.ca. [https://www.opera.ca/wp-content/uploads/2020/01/opera\\_civic\\_impact\\_framework\\_full\\_report\\_1.pdf](https://www.opera.ca/wp-content/uploads/2020/01/opera_civic_impact_framework_full_report_1.pdf)
- Galafassi, D., Kagan, S., Milkoreit, M., Heras, M., Bilodeau, C., Bourke, S. J., Merrie, A., Guerrero, L., Pétursdóttir, G., & Tabara, J. D. (2018). ‘Raising the temperature’: The arts on a warming planet. *Current Opinion in Environmental Sustainability*, 31, 71–79. <https://doi.org/10.1016/j.cosust.2017.12.010>
- Gibbs, L., Williams, K., Hamylton, S., & Ihlein, L. (2020). ‘Rock the Boat’: Song-writing as geographical practice. *Cultural Geographies*, 27(2), 311–315. <https://doi.org/10.1177/1474474019886836>
- Haring, U., Sorin, R., & Caltabiano, N. J. (2018). Circling the Cyclone: Children’s Understanding of Natural Disasters through the Arts. *The International Journal of Pedagogy and Curriculum*, 25(4), 1–15. <https://doi.org/10.18848/2327-7963/CGP/v25i04/1-15>
- Howard, Q., Granzoti, J., & Large, C. (n.d.). Getting Started with Coastal and Estuarine Living Shoreline Projects: Guidance and resources for PEI Watershed Groups. Prince Edward Island Watershed Alliance. Retrieved February 15, 2023, from [https://drive.google.com/file/d/1Af7Npt\\_ucl-NIXlq2kgIDbxjw4MVeHbL/view?usp=embed\\_facebook](https://drive.google.com/file/d/1Af7Npt_ucl-NIXlq2kgIDbxjw4MVeHbL/view?usp=embed_facebook)
- Hudson Hill. (2020). A Terrible Beauty: Art and Learning in the Anthropocene. <https://www.tandfonline.com/doi/epub/10.1080/10598650.2020.1723357?needAccess=true>
- IPCC. (2023). AR6 Synthesis Report: Climate Change 2023. <https://www.ipcc.ch/report/ar6/syr/>
- Kimmerer, R. W. (2015). Braiding Sweetgrass. Milkweed Editions.

- Klein, B. A., & Brosius, T. (2022). Insects in Art during an Age of Environmental Turmoil. *Insects*, 13(5), 448. <https://doi.org/10.3390/insects13050448>
- Maggs, D. (2020, July 21). Art, after virus: Seven questions for a sector on the edge. *The Philanthropist Journal*. <https://thephilanthropist.ca/2020/07/art-after-virus-seven-questions-for-a-sector-on-the-edge/>
- Maggs, D. (2021). *Art and the World After This*. Metcalf Foundation. <https://metcalffoundation.com/wp-content/uploads/2021/06/Art-and-the-World-After-This.pdf>
- Mass Culture. (2022). *Research in Residence: Arts' Civic Impact Methods Report*. <https://massculture.ca/wp-content/uploads/2022/09/RinR-METHODS-REPORT.pdf>
- Monroe, M. C., Plate, R. R., Oxarart, A., Bowers, A., & Chaves, W. A. (2019). Identifying effective climate change education strategies: A systematic review of the research. *Environmental Education Research*, 25(6), 791–812. <https://doi.org/10.1080/13504622.2017.1360842>
- Peco, V. G., Garzón-Arenas, N., Espinel, J. C., & Herrero, C. (2021). Sculpture and New Technologies in Scientific Educational Outreach: 3D Foraminiferal Models as a Referent of Ocean Acidification and Climate Change. *Artnodes*, 28, Article 28. <https://doi.org/10.7238/artnodes.v0i28.385398>
- Province of Nova Scotia. (2022). *Weathering what's ahead: Climate change risk and Nova Scotia's well-being*. <https://climatechange.novascotia.ca/sites/default/files/uploads/climate-change-risk-report.pdf>
- Riverworks. (n.d.). *The River Clyde Pageant*. Retrieved February 15, 2023, from <https://www.riverclydepageant.com/riverworks>
- Rock, J., & Gilchrist, E. (2021). Creating empathy for the more-than-human under 2 degrees heating. *Journal of Environmental Studies and Sciences*. <https://doi.org/10.1007/s13412-021-00718-w>

- Shugar, D., Colorado, K., Clague, J., Willis, M., & Best, J. (2019). 'Boundary': Mapping and visualizing climatically changed landscapes at Kaskawulsh Glacier and Kluane Lake, Yukon. *Journal of Maps*, 15(3), 19–30.  
<https://doi.org/10.1080/17445647.2018.1467349>
- Sims, R. (2009). Food, place and authenticity: Local food and the sustainable tourism experience. *Journal of Sustainable Tourism*, 17(3), 321–336. <https://doi.org/DOI:10.1080/09669580802359293>
- Stern, M. (2018). *Social Science Theory for Environmental Sustainability—A Practical Guide*. Oxford University Press.
- Stevens, C., O'Connor, G., & Robinson, N. (2019). The connections between art and science in Antarctica: Activating Science\*Art. *Polar Record*, 55(4), 289–296.  
<https://doi.org/10.1017/S0032247419000093>
- Tàbara, J. D., St. Clair, A. L., & Hermansen, E. A. T. (2017). Transforming communication and knowledge production processes to address high-end climate change. *Environmental Science & Policy*, 70, 31–37.  
<https://doi.org/10.1016/j.envsci.2017.01.004>
- The River Clyde Pageant. (2022). *Our Story*. The River Clyde Pageant.  
<https://www.riverclydepageant.com/about>
- Thomas, R., Teel, T., Bruyere, B., & Laurence, S. (2019). Metrics and outcomes of conservation education: A quarter century of lessons learned. *Environmental Education Research*, 25(2), 172–192.  
<https://doi.org/10.1080/13504622.2018.1450849>
- Thomson, G., Hoffman, J., & Staniforth, S. (2010). *Measuring the Success of Environmental Education Programs*. Alberta Council for Environmental Education.  
[https://www.abcee.org/sites/default/files/Measuring\\_the\\_Success\\_Sept\\_7\\_2010-1.pdf](https://www.abcee.org/sites/default/files/Measuring_the_Success_Sept_7_2010-1.pdf)



- Tyszczyk, R., & Smith, J. (2018). Culture and climate change scenarios: The role and potential of the arts and humanities in responding to the '1.5 degrees target.' *Current Opinion in Environmental Sustainability*, 31, 56–64.  
<https://doi.org/10.1016/j.cosust.2017.12.007>
- Vermeulen, M., & Maas, K. (2021). Building Legitimacy and Learning Lessons: A Framework for Cultural Organizations to Manage and Measure the Social Impact of Their Activities. *The Journal of Arts Management, Law, and Society*.  
<http://www.tandfonline.com/doi/abs/10.1080/10632921.2020.1851839>
- Wahlén, C. (2014). Constructing Conservation Impact: Understanding Monitoring and Evaluation in Conservation NGOs. *Conservation and Society*, 12(1), 77.  
<https://doi.org/10.4103/0972-4923.132133>
- Wright, T., & Kent, C. (2015, November). What role can the arts play in achieving the goals of education for sustainable development? *Global Cleaner Production Conference Proceedings*, Barcelona, Spain.
- Yakamovich, J., & Wright, T. (2021). Care-full, convivial, curious: Weaving Canadian artists' conceptions of art as a form of transformative environmental education. *The Journal of Environmental Education*, 52(4), 223–238.  
<https://doi.org/10.1080/00958964.2021.1929801>
- Yusoff, K., & Gabrys, J. (2011). Climate change and the imagination. *WIREs Climate Change*, 2(4), 516–534. <https://doi.org/10.1002/wcc.117>
- Zhan, Y., He, R., & So, W. W. M. (2019). Developing elementary school children's water conversation action competence: A case study in China. *International Journal of Early Years Education*, 27(3), 287–305.  
<https://doi.org/10.1080/09669760.2018.1548346>

## Chapter 5: Conclusion

### **5.1 Review of major results**

The research undertaken for this thesis explored the role and impact of arts organizations in fostering sustainable transformations required for humanity's survival in the face of climate crisis. Working through the case of CreativePEI, I undertook two phases of study (semi-structured interviews and a Delphi study) to investigate the organization's conceptualization of their role in the emergency, and to begin understanding indicators of impact for SATA work. The sections below outline major findings from this research, and present a preliminary impact framework for CreativePEI, based on the findings.

#### ***5.1.1 Interview results***

Phase 1 of this study involved semi-structured interviews with nine key stakeholders of CreativePEI. These interviews sought to answer the question: "How does CreativePEI conceptualize their role in fostering transformations towards climate action and adaptation?". NAT was used to guide the interview questions, which were based on three themes: 1) Questions about the participants' conceptualizations of climate change, 2) Questions about the role of the arts in climate adaptation, and 3) Questions about what CreativePEI can offer and what barriers exist. Theme one investigates the participants' awareness of the consequences of climate change, and their sense of responsibility for those consequences, two key conditions defined in NAT (Stern, 2018). Theme two asks about the intersection between the arts and climate change in order to uncover the participants' awareness of the unique solutions the arts have to offer to the climate emergency, as identified in the literature. Finally, theme three asks about CreativePEI's specific context, capabilities, and limitations. These questions helped us to understand CreativePEI's feelings of capability to contribute to existing solutions through SATA activities, another key condition of activating pro-environmental activities in NAT (Stern, 2018).

From these three areas of inquiry, a fulsome picture of CreativePEI’s positioning and readiness to engage in future SATA activities was developed. I found that through collaborative and multidisciplinary efforts, including engagement with SATA scholars towards co-learning and knowledge-sharing, CreativePEI has the potential to make meaningful ongoing contributions to climate action. The participants demonstrated an understanding of the multidimensionality and scale of the climate emergency, and the need for action from all sectors, including a sense of responsibility for the arts sector to use its platform towards sustainable transformations. As an arts organization, CreativePEI is well situated and appropriately skilled to contribute to SATA work, and participants expressed a desire for the organization to sustain some level of engagement with SATA activities. With existing capabilities and strategic priorities that focus on supporting artists, facilitating collaboration, and fostering knowledge and skill-sharing in the arts sector, CreativePEI offers what SATA work needs. For CreativePEI, these interviews reveal pathways and potentialities for future climate-engaged projects. For SATA researchers, this work shines light on the importance of considering the unique contexts and capabilities of practitioners carrying out SATA work. Further, these interviews showcase an example of an arts organization with a mandate not directly tied to climate change, undergoing a thought process of imagining their work through a climate lens.

### ***5.1.2 Delphi study results***

Phase 2 of this research was a Delphi study. This Delphi study engaged 15 participants (10 to completion) and investigated the question: “What indicators can be used to inform CreativePEI’s understanding of their climate impact?”. Through the Delphi study, participants generated a total of 78 impact indicators, and reached consensus that 46 of those indicators were both desirable and feasible for inclusion in an impact framework for CreativePEI’s SATA activities. From the 46 consensus-based indicators, nine categories revealed both goals of CreativePEI’s SATA work, and modes of achieving those outcomes: 1) Audiences, 2) Accessibility, 3) Public engagement, 4) Emotional engagement, 5) Collaboration, 6) Behaviour, 7) Building SATA engagement in the sector, 8) Biophysical impacts, and 9) Other. The Delphi exercise also resulted in a number of indicators which the participants were interested in including in their

exploration of impact, but which they did not agree were feasible to measure, monitor, or reflect on meaningfully. These indicators built upon the categories of 4) Emotional engagement; 6) Behaviour; and 7) Building SATA engagement in the sector. They also shed light on two new categories of interest: 10) Dialogue and discourse and 11) Cultural transformations. The Delphi study successfully generated impact indicators for understanding CreativePEI's SATA activities, and the results showed significant overlap with existing SATA literature and a clear understanding within CreativePEI of the unique value of the arts.

## **5.2 Building an impact framework for CreativePEI**

The combined results of these two phases of the larger study helps to inform the development of a preliminary climate-impact framework for CreativePEI. Between the interview and Delphi results presented above, CreativePEI stakeholders give a clear view of the focus areas to be included in the impact framework. What follows below is a discussion of how the interviews and Delphi study inform the framework, along with discussion and reference to existing impact measurement literature and resources that can inform the further development of the framework.

To build this framework, I return to evaluation resources from relevant fields, including conservation and environmental education and arts impact measurement. The evaluation literature discussed in Chapter 1 of this thesis sheds light on important elements that effective impact frameworks include. These insights inform how I constructed the preliminary framework shared below. Comparing this research to the arts impact frameworks discussed in Chapter 1, we can see how the inputs for this framework (interview results and Delphi-generated indicators) provide building blocks that are reflective of existing impact frameworks.

Impact indicators are a key ingredient of impact frameworks, with many existing frameworks defining both impact areas of interest, and specific indicators within those impact areas. This is the case in the Opera Civic Impact Framework which defines five impact theme areas and presents outcomes and indicators under each theme; the Canada Council's Qualitative Impact Framework which similarly defines impact areas and provides prompting questions under each area; and in the Aesthetic Perspectives

framework, which presents 11 attributes, posing various questions under each area (Animating Democracy, 2017; Brown et al., 2019; Davis, 2020). While each of these frameworks are constructed differently and designed for different contexts and goals, they share a similar structure. This informed the choice to investigate impact through the creation of indicators and is reflective of the results of the interviews and Delphi study. The Delphi resulted in indicators that ask questions on a variety of scales, and which reveal particular goals and means of achieving those goals for CreativePEI's SATA activities. In some cases, CreativePEI's indicators are more specific than those included in these other frameworks, while at other times, CreativePEI's indicators encompass multiple indicators from other frameworks. Through the Delphi process, indicators formed clear categories, while still asking questions that explore different dimensions or elements of those interest areas. Overall, the results from the two phases of study provide us with similarly layered and multi-scaled ways of considering and engaging with impact.

Returning again to the literature, recall from Chapter 1 that impact measurement is the examination of how organizations work to achieve their goals and a broader impact in society (Vermeulen & Maas, 2021; Wahlén, 2014). This understanding of impact informs the development of the framework and what I hope it will achieve through its use. The preliminary framework focuses on how CreativePEI is engaging towards climate goals and highlights certain goals and larger impacts the organization hopes to have. We also understand from the literature reviewed in Chapter 1 that impact measurement is closely tied to accountability. While the framework that I have developed is primarily intended to help CreativePEI begin understanding their own potential for engagement with SATA, the framework does initiate a small-scale engagement with accountability through the inclusion of certain impact areas (consider audiences, accessibility indicators, biophysical indicators, and building SATA engagement in the sector). While the indicators include questions regarding progress towards certain goals, the framework does not provide specific means for measuring the indicators it contains, as that is out of the scope of what I was able to study and develop here. This is discussed further under limitations.

Another key characteristic of impact measurement as highlighted in the literature is attribution, or the connection between actions and outcomes (Vermeulen & Maas, 2021). Through the process of categorizing participant-generated indicators informed by best-practices in arts and conservation evaluation presented in the literature, I present a framework based on attribution. In simple terms, this means the framework was developed by combining the indicators that participants identified in this study, and evidence from the literature on best practices in the arts and conservation impact measurement. From the users' perspective, users can identify an impact area they are interested in, and then be directed to suggested actions or questions that can inform their work in that particular area.

From the interview portion of this larger study, I learned what CreativePEI sees as the role of the arts in the climate emergency, which sheds light on impact areas of interest. The interviews also make connections between SATA work that is needed, and CreativePEI's existing skills. This is helpful for considering an impact framework that falls within the scope of the organization's mandate and capabilities. From the Delphi study, I learned what indicators CreativePEI values for understanding their climate impact. The indicators in the Delphi can be separated into three broad types. Indicators that investigate the audiences being engaged (audiences and accessibility), indicators that investigate modes of doing SATA work (public engagement, emotional engagement, collaboration, and dialogue and discourse), and indicators that investigate desired outcomes and goals of SATA work (behaviour, biophysical impacts, building SATA engagement in the sector, and cultural transformations). As mentioned, indicators from the Delphi also ask questions at a variety of scales, thus providing us with both areas of interest for the organization, as well as specific questions of interest within those impact areas.

In addition to exemplifying the construction and components of impact frameworks, the evaluation literature provides insight into how indicators can be interpreted and applied. Thomas et al. (2019) provide a review of metrics and outcomes in conservation education over 25 years of programming. This review analyses indicators in relevant literature revealing that evaluation in conservation education is informed by

cognitive, behavioural, social, and ecological metrics. Reflecting on the consensus-based indicators presented in Chapter 4, examples from each of these categories can be found: indicator 6H, “to what extent does CreativePEI’s work push the needle towards alternative ways of being in and with nature?” (behavioural); indicators 4C, “To what extent does CreativePEI’s work reduce feelings of isolation related to climate anxiety?”, and 2A “How accessible are CreativePEI’s initiatives for the public?” (social); indicator 6C, “To what extent do people feel they have the information they need for their actions to be effective?” (cognitive); and indicator 8A, “Physical emissions produced overall” (ecological).

Vermeulen & Maas (2021) encourage the inclusion of both learning and reporting questions in evaluation practices. As they describe, learning questions reflect on how a contribution was made and whether there are ways to improve the process behind it, while reporting questions ask about the extent to which a desired outcome was achieved (Vermeulen & Maas, 2021). Many of the indicators in my framework support learning-oriented evaluation, as does the context in which I am presenting the framework to CreativePEI. Recall that this is a preliminary framework, and it is intended to change as CreativePEI uses it and furthers their engagement with SATA and reflection on their role in the climate emergency. It is a living, draft framework, meant to be manipulated and changed as needed. CreativePEI is early in their days of engagement with climate change, and there will be significant learning to come about effective SATA action which will ultimately inform the evolution of the framework.

We also find significant overlap between the indicators in these frameworks and the indicators created by participants from CreativePEI. For the most part, the indicators created by CreativePEI are reflected in the impact categories in these frameworks in some way. The inclusion of emotional indicators in capturing the impact of the arts is reflected in other qualitative arts impact frameworks as it is in CreativePEI’s choice of indicators (Category 4). Under the impact category “Experience” the Opera Civic Impact Framework includes catharsis as an indicator. They describe catharsis in their context as “Attendees report the opera experience unlocking strong emotions” (pg. 6). There is also attention given to emotional experience in the Aesthetic Perspectives Framework.

Emotional experience represents one of the 11 attributes presented in this framework as attributes of effective art for social change. The framework states: Arts for Change facilitates a productive movement between “heart space” – the emotional experience that art evokes – and the “head space” of civic or social issues (Animating Democracy, 2017). Including emotional indicators in evaluation of SATA activities is essential for understanding whether those emotional experiences are being had.

Connections can be drawn between most of the indicators selected by CreativePEI, and these example frameworks. However, there are some important differences to recognize. Of these three frameworks, Aesthetic Perspectives is the only one that includes direct mentions of environmental sustainability in their discussion of impact. Environmentally responsible behaviour is encouraged under the attribute of “Resourcefulness”. The significant overlap between these existing arts impact frameworks, paired with the lack of direct consideration given to climate impacts shows the utility of this study and the need for new understanding and resources in this space.

Another thing these frameworks reveal is the overlap between the things CreativePEI is curious about from a climate perspective and other impact areas. We understand from the literature that a climate framework in the arts must include social and cultural indicators to truly reflect what the arts are offering to this task (Thomas et al., 2019; Thomson et al., 2010). The frameworks presented here encourage this intersectional perspective of climate change, and the indicators created in this study suggest that CreativePEI understands climate change to be an intersectional issue. There is room to deepen their understanding of and attention to intersectionality however, perhaps by adding social indicators related to environmental racism, the role and impact of colonization past and present on climate change, and the disproportionate impact of climate change on those communities who have historically contributed the least to climate change. Altogether, these frameworks in comparison with the indicators developed by CreativePEI, suggest that arts practitioners, even those who have not engaged significantly with climate work or SATA work, understand the unique value of the arts and some key ways in which the arts can be applied to climate action.



Crafted and made available in Miro, the framework presented in the next section draws heavily on the categories presented in Figure 8 of this thesis but also incorporates indicators from Figure 9 which CreativePEI decided were not currently feasible for them, but which revealed distinct categories of interest for the organization. As outlined above, existing arts impact frameworks and literature regarding best practices in impact measurement also informed the construction of the framework.

### 5.2.1 The framework

Based on the findings and literature presented above, I designed a preliminary climate-impact framework for CreativePEI. The framework presents indicators under eleven total impact areas. The impact areas investigate who CreativePEI is engaging with, how those audiences or partners are being engaged, and the goals and outcomes SATA activities are geared towards. The user begins on a screen which provides information on the purpose of the framework and the context it was developed in, as well as instructions for using the framework. From there, users are directed to view the framework, shown in Figure 10 below.

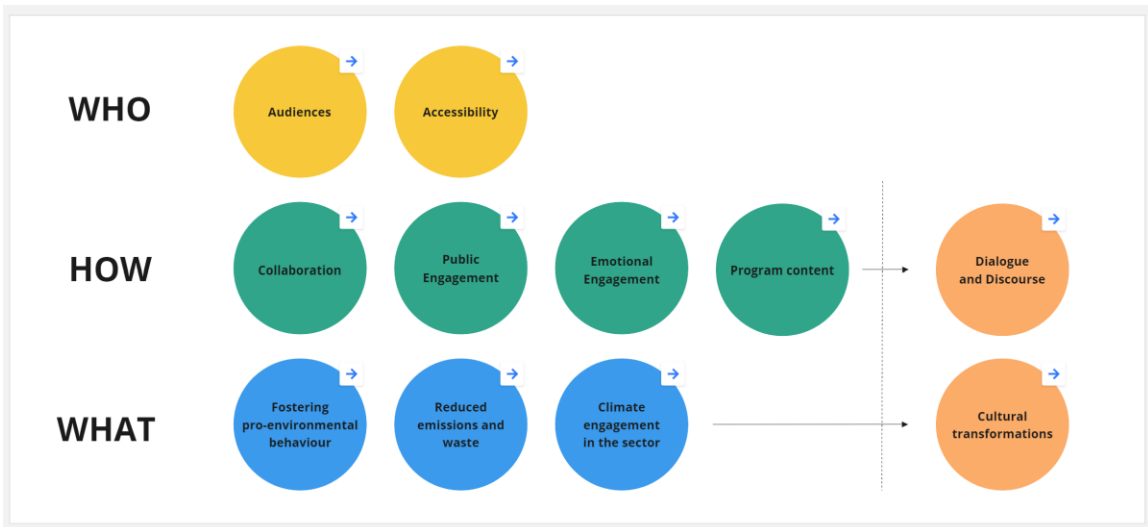
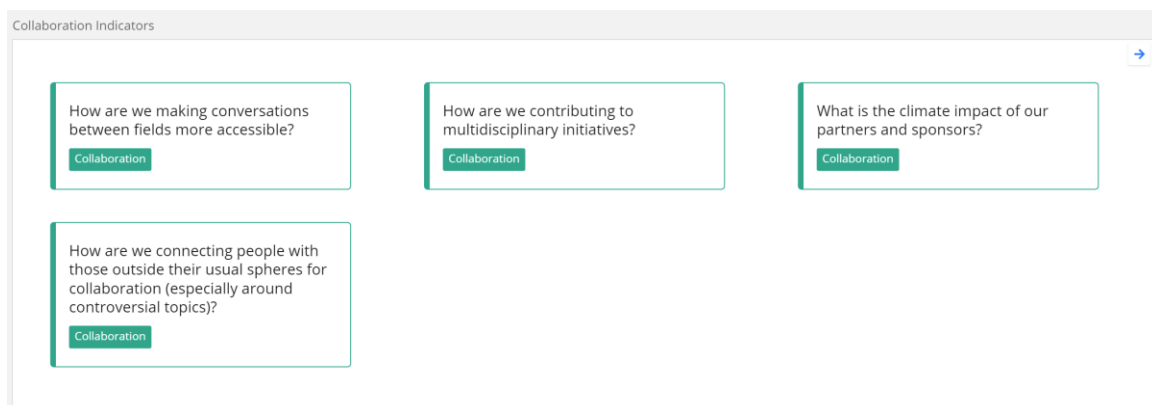


Figure 10 - Preliminary Impact Framework Main View

As indicated above, the framework divides indicators into three broad categories of Who (yellow), How (green), and What (blue). The orange categories shown on the far right of the framework reflect impact areas that push the scale and multidimensionality of the types of impact this framework explores. These categories represent additional impact

areas of interest identified through the previously discussed analysis of both indicators which were rated as feasible and those which were rated as desirable, but not feasible. These categories remind users of the fluid and intersectional nature of the impact categories the framework presents. These two categories each include indicators which appear elsewhere in the framework, as well as additional indicators that are unique to these categories. They show ways in which the indicators can be grouped to reveal further interest areas, and through which to push the scale of climate-impact had by arts activities.

From the main framework view (Figure 10), users can choose any impact area of interest and see specific indicators in that category by clicking the arrow button. An example of this showing the indicators under “Collaboration” is shown in Figure 11.



*Figure 11 - View of indicators in the category "Collaboration" in the preliminary framework*

As the intention behind this framework is for it to support organizations in developing their own approaches to integrating climate-engagement into arts work, it has been designed with usability for practitioners in mind. This approach led to the inclusion of the “Project Palette” in the framework. When the user identifies an indicator of particular interest for the project they are considering, it can be added to the Project Palette. The Project Palette allows users to view only chosen indicators they wish to consider for a given project all in one place. The intention of this element is to increase the usability of the framework, and to encourage engaging with the framework on realistic scales, rather than having users try to consider all areas of impact, and all indicators, for every project. To highlight this function, I provide an example based on a

hypothetical initiative to convene representatives from the arts sector for a meeting about integrating SATA into their activities. See Figure 12 for an example of how the preliminary framework might be used to inform project planning and evaluation:

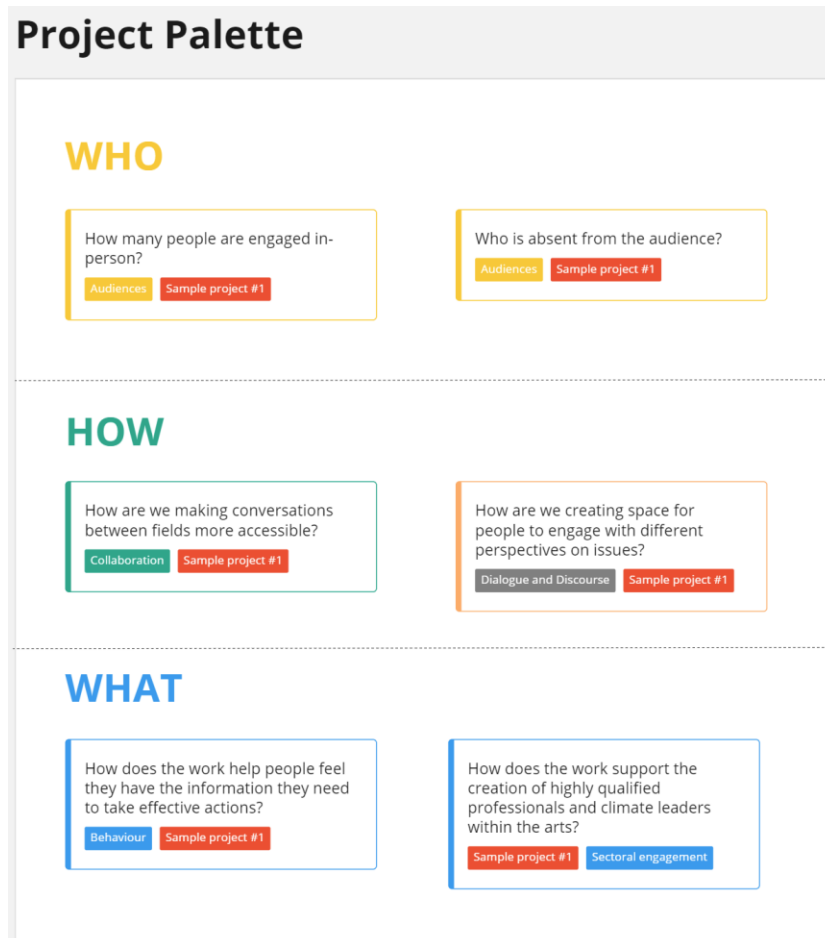


Figure 12 - Example of selected indicators in the project palette

This framework is well-suited for use in project planning and goal setting contexts for CreativePEI. As mentioned, the goal is not for users to apply every detail of the framework to every project, but rather to engage with the framework on smaller scales, pulling out indicators to guide decisions on who they want to engage, how they want to engage those audiences, and what outcomes they want to engage them towards. In this way, the framework will be particularly useful for weaving SATA intention into projects, rather than measuring specifics of project outcomes. Recall Wahlén (2014) here who says that impact evaluation should seek to improve the effectiveness and implementation of

projects in organizations. This impact framework is designed with project planning in mind, focusing on building reflection on SATA into existing and future activities of CreativePEI.

## **5.3 Limitations**

### *5.3.1 Limitations of the framework*

Due to its design within the specific context of CreativePEI, the framework presented here has limitations to its transferability. The primary inputs for this framework (interviews and the Delphi study) were generated by key CreativePEI stakeholders. While the synergies between the findings here and the literature suggest common goals and focal points with other SATA work, future users should recognize the context in which the framework was produced.

Another limitation to the application of this research is the preliminary nature of the framework. This framework was designed for CreativePEI based on their inputs, but at the time of writing this thesis, it has yet to be implemented and tested by the organization. The framework was designed by the researchers, and CreativePEI stakeholders were not closely involved in the process of translating the interview and Delphi data into a framework. CreativePEI's insight into the framework and the ways it evolves through use will be of utmost interest to reflecting on impact measurement of SATA activities. Organizational input will be a critical element of crafting future iterations of this framework to offer the most utility to the organization.

Additionally, this framework provides significant insight into what areas of concern CreativePEI has at this moment in time but does not provide the organization with all the tools required for fulsome evaluation. Generating indicators was a primary objective of this research, and that has been achieved here. What is outside of the scope of this study is specific measurement strategies at the indicator level. Some resources and literature exist (as have been mentioned throughout this discussion), that can provide insight (see Julie's Bicycle's *Creative Green Tools*, n.d.) and this is also an area where

scholars can focus future inquiry to help develop increasingly tangible tools for impact measurement.

#### *5.3.1.2 Other limitations*

A minor limitation to this research occurred with the withdrawal of a number of participants during the Delphi process. Following initial recruitment, 15 participants took part in the first round of the Delphi study. At the beginning of Round 2, one participant withdrew due to their own belief that they did not possess appropriate expertise for the exercise, also telling the lead researcher that they did not understand the exercise they were being asked to complete. Efforts were made to clarify the exercise and reassure the participant of the relevance and value of their expertise, but they ultimately made the choice to withdraw. Further, four participants who completed Rounds 1 and 2 were unable to attend the in-person gathering, and thus unable to participate in Round 3. Each of these participants expressed regret for not being able to participate fully but were limited by unexpected schedule conflicts or illness. The contributions made in the first round by the participant who withdrew were not removed ahead of subsequent rounds because they were not deemed to represent major departures from suggestions made by other participants and so it was decided that the rest of the group could reasonably reflect on and rate those items. In the case of the four participants who participated in Rounds 1 and 2, their data (suggested indicators and desirability/feasibility ratings) were not removed from Round 3 as analysis of the Round 2 questionnaire had already been completed by the time of their withdrawal. None of the participants who withdrew requested their responses be removed from the study.

A more significant limitation of this research can be found in some contradictions that appeared through the ratings exercises in the Delphi study, as well as comments and questions from participants indicating the rating exercise was not communicated entirely clearly. Upon receiving the Round 2 questionnaire (the first rating round), a number of participants reached out with clarifying questions about the rating exercise and how it should be completed. For the most part, participants shared their interpretations of the instructions, which were correct, and those instructions were then confirmed by the lead researcher. In some cases, further clarification and explanation of the exercise was given

before the participant expressed confidence in moving forward with the exercise. Due to the number of questions around the rating exercise, a clarifying email was sent to all participants with language that had effectively clarified the instructions for participants who reached out directly. As mentioned above, one participant withdrew in part because of this challenge. This indicates that the instructions for future Delphi exercises engaging similar communities may need to be rethought and further finessed for clarity.

While it originally seemed that the correspondence with participants over email had resolved all confusion around the rating exercise, questions about the ratings were again raised by participants early in the in-person meeting ahead of Round 3. This indicated that while some questions had been successfully clarified over email, not all participants who found the instructions confusing reached out for clarification. Upon these questions being raised at the meeting, an open discussion was held to attempt to resolve any confusion before moving forward. Participants expressed agreement at the close of this discussion that their questions had been answered and that they had a clear understanding of the rating exercise heading into the final Delphi round. It is hard to gauge the extent to which this confusion impacted the resulting ratings. Generally, when participants would ask for clarification on the task, they would start by saying how they understood the task and those assumptions were for the most part correct. From this we can hope that the ratings were done with the correct understanding of how the rating exercise worked for most participants.

These challenges with communicating the rating exercise very likely impacted the results of this study by impacting how the participant-generated indicators were rated for desirability and feasibility. This is reflected in the final ratings of the indicators where there are a small number of contradictions that suggest this limitation does impact the findings. For example, one indicator related to emotional engagement was rated as desirable but not feasible: “To what extent do CreativePEI’s initiatives spark emotions that make people feel heard?” (4F). This indicator represents an outlier (with many other emotional indicators being included in the consensus-based categories) and raises questions about how some indicators were rated in relation to others. Another contradiction comes in indicator 10C which asks, “To what extent does CreativePEI’s

work bring about policy change?” and which was rated by the group as desirable but not feasible. The inclusion of this indicator raises the same question as is discussed in Chapter 4 of this thesis. Advocacy is part of CreativePEI’s existing, non-climate focused work. Thus, monitoring policy change is something they as an organization are familiar with. This suggests perhaps a misunderstanding or misapplication of the rating exercise. It is possible participants considered the feasibility of achieving a certain outcome (in this case, policy change), as opposed to the feasibility of measuring or monitoring certain outcomes.

Further, the five indicators of emotional engagement shown in Figure 8 all joined this consensus category after the second round of ratings. While it is not clear exactly what prompted the shift in how these items were rated, it is clear that the in-person meeting impacted that understanding. This further reinforces interest in understanding more about how the participants understood desirability and feasibility and how they assessed the indicators for these qualities. The above examples show that it would be beneficial to have further conversations about feasibility to better understand how participants rated the indicators, and how they conceptualized feasibility.

#### **5.4 Implications for theory**

We see potential for the methods employed in this study to be effective if applied by other organizations to investigate unique contextual conceptualizations of SATA impact. The findings of this work suggest that interviews with key stakeholders, paired with the Delphi method, is a useful approach for facilitating the conceptualization of an arts organization’s role in climate action, as well as for identifying key impact areas and indicators for evaluating the success of SATA work. Beyond the scope of this study is the identification of specific measurement strategies at the indicator level. This is a critical next step for research in this field to make impact measurement actionable and to extend our understanding of actual achieved climate impact stemming from arts activities.

Regarding the use of NAT to frame the initial engagement with CreativePEI through interviews, this study bolsters other scholarship suggesting that NAT can be

usefully applied in contexts beyond assessing individual-level behaviour. Specifically, I utilized conditions for norm activation outlined by Stern (2018) in order to understanding how CreativePEI as an organization conceptualizes their role in climate adaptation. Recalling Figure 4, the first area of inquiry focused on participants' conceptualizations of climate change, which sheds light on their awareness of the consequences of climate change and their sense of responsibility for those consequences. The second theme, questions about the role of the arts in climate adaptation, further investigates the sense of responsibility for this emergency, but also sheds light on the participants' awareness of potential solutions from within the arts. Finally, the third theme focused on what CreativePEI can offer to SATA and what barriers they face, which allows us to assess CreativePEI's feeling of capability to enact solutions on climate change.

Together, the use of the NAT guided themes provided a fulsome guide for the interviews and appropriately elicited responses from participants on desired areas of inquiry. I did not notice major gaps remaining in the conversation that were not covered by these thematic areas, nor did these themes seem to pull participants away from desired areas of focus in the interviews. While this study indicates the potential utility of NAT in organizational contexts like this, further insight is needed into such applications to better determine its appropriateness in similar inquiries.

## **5.5 Implications for SATA practice**

For CreativePEI, this research represents an in-depth, guided engagement with the questions of climate change and how it intersects with the organization's activities. Many participants of this study had little prior experience engaging with climate change, and even less with SATA specifically. The interviews and Delphi study both represent thought exercises for CreativePEI on this topic. Further, this work benefitted greatly from the work of CreativePEI and their collaborators on *Riverworks*. While *Riverworks* was not designed with impact measurement research in mind, the project ultimately had significant impact as a key initiator of CreativePEI's interest in climate-engaged work.

As mentioned above, while this research was conducted with a focus on the context of CreativePEI, the results, and particularly the indicators and preliminary framework, are a resource for practitioners engaging in SATA work and thinking about



impact. The indicators, both those which participants reached consensus on and those they did not, are publicly available and provide a multidimensional sample of possible impact indicators for use by arts organizations engaging in SATA. The preliminary impact framework, while designed for CreativePEI, provides an example of how indicators might be understood and selected for specific evaluation needs.

### ***5.5.1 Recommendations for CreativePEI***

For CreativePEI as the primary users of this framework, I offer recommendations for its use and for the participation of the organization in SATA activities. This begins with emphasizing that the framework presented here is a preliminary framework and should be used with that in mind. I encourage CreativePEI (and other practitioners with curiosity around SATA impact), to adapt the framework where needed to better fit their context and capacities. Regarding the contradictions present in the above ratings for feasibility, I particularly recommend further discussion and reflection among stakeholders about how the feasibility of desirable indicators can be improved.

Also, based on Vermeulen & Maas (2021), CreativePEI might consider drafting a climate-impact mission statement and a SATA-specific theory of change, for either internal or external use, to provide a guiding goal for the organization's climate-engaged activities. The research presented in this thesis sheds significant light on areas of interest for CreativePEI and would go far to support the development of such a mission statement. Vermeulen & Maas, (2021) also recommend distinguishing between mission related and public good impact, which will be an important consideration as CreativePEI makes decisions about what projects to engage with.

From this research, I also encourage CreativePEI, and other organizations who see reflections of their contexts in this work, to take an active role in SATA work and apply their creativity to the collective climate emergency. Both phases of work show synergies between CreativePEI's conceptualization of their role and impact potential in the climate emergency, and the unique offerings of the arts highlighted in SATA literature. This shows meaningful impact potential that, if activated towards sustainable transformations, brings unique and significant value to the climate response.

## References

- Allen, J., & Jones, S. P. (2012). Tilting at Windmills in a changing climate: A performative walking practice and dance-documentary film as an embodied mode of engagement and persuasion. *Research in Drama Education: The Journal of Applied Theatre and Performance*, 17(2), 209–227. <https://doi.org/10.1080/13569783.2012.670423>
- Animating Democracy. (2017). *Aesthetic Perspectives*. <http://animatingdemocracy.org/aesthetic-perspectives>
- Anzel, A., Beer, H., & Currie, G. (2022). The paradox of impact measurement in cultural contexts. *Cultural Trends*, 32(2), 1–17. <https://doi.org/10.1080/09548963.2022.2081487>
- Autio, M., Collins, R., Wahlen, S., & Anttila, M. (2013). Consuming nostalgia? The appreciation of authenticity in local food production. *International Journal of Consumer Studies*, 37(5), 564–568. <https://doi.org/10.1111/ijcs.12029>
- Belfiore, E., & Bennett, O. (2010). Beyond the “Toolkit Approach”: Arts Impact Evaluation Research and the Realities of Cultural Policy-Making. *Journal for Cultural Research*, 14(2), 121–142. <https://doi.org/10.1080/14797580903481280>
- Bendor, R., Maggs, D., Peake, R., Robinson, J., & Williams, S. (2017). The imaginary worlds of sustainability: Observations from an interactive art installation. *Ecology and Society*, 22(2), art17. <https://doi.org/10.5751/ES-09240-220217>
- Bentz, J. (2020). Learning about climate change in, with and through art. *Climatic Change*, 162(3), 1595–1612. <https://doi.org/10.1007/s10584-020-02804-4>
- Bentz, J., do Carmo, L., Schafenacker, N., Schirok, J., & Corso, S. D. (2021). Creative, embodied practices, and the potentialities for sustainability transformations. *Sustainability Science*. <https://doi.org/10.1007/s11625-021-01000-2>
- Bernard, H. R. (2006). *Research Methods in Anthropology: Qualitative and Quantitative Approaches*. Rowman Altamira.
- Blamey, R. (1998). The Activation of Environmental Norms: Extending Schwartz’s Model. *Environment and Behavior*, 30(5), 676–708. <https://doi.org/10.1177/001391659803000505>
- Boulton, E. (2016). Climate change as a “hyperobject”: A critical review of Timothy Morton’s reframing narrative. *WIREs: Climate Change*, 7(5), 772–785. <https://doi.org/10.1002/wcc.410>

- Brown, A., Carnwath, J., & Doeser, J. (2019). Qualitative Impact Framework. Canada Council for the Arts. <https://canadacouncil.ca/research/research-library/2019/12/qualitative-impact-framework>
- Bryman, A. (2016). *Social Research Methods*. Oxford University Press.
- Burke, M., Ockwell, D., & Whitmarsh, L. (2018). Participatory arts and affective engagement with climate change: The missing link in achieving climate compatible behaviour change? *Global Environmental Change*, 49, 95–105. <https://doi.org/10.1016/j.gloenvcha.2018.02.007>
- Carleton-Hug, A., & Hug, J. W. (2010). Challenges and opportunities for evaluating environmental education programs. *Evaluation and Program Planning*, 33(2), 159–164. <https://doi.org/10.1016/j.evalprogplan.2009.07.005>
- Cordero, D., Juiz, C., Mory, A., Bermeo, V., & Andrade, D. (2022). Model for the Intent to Adopt Green IT in the Context of Organizations. *IEEE Access*, 10, 65636–65657. <https://doi.org/10.1109/ACCESS.2022.3184727>
- Creative Green Coalition. (n.d.). What are the Creative Green tools? CG Tools Canada. Retrieved April 23, 2023, from <https://www.cgtoolscanada.org/about/thetools>
- Creative Green Tools. (n.d.). Julie’s Bicycle. Retrieved February 23, 2023, from <https://juliesbicycle.com/our-work/creative-green/creative-green-tools/>
- CreativePEI. (n.d.-a). About – Creative PEI. Retrieved February 25, 2023, from <https://creativepei.ca/about/>
- CreativePEI. (n.d.-b). Services and Initiatives. Retrieved March 14, 2023, from [https://creativepei.ca/services\\_initiatives/](https://creativepei.ca/services_initiatives/)
- CreativePEI. (2021, November 19). ClimateSense. <https://creativepei.ca/climatesense/>
- Davis, M. (2020). Opera Civic Impact Framework. Opera.ca. [https://www.opera.ca/wp-content/uploads/2020/01/opera\\_civic\\_impact\\_framework\\_full\\_report\\_1.pdf](https://www.opera.ca/wp-content/uploads/2020/01/opera_civic_impact_framework_full_report_1.pdf)
- de Loë, R., Melnychuk, N., Murray, D., & Plummer, R. (2016). Advancing the State of Policy Delphi Practice: A Systematic Review Evaluating Methodological Evolution, Innovation, and Opportunities. *Technological Forecasting and Social Change*, 104, 78–88. <https://doi.org/10.1016/j.techfore.2015.12.009>
- Dessein, J., Soini, K., Fairclough, G., & Horlings, L. (Eds.). (2015). *Culture in, for and as Sustainable Development: Conclusions from the COST Action IS 1007 Investigating Cultural Sustainability*. University of Jyväskylä. <http://www.culturalsustainability.eu/conclusions.pdf>

- Doll, S., & Wright, T. (2019). Climate Change Art: Examining How the Artistic Community Expresses the Climate Crisis. *The International Journal of Social, Political and Community Agendas in the Arts*, 14(2), 13–29. <https://doi.org/10.18848/2326-9960/CGP/v14i02/13-29>
- Dunn, K. (2000). Interviewing. In I. Hay (Ed.), *Qualitative Research Methods in Human Geography* (pp. 50–82). Oxford University Press.
- Écoscéno. (2023). Home. <https://ecosceno.org/>
- Ernstman, N., & Wals, A. E. (2013). Locative Meaning-making: An Arts-based Approach to Learning for Sustainable Development. *Sustainability*, 5(4), 1645–1660. <https://doi.org/10.3390/su5041645>
- Galafassi, D., Kagan, S., Milkoreit, M., Heras, M., Bilodeau, C., Bourke, S. J., Merrie, A., Guerrero, L., Pétursdóttir, G., & Tabara, J. D. (2018). ‘Raising the temperature’: The arts on a warming planet. *Current Opinion in Environmental Sustainability*, 31, 71–79. <https://doi.org/10.1016/j.cosust.2017.12.010>
- Geist, M. R. (2010). Using the Delphi method to engage stakeholders: A comparison of two studies. *Evaluation and Program Planning*, 33(2), 147–154. <https://doi.org/10.1016/j.evalprogplan.2009.06.006>
- Gibbs, L., Williams, K., Hamylton, S., & Ihlein, L. (2020). ‘Rock the Boat’: Song-writing as geographical practice. *Cultural Geographies*, 27(2), 311–315. <https://doi.org/10.1177/1474474019886836>
- Haring, U., Sorin, R., & Caltabiano, N. J. (2018). Circling the Cyclone: Children’s Understanding of Natural Disasters through the Arts. *The International Journal of Pedagogy and Curriculum*, 25(4), 1–15. <https://doi.org/10.18848/2327-7963/CGP/v25i04/1-15>
- Howard, Q., Granzoti, J., & Large, C. (n.d.). Getting Started with Coastal and Estuarine Living Shoreline Projects: Guidance and resources for PEI Watershed Groups. Prince Edward Island Watershed Alliance. Retrieved February 15, 2023, from [https://drive.google.com/file/d/1Af7Npt\\_ucl-NIXlq2kglDbxjw4MVeHbL/view?usp=embed\\_facebook](https://drive.google.com/file/d/1Af7Npt_ucl-NIXlq2kglDbxjw4MVeHbL/view?usp=embed_facebook)
- Hudson Hill. (2020). *A Terrible Beauty: Art and Learning in the Anthropocene*. <https://www.tandfonline.com/doi/epub/10.1080/10598650.2020.1723357?needAccess=true>
- IPCC. (2023). AR6 Synthesis Report: Climate Change 2023. <https://www.ipcc.ch/report/ar6/syr/>
- Jackson, M.-R., Herranz, J., & Kabwasa-Green, F. (2003). Art and Culture in Communities: A Framework for Measurement: (717562011-001) [Data set]. American Psychological Association. <https://doi.org/10.1037/e717562011-001>

- Julie's Bicycle. (2021). Culture: The missing link to climate action. British Council. <https://juliesbicycle.com/news-opinion/the-british-council-executive-report/>
- Kimmerer, R. W. (2015). Braiding Sweetgrass. Milkweed Editions.
- Klein, B. A., & Brosius, T. (2022). Insects in Art during an Age of Environmental Turmoil. *Insects*, 13(5), 448. <https://doi.org/10.3390/insects13050448>
- Knockwood, E. (2022). Rite of Passage Film Preview / Q&A with Eliza Knockwood. <https://www.facebook.com/events/2-kent-st-charlottetown-pe-cla-1m6-canada/rite-of-passage-film-preview-qa-with-eliza-knockwood/346572930847197/>
- Laurent, A., Olsen, S. I., & Hauschild, M. Z. (2012). Limitations of Carbon Footprint as Indicator of Environmental Sustainability. *Environmental Science & Technology*, 46(7), 4100–4108. <https://doi.org/10.1021/es204163f>
- Maggs, D. (2021). Art and the World After This. Metcalf Foundation. <https://metcalfoundation.com/wp-content/uploads/2021/06/Art-and-the-World-After-This.pdf>
- Maggs, D. (2020, July 21). Art, after virus: Seven questions for a sector on the edge. *The Philanthropist Journal*. <https://thephilanthropist.ca/2020/07/art-after-virus-seven-questions-for-a-sector-on-the-edge/>
- Marcuse, J. (2011). Arts for Social Change. In C. McLean & R. Kelly (Eds.), *Creative Arts in Research for Community and Cultural Change*. (pp. 113–118). Detselig Temron Press.
- Martusewicz, R. A., Edmundson, J., & Lupinacci, J. (2014). *EcoJustice Education: Toward Diverse, Democratic, and Sustainable Communities*. Routledge.
- Mass Culture. (2022). Research in Residence: Arts' Civic Impact Methods Report. <https://massculture.ca/wp-content/uploads/2022/09/RinR-METHODS-REPORT.pdf>
- Monroe, M. C., Plate, R. R., Oxarart, A., Bowers, A., & Chaves, W. A. (2019). Identifying effective climate change education strategies: A systematic review of the research. *Environmental Education Research*, 25(6), 791–812. <https://doi.org/10.1080/13504622.2017.1360842>
- Moon, K., Blackman, D. A., Adams, V. M., Colvin, R. M., Davila, F., Evans, M. C., Januchowski-Hartley, S. R., Bennett, N. J., Dickinson, H., Sandbrook, C., Sherren, K., St. John, F. A. V., van Kerkhoff, L., & Wyborn, C. (2019). Expanding the role of social science in conservation through an engagement with philosophy, methodology, and methods. *Methods in Ecology and Evolution*, 10(3), 294–302. <https://doi.org/10.1111/2041-210X.13126>

- Oh, J., & Ki, E.-J. (2022). Extending norm activation theory to understand publics' support for environmentally responsible organizations. *Corporate Communications: An International Journal*. <https://doi.org/10.1108/CCIJ-03-2022-0024>
- Packalén, S. (2010). Culture and sustainability. *Corporate Social Responsibility and Environmental Management*, 17(2), 118–121. <https://doi.org/10.1002/csr.236>
- Palys, T., & Atchison, C. (2014). *Research Decisions: Quantitative, qualitative, and mixed methods approaches*. Nelson Education Ltd.
- Peco, V. G., Garzón-Arenas, N., Espinel, J. C., & Herrero, C. (2021). Sculpture and New Technologies in Scientific Educational Outreach: 3D Foraminiferal Models as a Referent of Ocean Acidification and Climate Change. *Artnodes*, 28, Article 28. <https://doi.org/10.7238/artnodes.v0i28.385398>
- Peterson St-Laurent, G., Oakes, L. E., Cross, M., & Hagerman, S. (2022). Flexible and comprehensive criteria for evaluating climate change adaptation success for biodiversity and natural resource conservation. *Environmental Science & Policy*, 127, 87–97. <https://doi.org/10.1016/j.envsci.2021.10.019>
- Pop, I. L., & Borza, A. (2016). Factors Influencing Museum Sustainability and Indicators for Museum Sustainability Measurement. *Sustainability*, 8(1), Article 1. <https://doi.org/10.3390/su8010101>
- Province of Nova Scotia. (2022). *Weathering what's ahead: Climate change risk and Nova Scotia's well-being*. <https://climatechange.novascotia.ca/sites/default/files/uploads/climate-change-risk-report.pdf>
- Research in Residence: Arts' Civic Impact – Mass Culture • Mobilisation culturelle. (n.d.). Retrieved April 12, 2023, from <https://massculture.ca/research-in-residence-arts-civic-impact/>
- Rieckmann, M., Hoff, H., & Bokop, K. (2021). Effective Community-Academic Partnerships on Climate Change Adaption and Mitigation: Results of a European Delphi Study. *Sustainability and Climate Change*, 14(2), 76–83. <https://doi.org/10.1089/scc.2020.0061>
- Riverworks. (n.d.). *The River Clyde Pageant*. Retrieved February 15, 2023, from <https://www.riverclydepageant.com/riverworks>
- Rock, J., & Gilchrist, E. (2021). Creating empathy for the more-than-human under 2 degrees heating. *Journal of Environmental Studies and Sciences*. <https://doi.org/10.1007/s13412-021-00718-w>
- Sauvé, L. (2005). Currents in Environmental Education: Mapping a Complex and Evolving Pedagogical Field. *Canadian Journal of Environmental Education*, 10.

- SCALE. (2021). SCALE / LeSAUT | Sectoral Climate Arts Leadership for the Emergency. <https://scale-lesaut.ca/>
- Schwartz, S. (1997). Normative influences on altruism. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 10, pp. 221–279). Academic Press.
- Shugar, D., Colorado, K., Clague, J., Willis, M., & Best, J. (2019). ‘Boundary’: Mapping and visualizing climatically changed landscapes at Kaskawulsh Glacier and Kluane Lake, Yukon. *Journal of Maps*, 15(3), 19–30. <https://doi.org/10.1080/17445647.2018.1467349>
- Sims, R. (2009). Food, place and authenticity: Local food and the sustainable tourism experience. *Journal of Sustainable Tourism*, 17(3), 321–336. <https://doi.org/DOI:10.1080/09669580802359293>
- Sommer, L. K., Swim, J. K., Keller, E., & Klöckner, C. A. (2019). “Pollution Pods”: The merging of art and psychology to engage the public in climate change. *Global Environmental Change*, 59, 101992. <https://doi.org/10.1016/j.gloenvcha.2019.101992>
- Statistics Canada. (2023). 2021 Census of Population. <https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/index.cfm?Lang=E>
- Stern, M. (2018). *Social Science Theory for Environmental Sustainability—A Practical Guide*. Oxford University Press.
- Stevens, C., O’Connor, G., & Robinson, N. (2019). The connections between art and science in Antarctica: Activating Science\*Art. *Polar Record*, 55(4), 289–296. <https://doi.org/10.1017/S0032247419000093>
- Tàbara, J. D., St. Clair, A. L., & Hermansen, E. A. T. (2017). Transforming communication and knowledge production processes to address high-end climate change. *Environmental Science & Policy*, 70, 31–37. <https://doi.org/10.1016/j.envsci.2017.01.004>
- The Centre for Sustainable Practice in the Arts. (2011, November 13). About CSPA. The CSPA. <https://www.sustainablepractice.org/about-us/the-cspa/>
- The Conference Board of Canada. (2019). Labour market information study of the cultural labour force 2019. Cultural Human Resources Council. <https://www.culturalhrc.ca/sites/default/files/research/LMI2019/LMI%202019%20Report.pdf>
- The Only Animal. (n.d.). An appetite for the impossible. The Only Animal. Retrieved April 22, 2023, from <https://www.theonlyanimal.com/about/>

- The River Clyde Pageant. (2022). Our Story. The River Clyde Pageant.  
<https://www.riverclydepageant.com/about>
- Thomas, R., Teel, T., Bruyere, B., & Laurence, S. (2019). Metrics and outcomes of conservation education: A quarter century of lessons learned. *Environmental Education Research*, 25(2), 172–192.  
<https://doi.org/10.1080/13504622.2018.1450849>
- Thomson, G., Hoffman, J., & Staniforth, S. (2010). Measuring the Success of Environmental Education Programs. Alberta Council for Environmental Education.  
[https://www.abcee.org/sites/default/files/Measuring\\_the\\_Success\\_Sept\\_7\\_2010-1.pdf](https://www.abcee.org/sites/default/files/Measuring_the_Success_Sept_7_2010-1.pdf)
- Toronto Artscape. (2015). Canadian arts, culture, and creative sector compendium of key statistics: Volume I: Sector Characteristics. Toronto Artscape Inc.  
[https://www.artscape.ca/wp-content/uploads/2017/06/Arts-and-Culture-Statistics\\_Vol\\_I.pdf](https://www.artscape.ca/wp-content/uploads/2017/06/Arts-and-Culture-Statistics_Vol_I.pdf)
- Tyszczyk, R., & Smith, J. (2018). Culture and climate change scenarios: The role and potential of the arts and humanities in responding to the ‘1.5 degrees target.’ *Current Opinion in Environmental Sustainability*, 31, 56–64.  
<https://doi.org/10.1016/j.cosust.2017.12.007>
- UNESCO. (2021). Cutting Edge | Culture: The ultimate renewable resource to tackle climate change | UNESCO. <https://www.unesco.org/en/articles/cutting-edge-culture-ultimate-renewable-resource-tackle-climate-change>
- van Lente, H., & Peters, P. (2022). The future as aesthetic experience: Imagination and engagement in future studies. *European Journal of Futures Research*, 10(1), 16.  
<https://doi.org/10.1186/s40309-022-00204-8>
- Vermeulen, M., & Maas, K. (2021). Building Legitimacy and Learning Lessons: A Framework for Cultural Organizations to Manage and Measure the Social Impact of Their Activities. *The Journal of Arts Management, Law, and Society*.  
<http://www.tandfonline.com/doi/abs/10.1080/10632921.2020.1851839>
- Wahlén, C. (2014). Constructing Conservation Impact: Understanding Monitoring and Evaluation in Conservation NGOs. *Conservation and Society*, 12(1), 77.  
<https://doi.org/10.4103/0972-4923.132133>
- Whiting, L. S. (2008). Semi-structured interviews: Guidance for novice researchers. *Nursing Standard (through 2013)*, 22(23), 35–40.
- Winkler, J., & Moser, R. (2016). Biases in future-oriented Delphi studies: A cognitive perspective. *Technological Forecasting and Social Change*, 105, 63–76.  
<https://doi.org/10.1016/j.techfore.2016.01.021>



- Wright, T. (2006). Giving “teeth” to an environmental policy: A Delphi Study at Dalhousie University. *14*, 761–768. <https://doi.org/10.1016/j.jclepro.2005.12.007>
- Wright, T., & Kent, C. (2015, November). What role can the arts play in achieving the goals of education for sustainable development? Global Cleaner Production Conference Proceedings, Barcelona, Spain.
- Wright, T., & Llang, Y. (2019). Examining the Scholarly Literature: A Bibliometric Study of Journal Articles Related to Sustainability and the Arts. *Sustainability*, *11*(14), 3780. <https://doi.org/10.3390/su11143780>
- Wright, T., & Llang, Y. (2020). Forty Shades of Grey: A Bibliometric Study of the Grey Literature Related to Sustainability and the Arts. *The International Journal of Social, Political and Community Agendas in the Arts*, *15*(4), 29–39. <https://doi.org/10.18848/2326-9960/CGP/v15i04/29-39>
- Wright, T. S. A., & Defields, D. (2012). Determining the “Essentials” for an Undergraduate Sustainability Degree Program: A Delphi Study at Dalhousie University. *Journal of Education for Sustainable Development*, *6*(1), 101–110. <https://doi.org/10.1177/097340821100600116>
- Yakamovich, J., & Wright, T. (2021). Care-full, convivial, curious: Weaving Canadian artists’ conceptions of art as a form of transformative environmental education. *The Journal of Environmental Education*, *52*(4), 223–238. <https://doi.org/10.1080/00958964.2021.1929801>
- Yusoff, K., & Gabrys, J. (2011). Climate change and the imagination. *WIREs Climate Change*, *2*(4), 516–534. <https://doi.org/10.1002/wcc.117>
- Zhan, Y., He, R., & So, W. W. M. (2019). Developing elementary school children’s water conversation action competence: A case study in China. *International Journal of Early Years Education*, *27*(3), 287–305. <https://doi.org/10.1080/09669760.2018.1548346>

## Appendix 1: Semi-structured interview guide

### Phase 1: Semi-Structured Interview Guide

#### *Consent:*

Before we begin, I would like to reaffirm your consent to take part in this interview.

1. Do you consent to interviewing?
2. Do you consent to being recorded and transcribed?

-----

#### *Interview Questions:*

1. Tell me about your role or affiliation with CreativePEI.  
Follow ups:
  - a. How long have you worked with CreativePEI?
  - b. How did you come to be in your current role?
  - c. Prior to being in your current role, what experience do you have working in the arts? In climate change?
2. What comes to mind when you think about climate change?
  - a. Prompt: What does climate change mean to you? What do you think of/feel when you hear the term climate change?
  - b. Follow up: What comes to mind when you think about addressing climate change?
3. Do you think there is a link between the arts sector and climate change?  
Follow ups:
  - a. What do you think is the role of the arts sector related to climate change?
  - b. What do you see as key issues related to the arts sector and climate change?

4. How do you think CreativePEI's mission, objectives, and strategic priorities relate to climate change? I have those in front of me and I'm happy to read them out if they're not top of mind for you.

Follow ups:

- a. Are you aware of any climate related projects CreativePEI has done?  
What do you think was valuable about that work?
- b. Has engaging in climate arts projects changed the work of CreativePEI?  
How and why?

5. How do you think climate change is impacting CreativePEI and its community?

- a. Follow up: How will climate change impact CreativePEI and its community in the future?

6. What do you want to see CreativePEI do in terms of their climate impact?

- a. Follow up: Preamble with the things they are listing and ask: How do we measure these things?
  - i. How will you know you've been successful?

7. What do you see as challenges to CreativePEI's potential to contribute to addressing climate change?

8. Do you see any benefits to CreativePEI addressing climate change?

9. Is there anything else you would like to share?

## Appendix 2: *A priori* and *a posteriori* codes

### A priori:

- Need for cultural shifts to address climate change
- Climate change as an emotional issue
- Localized connections to climate change
- Collaboration among artistic disciplines
- Collaboration with partners outside of the arts
- Arts have an important role in the climate response
- Creating climate art
  - o Climate art as a venue for public engagement
- Need for new public engagement strategies and the unique ability of the arts to offer this
- Arts contributing to accessibility
- Knowledge co-creation
- Exploring or provoking new ways of thinking
- Emotional engagement
  - o Connecting emotionally to climate change and its urgency (for artists)
  - o Connecting emotionally to climate change and its urgency (for audiences)
  - o Helping to deal with the emotions around climate change (for artists)
  - o Helping to deal with the emotions around climate change (for audiences)

### A posteriori:

- Moral responsibility to contribute to climate work
- Climate-related career opportunities for artists
- Connecting individuals or initiatives
- Informing the sector
- Supporting others
- Funding

- Capacity
- Arts contributing to awareness
- Boosting the creation of climate art
- Maintaining authenticity/aesthetic value in climate art
- Trust (in artists)
- Value of aesthetics
- Catalyzation
  - o Advocacy
  - o Informing the public
- Rural/urban divide

### Appendix 3: Full indicator list (results of Delphi Round 1)

1. Number of people engaged in person for CreativePEI climate-engaged programming
2. Number of people engaged online for CreativePEI climate-engaged programming
3. The duration of CreativePEI's climate-engaged initiatives
4. When in the year CreativePEI's climate-engaged initiatives occur
5. The creation of highly qualified professionals within the arts community
6. Establishing the presence of highly qualified professionals and climate leaders within the arts community
7. The number of CreativePEI-affiliated artists who incorporate or include a sustainability aspect in their work
8. Shifting perspectives following CreativePEI events
9. To what extent does CreativePEI push people outside of their comfort zones?
10. To what extent does CreativePEI create spaces for people to gain different perspectives on issues?
11. To what extent does CreativePEI support the development of new ways of involving community members outside of the typical audience?
12. Do CreativePEI's climate-engaged activities have specific calls to action?
13. Do CreativePEI's climate-engaged activities aim to inspire?
14. To what extent is CreativePEI providing resources for the arts sector to have an understanding of climate change as it impacts the arts sector, including making better decisions and having resources to support those decisions?
15. Did CreativePEI's work bring about policy change?
16. How do industry associations and government engage in climate change as a result of CreativePEI programs?
17. How does CreativePEI's work hold big producers responsible?
18. To what extent is CreativePEI effectively providing information on behalf of the PEI arts sector to decision-makers (government, policy advisors, etc.) about the importance of combatting climate change?

19. To what extent have CreativePEI activities allowed PEI residents to move towards more effective responses to climate change?
20. To what extent does CreativePEI's climate-engaged work encourage others to participate in environmentally conscious activities?
21. To what extent has CreativePEI's climate-engaged work created a platform to speak with audiences about topics related to climate change?
22. To what extent has CreativePEI's climate-engaged work allowed members of the public to express their interest in climate change?
23. To what extent does CreativePEI's climate-engaged work highlight the need for all levels of government to be more engaged in environmentally conscious activities and mitigating the impacts of climate change?
24. To what extent does CreativePEI's work provide a space to grieve?
25. To what extent does CreativePEI's work contribute to mitigating feelings of helplessness?
26. To what extent does CreativePEI's work contribute to mitigating feelings of apathy?
27. How do participants feel after engaging with CreativePEI's climate-related work? (i.e. inspired, hopeful, sad, anxious)
28. To what extent does CreativePEI's work foster conversations that make people feel hopeful?
29. To what extent does CreativePEI's work reduce feelings of isolation related to climate anxiety?
30. To what extent do people feel empowered to take action after engaging with one of CreativePEI's climate initiatives?
31. To what extent do people feel disempowered after engaging with one of CreativePEI's climate initiatives?
32. To what extent do people feel overwhelmed after engaging with one of CreativePEI's climate initiatives?
33. To what extent does CreativePEI contribute to people's feelings that their actions will make a difference?

34. In what ways does CreativePEI's work impact people's perceptions of the climate crisis?
35. How accessible are CreativePEI's initiatives for the artistic community?
36. How accessible are CreativePEI's initiatives for the public?
37. Can CreativePEI's climate-engaged activities be easily recorded via photos or video which would allow them to reach a larger audience? (via social media, etc.)
38. To what extent does CreativePEI's work contribute to raising public awareness?
39. To what extent does CreativePEI's work engage the general public in conversation?
40. To what extent does CreativePEI build capacity for public engagement?
41. To what extent are CreativePEI's climate-engaged initiatives participatory?
42. To what extent do CreativePEI's initiatives receive professional media coverage?
43. To what extent do CreativePEI's initiatives raise the profile of the impacts of climate change?
44. What types of conversations are sparked by CreativePEI's climate-engaged initiatives?
45. How many conversations are sparked by CreativePEI's climate-engaged initiatives?
46. Monitor the breadth, quality, and merit of climate-related questions asked by those exposed to or involved with the creation of climate-engaged art.
47. To what extent does CreativePEI's climate-work contribute to providing visions for the future?
48. To what extent does CreativePEI create opportunities for artists to engage actively in creating dialogue around climate issues?
49. Are CreativePEI's climate-engaged activities easily replicated?
50. To what extent do people feel they have the information they need for their actions to be effective?
51. To what extent do CreativePEI's initiatives convey an accurate sense of the seriousness of the problem and the effectiveness and availability of solutions?
52. Do CreativePEI's climate-engaged activities underestimate the seriousness of the situation?



53. Do CreativePEI's climate-engaged activities apportion responsibility for climate change accurately?
54. To what extent do CreativePEI's initiatives spark emotions that inspire people to action?
55. To what extent do CreativePEI's initiatives spark emotions that make people feel heard?
56. To what extent does CreativePEI's work contribute to changes of habits?
57. Physical waste produced overall
58. Physical emissions produced overall
59. Carbon footprint of packaging and materials used for the creation of work
60. Are CreativePEI's climate change activities accessible by active transportation routes?
61. Are CreativePEI's climate-engaged activities using local resources?
62. Are CreativePEI's climate-engaged activities using sustainable resources?
63. To what extent does CreativePEI engage with groups that prioritize a healthy climate and avoid those that contribute to the destruction of the climate? eg. divesting from groups supporting fossil fuels.
64. To what extent does CreativePEI's work contribute to emissions reductions in arts industries such as film, videogames, and festivals?
65. To what extent are CreativePEI's initiatives multi-faceted? (ex: art project + lecture or science display + follow-up survey)
66. In arts education, CreativePEI could measure predetermined learning competencies in school classrooms. This would involve work to establish climate- and/or environment-focused learning within arts curriculum.
67. To what extent does CreativePEI contribute to multidisciplinary initiatives (between artistic fields and between arts and other disciplines. i.e science including human sciences)?
68. To what extent do CreativePEI's climate-engaged initiatives contribute to connecting people with those outside their usual spheres for collaboration, especially regarding topics that might be considered controversial?

69. To what extent do CreativePEI's climate-engaged initiatives contribute to connections made between different community members or stakeholders for purposes other than collaboration?
70. To what extent does CreativePEI make conversations between different fields more accessible (ex. By creating space for interdisciplinary discussion)?
71. To what extent does CreativePEI's work push the needle towards alternative ways of being in and with nature?
72. To what extent does CreativePEI's work open tangible pathways to conversations about climate change?
73. To what extent does CreativePEI support the production of contemporary and conceptual art? (which can play an important role in fleshing out the core problems of climate-related conversations)
74. Measure who is engaging with CreativePEI's climate-engaged work
75. Have those engaging with CreativePEI's climate-engaged work engaged with CreativePEI before?
76. What demographics do the people engaging with CreativePEI represent?
77. How often do the people engaging with CreativePEI engage with the arts?
78. Who is absent from audiences engaging with CreativePEI?

## Appendix 4: Chapter 3 copyright release letter

May 9, 2023

Culture and Local Governance  
Centre on Governance, University of Ottawa  
120 University, Ottawa, ON K1N 6N5

I am preparing my Master of Environmental Studies thesis for submission to the Faculty of Graduate Studies at Dalhousie University, Halifax, Nova Scotia, Canada. I am seeking your permission to include a manuscript version of the following paper(s) as a chapter in the thesis:

Bugg, E; Wright, T; Zurba, M. Creativity in Climate Adaptation: Conceptualizing the role of arts organizations, Culture and Local Governance.

**Dalhousie graduate theses are collected and stored online by Dalhousie University and Library and Archives of Canada. I am seeking your permission for the material described above to be stored online in [Dalhousie University's institutional repository](#) and in Library and Archives of Canada (LAC)'s [Theses Canada Collection](#).**

Full publication details and a copy of this permission letter will be included in the thesis.

Yours sincerely,

Emma Bugg

---

Permission is granted for:

- a) the inclusion of the material described above in your thesis.
- b) **for the material described above to be included in the copy of your thesis that is sent to the Library and Archives of Canada inclusion in Theses Canada.**
- c) **For the material described above to be included in the copy of your thesis that is sent to Dalhousie University's institutional repository.**

Name: Christopher Gunter Title: Co-Editor-in-Chief  
Signature: \_\_\_\_\_ Date: 2023-05-12

\_\_\_\_\_