Culture of Sustainability Engagement Guide for Organizations

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How to use this guide

Welcome to the 'COS Engagement Guide for Organizations'! Whether you are an organizational leader, a champion for change, a green/sustainability team, a building manager, or a consultant interested in supporting an organization in developing a stronger culture of sustainability (COS): this guide is for you. This document is intended to be used as a self-guide for change agents trying to foster COS within an organization or in a building with multiple organizations.

The guide **provides a framework** developed based on our review of the relevant literature, theoretical considerations, and empirical research, which we will briefly introduce throughout, especially at the beginning of Part 2. Our intention for this guide is that organizational teams can develop their own COS engagement strategy(ies) and approach appropriate to their own contexts or use the guide to enhance their existing efforts in developing COS.

This guide has been divided into two major sections: **Part 1: Why a Culture of Sustainability in Organizations?,** and **Part 2: How to Lead a Shared Culture of Sustainability**. **Part 1** addresses much of the underlying understandings and rationales for focusing on the development of organizational COS (the "Why"). This section also describes the specific research context and case studies that informed the development of this guide, and provides key objectives of an effective COS program. While some readers may already have a good sense of why a focus on culture is important, we do encourage engagement with the considerations in this section regardless, both for new insights and as it can help you in making the case to others in your organization for the importance of a focus on culture.

Part 2 dives into the "How" of leading a shared culture of sustainability in an organizational context. This includes conceptual considerations from both a systems and developmental perspective in how to develop a COS, including key components to be engaged, key developmental stages, and several core guiding principles. These conceptual considerations can aid you in seeing the "long view" of COS development, and in better understanding COS development as an ongoing, nonlinear journey that requires different tools and approaches to engagement depending on where you might find yourself in the journey.

As we share in this guide, developing a COS is an organic and at times messy process that requires frequent adjustments, based on specific circumstances. As such, a COS guide cannot be a prescriptive step-by-step manual – instead, it is important to understand the core principles and implications derived from the conceptual considerations, to consider how these might apply to your unique organizational context.

While this document is not meant to be overly prescriptive, Part 2 does include a range of useful tools to consider in developing a custom COS engagement strategy for your

organization, which other practitioners have used – including our team – in striving to help support and spark COS development in various organizational contexts. This includes guiding questions to work through, potential considerations before you begin, and guidance for co-creating a strategy framework. Following Part 2, the Appendices provide a range of practical tools that may be useful to you in helping to foster a COS within your organization.

Before we dive into these two parts, we recommend reading the executive summary that provides you with a brief overview of key points covered in the guide.

Leveraging this guide to suit your own needs

This document is best understood as a "guide" as opposed to a more traditionally prescriptive "user manual". As our research showed, fostering a culture of sustainability within an organization is an organic and emerging process – hence, approaches need to be tailored to the unique context of distinct organizations and there is no 'one-size-fits-all' approach that will work for all. However, there are guiding 'stages' of COS development that you can situate your own organization's journey within, and various tools and approaches to support and deepen engagement along the way.

This is why an understanding of the underlying theory and change mechanisms taking place is important, so that adaptation and adjustments along the way can be done grounded in these theoretical considerations. It is also why we encourage you to move around the guide as needed – while there is a logical progression of content moving from the 'why' to the 'how' and from theory into practice, the guide does not necessarily have to be engaged with in a linear fashion and you can easily jump between pages as it works best for you.

We've also aimed to incorporate practical suggestions where possible to aid in adapting this guide to your circumstances. As a living document, we also fully expect the guide to continue to evolve as we learn more and gain new insights. However, we trust the guide will be a good starting place for anyone looking to advance a culture of sustainability in their organization and beyond, wherever you may be starting from. There's plenty of work to be done: **here's a guidebook to get us all moving in a more sustainable direction!**

If you need additional guidance or want to discuss certain aspects in more detail, please don't hesitate to reach out.

Acknowledgements and Inspirations

This guide and the work that has informed it has been a large team effort supported by multiple funders. Here, we recognize the people and organizations who have inspired and supported our own journey.

Inspirations for this guide to support the development of organizational[3] 'culture of sustainability' (COS) have emerged from multiple sources. This first begins with a unique multi-tenant green office building, 'evolv1' located in Waterloo, Ontario, Canada, where a novel COS program was piloted to engage tenant organizations and their staff in the building over several years.

The COS program led at evolv1 also engaged several authors of this guide and was co-led by multiple individuals and organizations, including a Manager of Culture of Sustainability for the building, the VERiS Research Centre at Wilfrid Laurier University, Sustainable Waterloo Region, University of Waterloo's Faculty of Environment, and York University, among others. While focused initially on COS development within evolv1, this work also aspired for scaled impact across Canada and internationally. Commitments provided by each organization included funds made available, vocal support, contributions to this guide, and time invested by many people. These diverse contributions have made this work possible.

Inspired by the experiences and lessons learned from the COS program conducted at evolv1, this guide further draws on and connects with an empirical case study exploring organizational journeys towards cultures of sustainability, again conducted by several of the guide authors and other scholars. Through this study, leaders within organizations identified as either having or being on a pathway towards developing strong COS were interviewed, representing a diversity of different industry and organization types. Insights include a recognition that developing an organizational culture of sustainability is a complex and organic, non-linear process, yet there are still qualitative stages and influential factors that can be identified along this journey and that are useful for COS leaders to understand to better support organizational COS development. Further insights from these case studies, including key lessons learned and guidelines for co-leading organizational COS development, are included throughout the guide.

Insights from many people have been instrumental to informing the present 'living' guide. Thank you to all the leaders who shared their valuable time and expertise to help shape our understanding of what a 'culture of sustainability' means, how it can develop, and how it can be strengthened and sustained for the long-term, overcoming potential setbacks and

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3   Note that within this guide, 'organization' can be understood to refer to businesses, government entities, institutions, not-governmental organizations, and other formal/informal groups and organizations, all of which can be engaged in a process of positive change towards sustainability.

challenges. As this is a living guide, we expect it will continue to evolve as we learn more from various lessons on-the-ground, including the application of these theories and practices by diverse champions for COS. Please don't hesitate to reach out to share your own insights.

Contributors

The authors who contributed to the writing of this guide are only a subset of the large research team and group of advisors who all made important contributions, which we would like to acknowledge. Members of the research team included: Manuel Riemer (Principal Investigator), Joel Marcus (Co-Principal Investigator), Paul Parker (Coinvestigator), Simon Coulombe (Coinvestigator), Sean Geobey (Coinvestigator), Noam Miller (Coinvestigator), David Mather (Collaborator), Tanya Markvart (First COS Manager), Aisling Dennett (Second COS Manager), Tova Davidson (Third COS Manager), Emma Fox (COS Event Support), Stephanie Whitney (First Project Manager), Brittany Spadafore (Second Project Manager & MA student), Ela Desmarchelier (Third Project Manager, Admin Manager), Alicia Bevan (Research Manager), Bianca Dreyer (PhD Student), Kai Reimer-Watts (PhD Student), Jillian Zitars (Research Assistant), Esther Abel (PhD Student), Nicholas Palaschuk (PhD Student), Gryphon Loubier (PhD Student), Haimanot Moges (PhD Student), Jennifer Dobai (MA & PhD Student), and Jovan Poposki (MA Student). In addition to these core members, there were also various graduate and undergraduate students who developed research theses related to this project.

Our Scientific Advisory Council, which advised on our research questions, approach, design and execution, included: Amanda Carrico (U. of Colorado), Sylvia Coleman (U. of Toronto), Petra Schweizer-Ries (University of Applied Sciences, Bochum), Alexandra Thompson (National Research Council Canada), Cory Zurell (University of Waterloo and Blackwell), John Robinson (University of Toronto), and Guy Newsham (National Research Council).

Our Impact Advisory Board, which helped shape the knowledge mobilization and impact generation, included: Benjamin Shinewald and Hazel Sutton (BOMA Canada), Alberto Cayuela (RedCedar), Clint Undseth (Stuart Olson), Doug McKenzie-Mohr (McKenzie-Mohr Consulting), John Stevens (Accelerator Centre), Kenny Smith (Integral Group), Randy Sa'd (REFOCUS), Tania Del Matto (GreenHouse), Tova Davidson (Sustainable Waterloo Region), and Felix Munger (Safer Cities).

We would also like to thank the various people who reviewed previous versions of this guide and provided us with helpful feedback that made this document stronger.

In addition to those mentioned here, there were others who helped shape this work in one way or another. Thank you to all of you!

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Executive Summary

Part 1: Why a culture of sustainability in organizations?

The unfolding climate crisis and other environmental stressors present an urgency for significant change toward sustainability in all sectors of our economy. Organizations have an important role to play in moving toward sustainability as a society. This is why there is an increasing call for attention to organizational cultures and how they can be aligned with sustainable development goals. Organizational culture is important because it shapes the decisions and actions of organizational members. Culture is deeply ingrained within the organizational system and, as a result, has the potential to be a longer-lasting and more comprehensive mechanism for organizational change.

A culture of sustainability (COS) is characterized by "shared values, symbols, rituals, and practices grounded in sustainability principles leading to individual and societal choices that promote environmental protection, social justice, and well-being, and a supportive economy".[4] A COS can best be understood as an evolving structure emerging from the complex and dynamic interactions of the different people in the organization and various systems components (norms, values, physical structures, employees, leadership management practices, etc.). The organization is also embedded within external systems (e.g., local community, societal culture, ecosystems) that influence the internal dynamics and culture. By moving towards a better conceptual and empirical understanding of the dynamic interactions of these system factors in shaping an organizational COS across different organizations, we hope to support organizational change agents in their efforts towards fostering strong COS.

This guide is grounded in a review of relevant literature on COS, our empirical research, and our experiences. In this document we specifically highlight two empirical case studies. We first developed an early version of this guide in the context of a five-year study to create a strong COS across tenant organizations in a multi-tenant green office building, evolv1 in Waterloo, Canada. We then further refined this guide based on interviews with leaders of 14 organizations perceived as being on a positive path towards a strong COS. Based on this work, we proposed three objectives for a COS development program to: **1) Foster inclusive engagement, 2) Provide opportunities for awareness, learning, and action,** and **3) Motivate a shift in mind-sets.**

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4   Dreyer et al. (2021), p. 5.

Part 2: How to lead a shared culture of sustainability

Developing a COS can be complex and messy. It is an organic dynamic process. As such, it is difficult to prescribe specific pre-determined steps a change agent should take in fostering a COS, particularly as the best steps may vary based on an organization's specific context. This is why in the second part of this guide, we introduce theories, strategies and practical suggestions that can support COS change leaders in fostering a COS within a dynamic emerging process.

We begin by sharing our conceptual framework of how we theorize COS within a multi-tenant office building, as emerging through the complex, dynamic, and multi-level interactions between two major systems: (A) The physical side – in this case, the building design and features, and (B) The people side, including the tenant organization(s) and individual occupants. We conclude that COS can be fostered most successfully by engaging this whole system. That is, rather than engaging only one aspect of the organization (e.g., the recycling behaviour of employees), multiple aspects are targeted simultaneously knowing that these aspects may interact with each other and can strengthen each other.

Key actors in this system include employees and organizational managers, building owner(s), tenant management, building management and staff, and the surrounding community interacting with the building. Fundamental systems parts of an organization that can affect COS development include organizational leadership, existing organizational cultures, resources, and regulations/policies, among others.

We then present a COS Development Model, which has been designed to illustrate the complexity, organic nature, and non-linearity of COS development while providing insight into development stages and factors that may influence this. It can provide leaders and change agents with an orientation of where they are at in their COS development journey and where they could go. Through our research we identified four stages in the development process: **1) Emergence, 2) Visibility and Engagement, 3) Institutionalization and System Alignment,** and **4) Ingrained and Habitualized Practice.**

During these phases the COS develops from just an initial spark in one part of the organization to sustainability being present in all aspects of the organization and its practices, including physical features (e.g., buildings), leadership, purchasing, marketing, employee hiring and management, client engagement, product and supply chain, and day-to-day practices of employees. The environmental, social, and financial dimensions of sustainability are well integrated at this fourth stage. For each stage we present specific questions to reflect on, and discuss multiple internal and external contextual factors that influence the development across these stages. These include various organizational characteristics,

external stakeholders and societal culture, organizations that can support the development (intermediaries), and a business case for sustainability.

Based on our conceptual considerations we propose four core principles for the development of COS in organizations: **1) Apply systems-thinking, 2) Engage comprehensively, 3) Develop a long-term adaptive strategy,** and **4) Practice participatory co-design.** Focusing on these core principles as the foundation for effective COS development, rather than simply following prescriptive steps, allows change agents to use a more flexible approach co-developed with those effected and tailored to their specific contexts. It also allows change leaders to respond more flexibly to changing conditions and emerging opportunities, aligned with the organic nature of COS development.

While our intention was not to provide a prescriptive step-by-step manual, we do offer some tools, steps and considerations that may be useful for each of the four phases of COS development. First, it is useful to consider the readiness of the organization to engage in a change process towards COS. This includes leadership buy-in and engagement, a commitment to the length of time for developing a COS, providing employees with time to invest into participatory COS development, being able to commit resources, and engaging with the complexity of this process.

Next, is an assessment of the current culture. That is, what are your values, what symbols communicate these values, and what are the social practices that may either support or hinder sustainability? Third, it is useful to consider who should be involved. You may want to establish a COS coordinator and create an organizational systems map to better navigate the change process. Finally, the formation of a strategic plan or 'organizational roadmap' for guiding COS development can begin. Like with any strategic plan, this can include a vision statement, goals, programs/actions to achieve those goals, an implementation timeline, and targets and indicators for monitoring progress over time. However, given the organic nature of COS development, it is important to stay flexible with this strategy and adapt as needed.

To round this guide out, we provide several helpful guidelines for COS program development. The first guideline is to establish specific program structures and parameters to guide the initial COS development. Second, tell your story. To engage people across the organization in a shared process of change often requires communicating a shared 'story' of the importance of COS, and opportunities for people to get involved in ways that will best resonate with them. A next guideline is to establish your unique COS by co-developing a program identity and branding for the COS program and aligning COS content and resources with program objectives. Several tips for doing this are included in the main text.

The fourth guideline speaks to the need to continuously evaluate your COS development efforts and evolve the strategy as you learn and circumstances change. We conclude this section with some potential challenges you may encounter and how to deal with them. For this, we draw from some hard lessons we've had to learn ourselves. Key challenges to anticipate include lack of engagement, time conflicts, turnover of key champions and knowledge holders and a lack of leadership support, among others.

The conclusion is followed by several appendices, including more information on the evolv1 building (one of our case studies), a description of the methods for our research studies, a list of potential program strategies you may want to consider, and several tools for assessment and evaluation.

Figure 1. Hydrogen-powered, zero emission bus in London, UK. Photo credit: Ruth Sharville / Wikimedia. Used under license CC BY-SA 2.0.

Part 1:

Why a Culture of Sustainability in Organizations?

Understanding the need for organizational cultures of sustainability

The impacts of global climate change – along with multiple other high-impact, far-reaching environmental stressors – have made it clear that significant change towards more sustainable societies is needed in all sectors of the economy. Collectively, many societies are off-course today and heading in dangerously unsustainable directions. Yet in the face of this danger, there are also inspiring examples of sustainability leadership taking place in communities and organizations around the world striving to change our collective direction. It is clear from these examples and our own research that there is a pressing need to better support and deepen this crucial work towards more sustainable cultures and societies, which can only be achieved by working collectively together.

Despite significant scholarship on organizations and on sustainability, our understanding of what leading organizations do to develop and/or strengthen a culture of sustainability (COS) remains limited.[5] Also, the extent to which cultures can be shifted to enact more sustainable outcomes remains an open question. A number of pertinent questions remain unanswered: What does COS development look like in real-world organizations? What processes and practices are organizations following? Are there commonalities and/or relevant differences in why, when, and how a COS develops, and what it means for organizations, employees, and broader stakeholder groups? Overall, what are the dominant features, characteristics, elements, processes, and are there observable patterns across organizations of various types, sizes, and industries?

These questions have guided our investigation as scholars and practitioners interested to support organizations looking to develop strong COS. In this guide, we share possible COS development pathways and insights informed by our own on-the-ground experiences and research to support organizations hoping to transition towards strong cultures of sustainability. For more information on the role of organizations in promoting COS, please see box 1.1 below.

Given the stakes at both a planetary and local levels, it has become essential for all organizations to embrace and accelerate organizational sustainability in its many forms, including changes to culture. That is why we are so pleased to be sharing this guide, informed by real world experiences of organizations and leaders engaging in COS development today, with diverse insights on 'what works', potential barriers, risks and how to overcome these, and opportunities for action. We hope this will be useful to you in informing and guiding your own organizational COS journey. **Let's get moving!**

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5   For example, see Howard-Grenville & Bertels (2011).

Box 1.1

More on the role of organizations in promoting cultures of sustainability

Organizational commitments to sustainability are at an all-time high in response to observed climate changes that have become more impactful, and responding to alarming projections from climate scientists.[6] On the surface, these commitments are a positive development – however, despite the decades-long trend of 'corporate greening' that began in the 1990s, currently there is little evidence that the majority of organizations are becoming sustainable enough to meet the major environmental and social challenges of the day, with few exceptions. We need only look to the escalating markers of unsustainability at the global level (for instance, increasing carbon emissions, nature loss and loss of biodiversity) to understand that we are collectively far off-course from much-needed sustainable futures. The gap between organizational rhetoric (pledges, commitments, reporting, etc.) and actual collective impact raises questions about what is impeding progress towards what experts believe is an urgently needed sustainability transition at scale.

Organizations clearly have the potential to contribute to our global movement towards sustainability in various ways. Of particular interest is the role of organizational culture, and whether culture is 'fit for purpose' to help facilitate a sustainability transition, particularly within organizations whose social and environmental impacts weigh heavily on whether we will achieve a more sustainable future. An organization's culture is increasingly recognized as being integral to engaging meaningfully, or not, on sustainability, by shaping the decisions and actions of organizational members.

Organizational scholars have been calling attention to organizational culture in relation to sustainability issues for more than two decades. Given increasing sustainability concerns across societies there has been a renewed upswell of interest in this topic. Considerable theorizing and conceptual development, as well as a number of complex systems models have been proposed in the literature.[7] A number of studies also offer an applied focus intended to guide management practice.[8]

While these models and frameworks are useful, many have had little direct empirical testing and are almost exclusively drawn deductively from existing literature rather than also building on empirical observations of what is happening within organizations. Yet decisions made within organizations large and small can be readily observed, shaped, and learned from. These decisions shape our shared realities – social, environmental and economic – on a daily basis. It is crucial to understand what is happening within organizations and how cultures within organizations can be engaged and shifted in pursuit of a more sustainable future.

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6   For example, see Intergovernmental Panel on Climate Change (2018, 2021, 2023).
7   See Assoratgoon & Kantabutra (2023), Ketprapakorn & Kantabutra (2022).
8   For example, see Bertels et al. (2010), Galpin et al. (2015).

Why focus on culture?

The question of culture is central to sustainability concerns because human activities are the main driver of our currently unsustainable societal systems, and are largely driven, maintained, and conditioned by cultural norms, standards, and expectations.[9] To meet our sustainability challenge there is a pressing need to reorient values, beliefs, worldviews, objectives, human behaviour, and more directly, the individual and collective activities that are currently compromising the ability of our planet to sustain life and human societies. To a large extent, the challenge of sustainability is a cultural challenge.

Figure 2. Passengers disembark from an electric vehicle in Waterloo, Canada, at the evolv1 green building. Photo credit: Sustainable Waterloo Region.

A common approach to engaging employees in sustainable practices is to use social marketing programs. This is a social change approach using marketing techniques grounded in social-environmental psychological theories and research to create desired behavioral changes among individuals. For example, people may receive a message that 75% of all employees in this organization recycle, encouraging people to do the same by communicating a social norm.

While social marketing certainly has value, such an approach is insufficient on its own as it does not consider the organization, physical buildings and external realities as the complex and dynamic systems of interacting components that they are (e.g., the physical space, people, leadership, resources, societal culture all interacting together). These complex systems resemble those that exist within cultures – including within organizational cultures – with shared values, practices, rituals, and symbols interacting with and reinforcing each other in dynamic ways. Culture then also provides a natural mechanism to connect individual employees, physical workspaces, and organizations – for instance, with a common focus on engaging together for sustainability.

One advantage of focusing on culture is that it is more deeply ingrained within the organizational system and thus a longer-lasting and more comprehensive mechanism for organizational change. Once a new culture is established, fostering sustainable practices does

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9   For example, see Kagan & Hahn (2011) and Kagan (2012), among many others.

not depend as much on individual employees. New employees will be acculturated into an existing organizational culture of sustainability, which can be further strengthened through targeted onboarding materials. Engaging culture also allows for better consideration of a holistic approach to sustainability, inclusive of the tri-factors of sustainability, including social and economic equity and wellbeing and environmental protection.

Further, as many participants in our COS research have shared with us, developing an organizational culture of sustainability can also be a wise strategic action that helps to better position organizations to be more resilient in the face of changing circumstances, and to be 'ahead of the curve' of where the future is clearly headed. No longer simply a niche consideration, organizations large and small are starting to make serious shifts in attitudes and practices to adapt to changing environmental and social realities all around us.

Another important consideration is that climate change and other ways we are exceeding our planetary boundaries is interconnected with social challenges, such as social inequities (e.g., based on gender, income, or ability status), immigration, racism, and the continuation of colonization. This is why some researchers sound the alarm bells that we are facing a polycrisis, that is, "a single macro-crisis of interconnected, runaway failures of Earth's vital natural and [society's] social systems that irreversibly degrade humanity's prospects."[10]

Figure 3. Flooding in New Orleans, 2005. Photo credit: Bill Huntington / US Air Force.

Thus, it is important to view and address sustainability broadly and not just focus on the reduction of greenhouse gases, crucial as this also is. An increasing number of organizations are moving in this direction as they develop strategies of Environmental, Social and

10 Homer-Dixon et al., 2022, p. 3.

(corporate) Governance (ESG), often connected to the UN Sustainability Development Goals. Investment and community stakeholders also increasingly expect movement in this direction. For this shift to be meaningful and not just a marketing strategy, it is critical to adapt the organizational culture to be aligned with this broad understanding of sustainability. However, independent of whether your organization's ambition is primarily focused on environmental aspects or on integrating a broader understanding of sustainability into your day-to-day operations, this guide can be useful to you.

Please note that most examples we will present in this guide are focused on the environmental aspects of sustainability as that was the focus of our work in the evolv1 case study. However, the core principles and overall strategies proposed here apply to a broader understanding of sustainability.

Box 1.2

More benefits of engaging culture within organizations

While sustainability is now a buzzword that many organizations express at least a partial commitment to, to 'live into' COS takes authentic and sincere commitment over time. Organizations that act now can be leaders in a global transition towards building societies designed to last, ensuring a more sustainable future for all of us.

Recognizing this imperative, developing such a culture can be challenging as it requires the engagement of a whole system(s) over an extended period of time. Ideally, such a change process is carefully planned and grounded in best practices, including an innate understanding of the sys-tem(s) to be impacted. It should also be remembered when designing your change process that even without a solid plan in hand, your organization exists in a broader societal and natural context that will eventually force changes. Rather than being forced to respond to significant external changes reactively as they occur, developing a culture of sustainability can help you to direct future change more proactively, designing for resilience in the long-term.

Finally, we will discuss the ways in which developing a culture of sustainability can be a messy, organic process. While a good strategic plan can help your organization move forward together in a clearer direction, it is also important to be ready to respond to opportunities and 'pockets of engagement' organically as they emerge.

Shaping culture towards sustainability

Both "organizational culture" and "sustainability" are multifaceted and contested concepts that reflect the complex nature of the underlying phenomena they address. Shaping culture towards sustainability therefore requires definition, while also recognizing that these concepts are fluid, open to change, and can never entirely be pinned down.
Culture of sustainability (COS) can be understood to be a merger of the concepts of (organizational) 'culture' and 'sustainability', and is characterized by "shared values, symbols, rituals, and practices grounded in sustainability principles leading to individual and societal choices that promote environmental protection, social justice, and well-being, and a supportive economy".[11] This understanding is closely aligned with other existing definitions and conceptualizations of COS.[12]

We agree with multiple other scholars that the development of COS can be best understood within a people-focused systems approach.[13] That is, COS is shaped first and foremost by people. Recognizing this, it is also important to understand that all people engaged in a culture are embedded within external structures and systems that may shape their mentalities and worldviews, and may provide specific opportunities, barriers or constraints for people to act more sustainably. Hence, while individuals have some degree of personal agency over their own decisions and behaviours, these are also shaped and constrained by the external structures and systems that they operate within. To create a lasting culture of sustainability hence requires both engaging people, and changing non-sustainable systems and structures that shape people's behaviours and decisions.[14]

As described further in Part 2, a COS can best be understood as an evolving structure emerging from the complex and dynamic interactions of the different people in the organization and various systems components (norms, values, physical structures, employees, leadership management practices, etc.). The organization is also embedded within external systems (e.g., local community, societal culture, ecosystems) that influence the internal dynamics. By moving towards a better empirical understanding of the dynamic interactions of these system factors in shaping an organizational COS across different organizations, we hope to support organizational change agents in their efforts towards fostering strong COS. Besides the existing literature, the insights we are sharing in this guide are grounded in two research-based case studies. We recommend reviewing these to get a good sense of what informed the content of this guide, and to better understand the context in which it was developed.

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11 See Dreyer et al. (2021), p. 5.
12 For example, see Ketprapakorn & Kantabutra (2022), Galpin et al. (2015).
13 For example, see Dreyer et al. (2021), Harré et al. (2022), and Ketprapakorn and Kantabutra (2022).
14 For example, see Kagan & Hahn (2011) and Kagan (2012)'s descriptions of the need to change existing unsustainable systems and cultures of unsustainability, among many others.

Case Study 1: COS development in the evolv1 green building

Figure 4. The evolv1 green building in Waterloo, Ontario, Canada. Photo credit: The Cora Group.

We first developed an early version of this guide in the context of a five-year study to create a strong COS across tenant organizations in a multi-tenant green office building, evolv1 in Waterloo, Canada (see photo above), to support the goal of becoming a net-positive energy building. The evolv1 building was inspired by Sustainable Waterloo Region, and was developed and is owned by The Cora Group. To learn more about the features of evolv1, visit the interactive website about the building here; to learn more about the building's unique story, see the story report here.

Box 1.3

Further information

With the building sector accounting for roughly 40% of global greenhouse gas emissions and global energy use (UNEP, 2012), the transition to high-performance green buildings (HPGBs) is one key strategy to support necessary reductions towards more sustainable societies.

However, high-performance green buildings often fall short of the predicted energy savings, leading to a performance gap between their initial design and actual operation. We often look for the answer to this discrepancy in the design modeling, commissioning or how the building is operated, all of which can indeed be the cause – however, part of the solution may also lie in an often neglected subtlety. How a building is used by

occupants can have a direct impact on the energy consumed, and the success (or not) of certain energy saving design features. If a designer assumes a certain behaviour by occupants but the actual behaviour varies from this, a gap may result.

Addressing this gap is important, however is not the only reason to consider the 'people side' of high-performance green buildings. Green buildings can also be inspirational to their occupants and promote sustainability more broadly. Green building features of schools, for example, have been found to positively impact students' environmental attitudes and behaviours when students were actively engaged with those features and a culture of sustainability was promoted through the teachers.[15]

A similar conclusion was found in a case study focused on COS development and experiences of tenants within the evolv1 building[16] – a unique multi-tenant green building space where there has been an active ongoing COS program and study in this area for several years.[17] evolv1 is both Zero Carbon Certified by the Green Building Council of Canada and net positive energy, producing more clean energy than the building uses (see image of evolv1 in the photo above, showcasing its wide array of clean power using solar energy).[18] You can learn more about evolv1, its energy saving features, and its current performance by going to the evolv1 interactive website.

The COS program at evolv1 was co-led by multiple individuals and organizations, including a Manager of Culture of Sustainability for the building, the VERiS Research Centre at Wilfrid Laurier University, and Sustainable Waterloo Region, among others. To explore the story of evolv1, how it came to be and its varied impacts in-depth, you may wish to refer to the 2021 report by the VERiS Research Centre, *Collaboratively Disrupting the Building Industry: The Unique Story of evolv1 in Waterloo Region*. For insights on the COS program led in the building, see the publications by Dreyer et al. (2021) and Geobey (2022), among others.

In total, the COS program at evolv1 provided helpful insights into the development of COS within a multi-tenant office building environment, including the complexities that can arise when striving to develop a shared culture between multiple diverse organizations (for more on these complexities, see Geobey, 2022).

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15 See Cole & Hamilton (2020).
16 See Reimer-Watts et al. (2022).
17 See Riemer et al. (2021), Dreyer et al. (2021), Geobey (2022), among others.
18 See Riemer et al. (2021).

Case Study 2: Understanding leadership and COS development factors of organizations

We further refined this guide based on 15 interviews with leaders of 14 organizations perceived as being on a positive path towards a strong culture of sustainability (see Riemer et al., 2024).

Box 1.4

Further information

The second case study that has helped inform this present guide aimed to better understand the COS development process through the lived experience of leaders in organizations that were perceived by experts as being on a good path toward a strong COS. This research was focused on the process of organizational COS development, responding to the question: "How does a culture of sustainability develop in organizations on a path towards a strong culture of sustainability (COS)?"

A diverse sample of 14 Canadian companies and organizations were nominated by organizations that support organizations on their path toward COS. Researchers conducted a series of in-depth interviews with 15 leaders across the 14 different small, medium and large-sized organizations to assess the unique COS development process within each. While this sample is diverse (e.g., a larger building management company, a university, a festival organization, a manufacturer, an engineering consulting company, and others), there are also some limitations regarding representation of geographical location, size, and type of industry.

Findings from this study complement and advance previous work and indicate that:

- COS development is not a clear, linear process, and can be rather messy, chaotic, and iterative.[19] There is no simple, step-by-step process that is guaranteed to lead to a strong COS.

- However, there are several common identifiable factors that impact COS development across organizations, and can be useful to understand.

- Further, there are various stages of COS development that can be defined.

- Understanding the factors, relationships between factors, and COS stages can help managers position their organizations and focus on the most relevant aspects to advance COS development from where they are currently.

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19 For example, see Galpin et al. (2015).

- A major outcome of this study has been the creation of an initial COS Development Model for Organizations, based on study findings. This is expanded on in the section COS Development Model, below.

Figure 5. Sustainability leaders and interested supporters engaging at a community event in Kitchener, Canada. Photo credit: Sustainable Waterloo Region.

Figure 6. Considering what fruit to buy at a local market stall in Waterloo Region, Canada. It can be helpful to consider local farmers, food systems and the broader agricultural sector as well when considering sustainability. Photo credit: Sustainable Waterloo Region.

Key objectives of an effective COS program

Building from our experiences in collaboratively leading a COS program within the evolv1 green building, our team identified the following three key objectives of a successful COS program.

Objective 1: Foster inclusive engagement

▶ The COS program includes activities that can create opportunities for people to connect organically and form connections, often based on similar interests.

▶ The COS program is designed to consider what groups or types of people may be less likely to engage or feel less likely to belong to an emergent COS culture, with specific approaches built-in to better engage and include these people.

Objective 2: Provide opportunities for awareness, learning and action

▶ The COS program includes opportunities for increased awareness, learning or action linked to different dimensions of sustainability – for instance, considering social, economic and/or environmental dimensions.

Objective 3: Motivate a shift in mindset

▶ The COS program should encourage participants to proactively consider social, economic and/or environmental sustainability in their own actions and decision-making rather than relying on management or the green team to provide specific instructions – shifting individual and group mindsets over time towards more sustainable thinking and behaviours.

Exploring the 'how' of what is required to meet these objectives is the focus of the next section.

Part 2:

How to Lead a Shared Culture of Sustainability

Clearly, developing a culture of sustainability (COS) can be complex and benefits from the thoughtful guidance and support of leaders to flourish. In this second part of the guide, we introduce theories, strategies and practical suggestions that can support COS change leaders in their efforts. This section begins with an overview of conceptual considerations for COS development in organizations, leading to a useful set of core guiding principles; a model of COS development in organizations, outlining four key identified stages of development; and lastly, a practical guide including process-related considerations, action steps, tips and tools for co-developing a COS within your organization.

A Theory of Change for COS development in organizations

A theory of change "is essentially a comprehensive description and illustration of how and why a desired change is expected to happen in a particular context."[20] Our original theory of change for how to foster COS emerged from the application of relevant scientific psychological, organizational, and systems theories, a literature review of existing research and research we conducted with multiple tenant organizations based in the evolv1 green building in Waterloo, Canada (see Case Study 1). This work became the foundation for this guide; a more detailed overview of this theory of change is outlined further in the paper *Fostering Cultures of Sustainability in a Multi-Unit Office Building: A Theory of Change*.

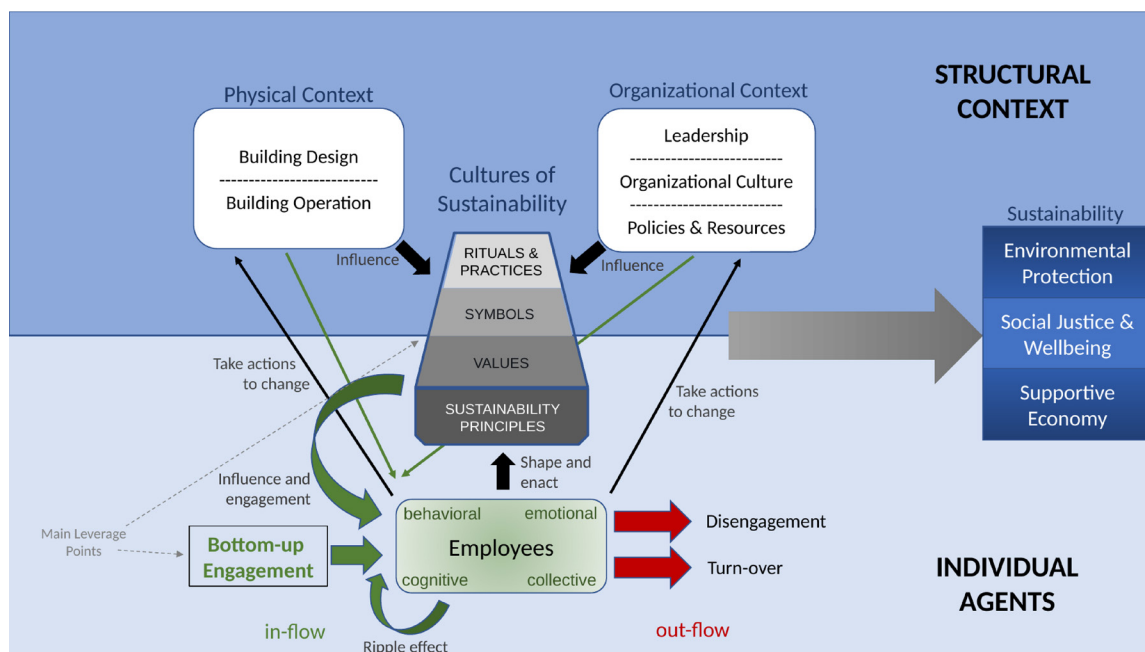**Figure 7.** A Theory of Change for COS Development (Adapted with permission from Dreyer et al., 2021).

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20 Center for Theory of Change. (n.d.). *What is theory of change?* www.theoryofchange.org/what-is-theory-of-change/

This **Theory of Change for COS Development**, as originally applied to a multi-tenant high performance green office building, is shown in Figure 7 above. Note that the model has been adapted from its original version to be more broadly applicable to all organizations, operating within different physical contexts. The complexity of the program may change depending on the number of tenants in a physical building, for instance, and the influence of the building may differ based on its physical sustainability features. Even in a work environment that operates in a hybrid work model, a lot of the principles introduced below still apply.

Looking at the model in Figure 7, we can see that it captures the complex, dynamic, and multi-level interactions between the two major systems that exist in office buildings: (A) The physical side – in this case, the building design and features, and (B) The people side, including the employees and managers of the organization.

This is what is called a whole systems approach. That is, rather than engaging only one aspect of an organization (e.g., the recycling behaviour of employees), multiple aspects are targeted simultaneously knowing that these aspects may interact with each other and can strengthen each other. For example, if the organizational leadership communicates that they care about sustainability (e.g., by setting specific sustainability goals for the organization) and then there are concrete building features that are consistent with this value of sustainability (e.g., solar panels on the parking lot), then employees will be encouraged to also act in a sustainable way and may even advocate with leadership for more sustainability-related changes, further pushing a COS forward.

Key actors on the people side in this system include the organizations' employees and managers (as the main occupants or building citizens[21]), the organizational leaders, building owner(s), building management and staff, and the surrounding community interacting with the building. Considering the tenant organizations, fundamental systems parts that can affect COS development include their leadership, existing organizational cultures, resources, and regulations/policies. In this model, specific cultures are developed among building citizens as they interact with each other and with building features, some of which are in return influenced by people – such as by individuals bringing personal plants and artwork into the building, for example. Emerging cultures are also influenced by other system parts such as organizational policies and leadership. Over time these system components interact in unique ways that can shape the creation of the emergent COS, the actions of building citizens and their experiences in the building, and in turn influence the resource use of the building as a whole, along with other dimensions of building and organizational sustainability.

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21 We refer to the occupants also as building citizens to represent that they are active agents in shaping the building environment with rights and responsibilities, and not just passive occupants.

Box 2.1

Further details in understanding the theory of change

As cultural development is clearly influenced by diverse system parts, intervening in this system is best done with a long-term comprehensive strategy that targets multiple components of the system simultaneously. For instance, at a high level an effective comprehensive strategy might target engaging aspects of the physical environment, organizational dimensions, and the individual level of engagement at the same time. More specifically, system components could include the selection and onboarding of new employees, organizational values, sense of community, featuring green building features, and others.

Ideally, an effective COS development strategy combines top-down approaches (for instance, the promotion of organizational values aligned with sustainability) with a significant investment in bottom-up approaches, for example through direct employee engagement, empowerment and participatory processes. Engagement strategies grounded in this understanding focus on developing ongoing community and providing different options to connect to sustainability over time cognitively, emotionally, behaviorally, and collectively. Core principles derived from this theory for guiding COS development are captured below in Table 1.

In engaging building citizens or employees in an organization over time to develop a COS it is also important to think about turnover and disengagement, which are common. Champions[22], who were driving the COS forward due to their own personal motivation and passion, may leave the organization or building and take with them institutional knowledge and interrupt relationships that connect different organizational units. Similarly, people can burn out or become too occupied with competing demands and disengage from sustainability work, which can be an issue especially early in the COS development process. If an organization is serious about developing a strong COS, they need put measures in place to prevent disengagement and plan for transitions due to turnover.

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22 Champions are those within an organization who take leadership roles in moving an organizational initiative forward and engage others to follow along. Sometimes these are completely volunteer roles and in other cases this can be part of the employee's job description. In either case, champions can be essential to moving COS development forward. Likewise, the loss of such a champion can significantly disrupt the engagement with existing programs or partners and, in some cases, completely end them.

A Model of COS development in organizations

To supplement the theory of change model above, our team created a developmental model of COS describing four key stages of development as well as potentially influential contextual factors, dynamics and risks/barriers (Figure 8; see also Riemer et al., 2024). The model emerged from research focused on COS development across diverse organizational types and contexts, informed by insights from organizational leaders across 14 different organizations that had been nominated as being on pathways towards strong COS based on their known history of championing sustainability. For more details on the methodologies used to inform the case study and model, see Case Study 2, and Appendix B.
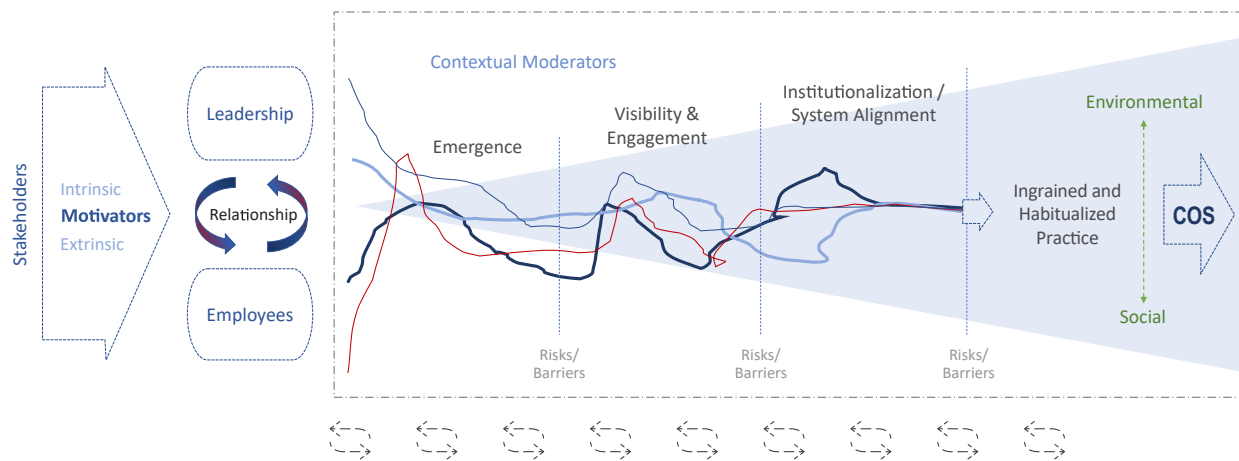
Figure 8. Developmental model of organizational culture of sustainability, or 'COS Development Model' for short (Riemer et al., 2024).

The COS Development Model has been designed to illustrate the complexity, organic nature, and non-linearity of COS development, while providing insight into development stages and factors that may influence this, as well as how leaders and advocates can better position their own organization(s) within this space.

Note: a worksheet for reflecting on and applying the four stages described below is
available here.

Summary overview

Taking a high-level view, the COS Development Model is designed to show an organic evolution of cultural development that may begin in a range of different ways and from different sources, For instance, the initial 'sparks' for COS development can commonly emerge from either organizational leadership and/or employees, either of whom may be motivated to help catalyze COS development in their organization. For system alignment to occur, however, it will take a deepening of relationships and alignment between actors over time across the full organization (e.g., management and employees), aligned with supporting a shared and co-created COS, shaping its evolution and direction together.

While the nature of COS development varied across the fourteen organizations, we were able to discern a general model of the development process with four identified stages. These stages as shown in the model include: **1) Emergence, 2) Visibility and Engagement, 3) Institutionalization/System Alignment**, and **4) Ingrained and Habitualized Practice**. While describing these stages, it's important to note that this model is not deterministic or predictive but rather designed to be process-oriented, capturing potential emergent factors across these stages in the development process as well as initial drivers and contextual moderators that can influence COS development within an organization. In some organizations different stages may overlap in time.

Box 2.2

Further information

Our understanding of the development process as following these core stages was inspired by Piaget's classic stages in the development of children towards adulthood (Piaget, 1971). That is, there are qualitative leaps in the way that organizations understand sustainability and implement a COS but the exact transition from one stage to the next is somewhat blurry and can be recursive. One participant in our research, for example, shared that they "developed what sustainability means probably right from the very inception of the company… but over the years it has evolved, the meaning of sustainability has evolved."

We believe that the value of this model lies in its ability to clarify expectations at each stage of the COS development journey so that emergent opportunities can be seized. As noted by one of our participants from a production company: "If you're not ready, when the opportunity strikes, you're not going to – you got to seize every opportunity."

Moving through the four stages of COS development

Organizations may move through the four stages of COS development identified at varying paces, and with different expressions of each of these stages. While some expressions may overlap across organizations, others may be distinct to a particular organization based on its own unique characteristics and context. Here we describe the four core stages of COS development at a high level (for more details, see Riemer et al., 2024).

Stage 1: Emergence

The first stage of COS development can be thought of as **Emergence.** At this stage, early ideas and enthusiasm for development of an emergent new "culture of sustainability" (which at this stage, may also go by a different name) are just beginning to be brought forward in an organization.

Stage 1: Emergence

Risks/ Barriers

Figure 9. 'Emergence' stage in the COS Development Model (Riemer et al., 2024)
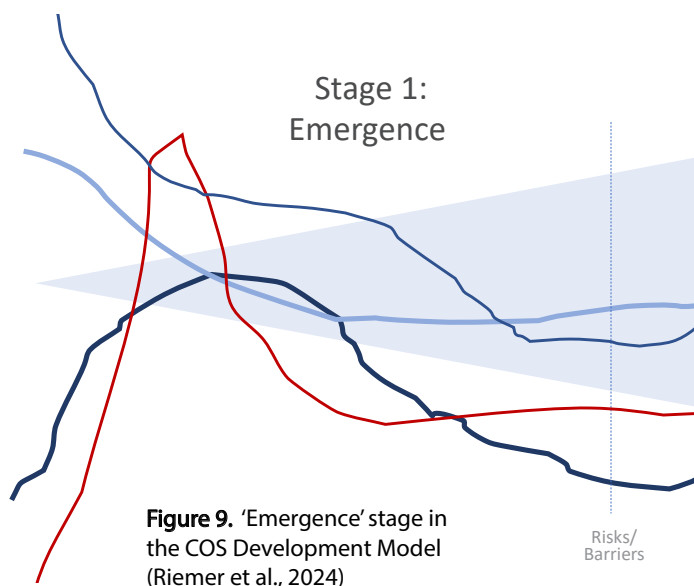
This early stage is often characterized by an initial spark or inspiration brought forward by an individual(s) or a specific sub-unit within larger organizations. Motivation to push forward with this early spark may be both intrinsic (e.g., an employee advocating for sustainability) and/or extrinsic to an organization (e.g., shareholders or customers becoming more aware about climate change).

Such an initial emergence of a sustainability focus in an organization can happen at both leadership levels and/or from employees, or possibly emerge from other sources. An internal champion with high levels of motivation for change, some stamina and who is willing to swim against the stream initially, was described by several of our participants as key to this stage. However, while internal organizational champions often play a role in instigating the initial 'spark', for COS to move forward it requires a range of potential supports, including efforts to broaden engagement with and visibility of the emergent culture across an organization.

Organizations that have strong leadership support from early on or where a core leader is the initiating champion seem to move faster and more comprehensively in their COS journey.

Box 2.3

Reflective questions to consider related to Stage 1: Emergence

▶ Are there existing sparks of sustainability in our organization that we can build upon and foster?

▶ How can we identify and amplify these sparks?

▶ If no sparks currently exist, can we inspire them?

▶ Are the external drivers for a COS that we can leverage?

Stage 2: Visibility and Engagement

The second stage of COS development can be described broadly as **Visibility and Engagement**. In this, early signs of an emergent new culture are beginning to be visible, inviting and engaging others from within an organization to contribute their own energy towards COS development.
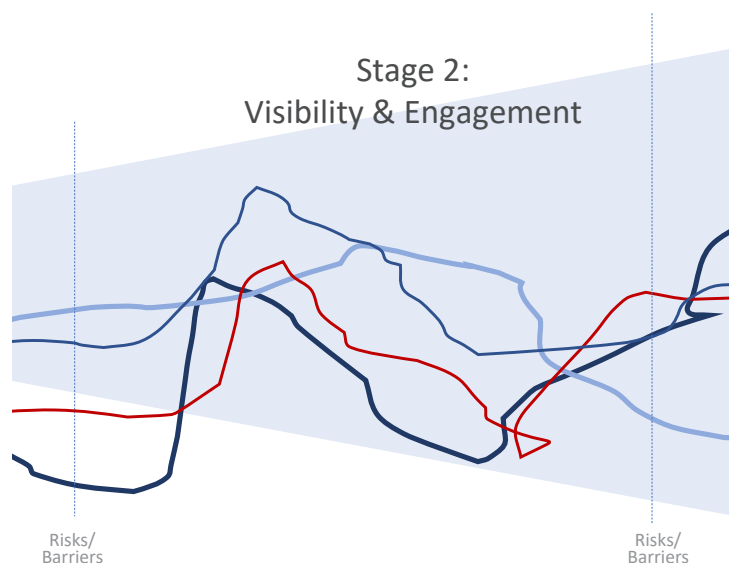
Figure 10. 'Visibility and Engagement' stage in the COS Development Model (Riemer et al., 2024)

A key factor in how quickly an organization moves from Emergence into Visibility and Engagement depends a lot on the nature of the relationship between leadership and employees. Whether the initial inspiration for sustainability engagement came from leadership or from employees, a key goal for the second stage is to get the other side on board, according to our participants. This can be done through informal and formal engagement and clear communications of the importance of focusing on sustainability.

For example, for engaging leadership participants talked about making the business case for sustainability and pointing to the competitive advantage of being a green organization. For employees, early COS engagement may include co-developing sustainability-focused values and vision statements; setting specific sustainability goals; formal/informal education opportunities, workshops and ways to 'have fun' with sustainability, relating changes to employees' daily lives and work practices; and by forming green teams of internal champions who engage either as volunteers or as part of their job descriptions. Having an executive sponsor in the green team helps to strengthen its effectiveness.

Visual symbols (signs, posters, green spaces, clean energy, etc.) also can help signal a new priority of sustainability to members of an organization. This 'visibility' of the emergent culture – particularly when co-created with those involved – in turn can help sustain and support members' ongoing engagement in further COS development. For further ideas on visibility and engagement strategies in this second stage, see Guideline 3: Establishing Your Unique Culture of Sustainability, and Appendix C.

Box 2.4

Reflective questions to consider related to Stage 2: Visibility & Engagement

▶ How can we spread the initial sparks to other parts/levels of the organization (e.g., to leaders if the spark originates from employees)?

▶ What approaches to engaging employees/leaders have worked in the past in our organization?

▶ What strengths in our organization can we build upon in fostering engagement?

▶ What supports and training can we provide to the initial champions to better engage others?

▶ Who are our internal informal leaders who influence others in the organization? How can we get them on board?

Box 2.5

Further information

Note that within the COS Development Model different colored 'energy lines' are included moving organically from left to right, representing multiple diverse flows of energy being put towards COS engagement and action. Energy flows in the model also illustrate that

while the initial 'sparks' for COS may emerge from multiple different sources, such energy will eventually need to converge for institutionalization and system alignment to occur.

Also note that early efforts towards COS development naturally may not yet be fully aligned with each other, and may at times appear 'messy' and disjointed, perhaps even working at cross-purposes. It takes a collective effort for COS actions to begin to align, increasing both formal and informal engagement and cohesiveness in the expression of the emergent culture across an organization.

Growing internal motivation for forwarding a shared COS will help ensure that diverse efforts begin to align, and are gradually embedded within the structural fabric and identity of the organization – enabling an organization to shift into the next stage of Institutionalization and System Alignment. It's important to note that there's a possibility here that without an intentional effort and strong commitment toward sustainability organizations can get stuck in Visibility and Engagement, and struggle to move onto the next more substantive stage.

Stage 3: Institutionalization and System Alignment

The third stage of COS development can be considered **Institutionalization and System Alignment**. In this stage, particular expressions of COS have now crystallized to a much greater degree, expressed in ways that may be unique to particular organizations, yet still grounded in more widely understood sustainability principles.

Stage 3:
Institutionalization /
System Alignment

Risks/
Barriers

Risks/
Barriers
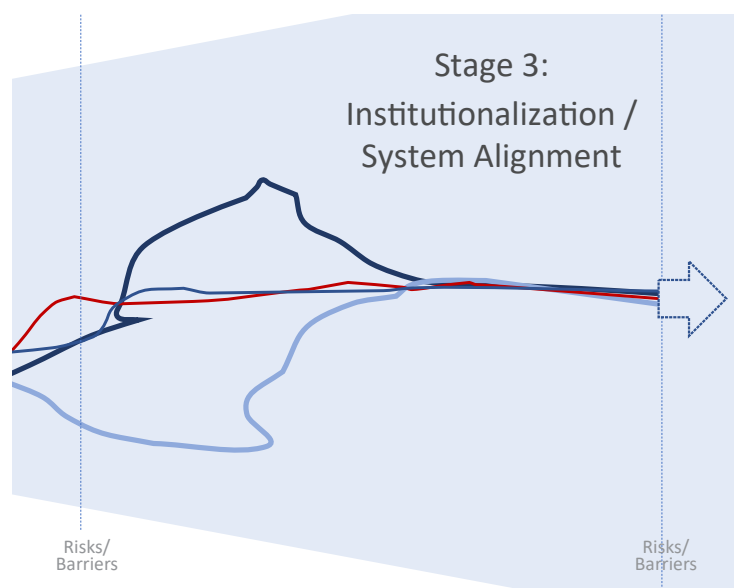
Figure 11. 'Institutionalization and System Alignment' stage in the COS Development Model (Riemer et al., 2024)

In the Institutionalization and System Alignment stage the integration of sustainability becomes more in-depth and the organization itself starts to change. A commitment to sustainability is now becoming part of a shared organizational identity, and in some cases even the purpose of an organization may begin to shift or broaden to be better aligned with that identity.

Similarly, considerations of sustainability are also now increasingly embedded within

management practices, and are a part of core organizational decision-making. Key strategic management practices such as strategic planning, performance assessment, product development, and people management will start to shift to be more aligned with sustainability. Day-to-day operations of the organization also become more aligned with sustainability goals and in turn new structures may emerge to accommodate this, such as designated paid sustainability roles.

At this stage, COS has become an integral part of an organization's core operations and shared identity, with the organization's core purpose and functioning now being shaped to align closely with sustainability. Specific sustainability and carbon reduction targets are often set (e.g., "being carbon neutral in our operation by 2030") and progress towards these assessed, which aids the institutionalization.

Stage 4: Ingrained and Habitualized Practice

The fourth and final stage of COS development can be described as **Ingrained and Habitualized Practice.** In this stage, sustainability is now present in all aspects of an organization and its practices including physical features (e.g., buildings), leadership, purchasing, marketing, employee hiring and management, client engagement, products and supply chains, and day-to-day practices of employees.

This stage can be considered the most mature form of COS, with widespread collective action and practices aligned with sustainability now embedded throughout an organization, that are both holistic and widely supported. 'Holistic' considerations may include balancing the different dimensions of sustainability – such as environmental, social and economic concerns – in the organization's core decision-making and functioning, ensuring these dimensions are well integrated.

Taking a broad view, how an organization functions is by this stage deeply aligned with core principles and concerns for sustainability in all its dimensions.
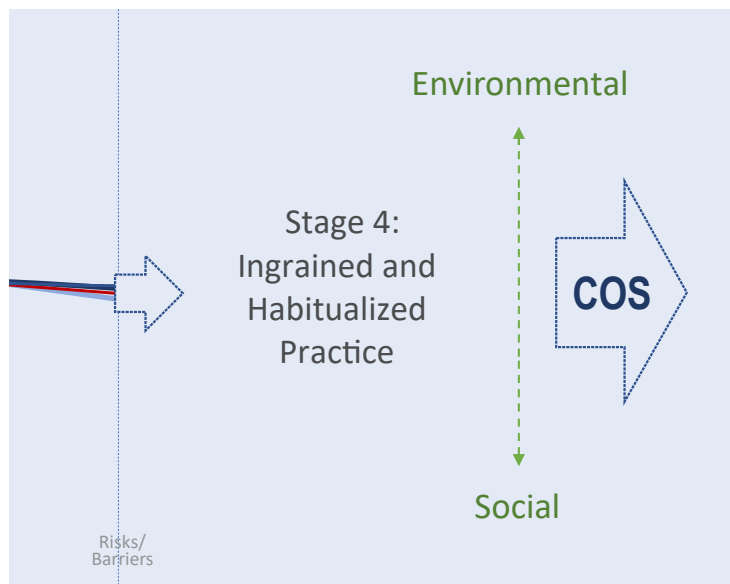
Figure 12. 'Ingrained and Habitualized Practice' stage in the COS Development Model (Riemer et al., 2024).

In describing these four stages of COS development, it's important to note that many organizations often get stuck in the first two, and mature, sustained manifestations of the latter two stages within organizations are still relatively rare. It's also quite possible that you will have experiences within your organization that add further nuance and dimensions to one or more of these stages.

Feedback cycles, iterative learning, and the need for ongoing maintenance and evolution

STAGE 1	STAGE 2	STAGE 3	STAGE 4
Emergence	Visibility & Engagement	Institutionalization / System Alignment	Ingrained and Habitualized Practice
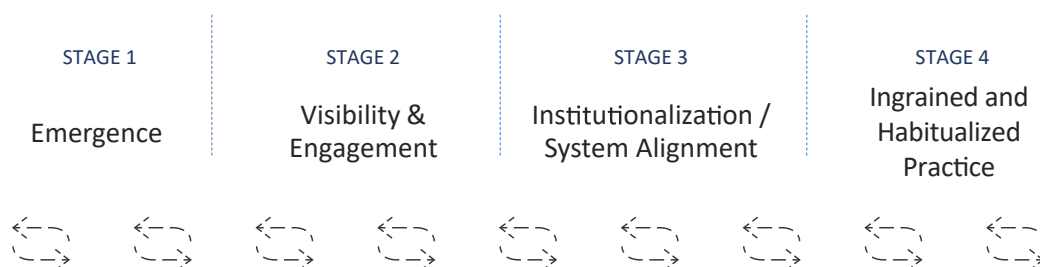
Figure 13. Feedback cycles in the COS Development Model (Riemer et al., 2024).

Feedback cycles are shown by the circular arrows at the bottom of the model, and illustrate the likelihood for non-linear development of an emergent culture of sustainability.

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They are also a reminder that there will be opportunities along the way for steps to strengthen a COS – for instance by learning from and amplifying "what works" – as well as risks of stagnation and regression backwards. Barriers shown as porous lines separating each stage in the model illustrate the potential for stagnation, as organizations may get 'stuck' in one stage of development and struggle to move forward.

At each stage, including the last one, there is the danger of falling back into previous stages as external (e.g., societal priorities that are not clearly linked to sustainability become more dominant) and internal circumstances change (e.g., turnover of champions, loss of institutional knowledge, new leadership, company being acquired by new owners). Our understanding of sustainability and its scope also constantly changes, such as the increasing emphasis of social consideration (e.g., equity, diversity, and inclusion) in the context of environmental, social, and corporate governance frameworks. Thus, it is important that COS adapts with these changes. There is a need to always consider how to maintain and evolve the existing COS and not rest on one's accomplishments. Having said that, it is equally important to celebrate successes and develop a collective pride in what has been accomplished so far.

Further information

The ongoing cycles of potential opportunity and risk throughout COS development remind leaders of the need to be vigilant in identifying both, for instance by striving to take advantage of opportunities to move COS forwards while also guarding against potential risks of stagnation or falling back. Taking advantage of positive momentum and 'what works' – which may vary across organizations – can be a useful strategy for helping to push past or even avoid potential barriers and risks to COS development.

Feedback cycles are also a reminder of the need to incorporate iterative learning and constructive input from those involved in a culture's development, supporting participation in cultural development from people across the organization. Iterative learning is key for discovering 'what works' for a particular organization, and also to be able to amplify and build on successes to further strengthen COS development. Feedback cycles are reminders of the need to build in genuine opportunities for feedback from organizational leadership and employees, identifying potential challenges as well as suggestions and 'what works', as pathways for genuine engagement in ongoing COS development. While specific leadership, roles and distinct hierarchies may still exist in an organization, creating a more participatory process with built-in feedback mechanisms to help inform COS development will often lead to increased buy-in, and can strengthen the unique 'fit' of COS to each distinct organization.

Process orientation and contextual factors

In addition to understanding the distinct phases of COS development and feedback cycles/ iterative learning, participants identified a number of contextual factors that can influence the development of a COS across developmental stages and are helpful for leaders to remain aware of. Contextual factors are internal and external aspects of an organization that are influential in how the organization operates and how decisions are being made. For example, a large for-profit company with many different departments may have multiple sub-cultures that impact the development of a COS, while a small non-for-profit organization may only be influenced by one core organizational culture.

More examples and how these factors may play out or could be leveraged are described in the Box 2.10 below. Overall, we found that these contextual factors could be sorted within four overarching categories: **Organizational Characteristics, External Stakeholders/Societal Culture, Supporting Organizations**, and **Business Case** (see COS Development Model, and Table 1 below). These contextual factors are a reminder that a culture of sustainability will not play out in the same way across different organizations. These factors will influence how a COS emerges within each organization and can present either facilitators or barriers to change. Please note that potential contextual factors listed in Table 1 below are likely not

comprehensive, but were derived from the data in our research. If you notice a different factor not included here, please let us know.

Organizational Characteristics	External Stakeholders/ Societal Culture	Supporting organizations	Business Case
Characteristics specific to the organization, such as: • Origin/history • Org type • Industry type • Org size • Materials and resource use (e.g., building, supply chains) • Org culture & climate • Leadership style	Influence of external stakeholder support Influence of community/ societal culture	Influence of intermediary organizations and/or individuals supporting COS development	Business case / perceived ROI for sustainability For example: • Risk mitigation or reduced risk exposure • Employee attraction and retention • Reduced operating costs

Table 1. Various contextual factors for developing organizational COS (as shown in the 'Developmental model of organizational culture of sustainability', Figure 3). Note that the list of factors is not exhaustive and can be added to further as relevant to distinct organizations.

▶ How can our organization increase the influence of the supportive factors and reduce the influence of the hindering ones?

▶ What has worked for organizations with similar contextual characteristics?

▶ What supporting organizations exist that can help us with our sustainability goals?

▶ What is the business case for a culture of sustainability in our organization?

Box 2.11

Further information on contextual factors

There are many ways in which these contextual factors can affect an organization's COS development journey. For example, whether or not an organization has a strong business case for sustainability will likely affect how COS develops, as will the broader industry the organization is situated within (e.g., service, production, education, etc.), its existing culture, and other potential organizational characteristics.

External stakeholders and society at large may influence an organization's priorities and how it decides to engage on sustainability, if at all. For example, positive pressure for sustainability from shareholders in a publicly traded company can make it easier for organizational members to invest in development of COS. Organizations that support other organizations in their COS development (e.g., BOMA Canada, Sustainable Waterloo Region) can also play a significant role. An organization providing an easy way to measure progress on COS and publicly holding the organization accountable, for instance, can be a key driver of COS development.

Taken together, all of these moderators may influence both the progression and expression of the four stages of COS development within diverse organizations. The key is to reflect on how these factors play out in the specific context one is trying to foster a COS in and then take advantage of them in moving the COS along or, if they present barriers, to work towards reducing these.

For example, an internal champion can emphasize the development of the respective industry towards sustainability in their effort to gain support from their organizational leadership. As another example, if the organization is large with multiple departments and organizational sub-cultures, then it may be best to start the shift toward sustainability in the department that has the most positive work climate and is ready to engage in organizational change first – then work to spread the broader cultural shift from there.

Takeaways and implications

Considering research findings from this study alongside relevant literature, three key insights emerged. First, the development of an organizational COS is a **complex emerging development process** that is somewhat messy and organic. As such, it may be misguided to classify organizations within a 'typology' of COS, and it may also be inappropriate to prescribe a specific pre-determined path (see also Harré et al., 2022).

Secondly, despite the organic nature of development, there are various **qualitative stages** that can be articulated, even if they are somewhat blurry in their boundaries (as shown in the COS Development Model, above). Orienting one's own organization within these stages may provide insights on what to emphasize and look for in that stage of COS development.

Lastly, there are various **contextual factors** that influence the development of COS along these stages both as initial drivers and as moderators throughout developmental pathways. Change agents who are able to maximize the positive impact of these factors can accelerate and deepen the development of COS within an organization.

We hope that our research and this model will help leaders and change agents working towards a COS to position their organization within the complex and dynamic space of COS development. This model can be considered a tool for situating your organization within, to better navigate your organization's development of COS along this journey applying a context-sensitive approach to development.

Core principles

Why do guiding core principles matter to developing a shared COS? Focusing on core principles as the foundation for effective COS development, rather than simply following prescriptive steps, allows change agents to use a more flexible approach co-developed with those impacted and tailored to their specific contexts. It also allows change leaders to respond with flexibility to changing conditions and emerging opportunities aligned with the organic nature of COS development. In addition, identifying core principles that are commonly accepted and appreciated by organizational members can greatly increase member buy-in to shaping a shared culture of sustainability together over time, much more so than if prescriptive steps alone are followed.

Based on our review of the literature and our own research we propose four core principles for COS development: **1) Apply systems-thinking, 2) Engage comprehensively, 3) Develop a long-term adaptive strategy**, and **4) Practice participatory co-design.** Key strategic

considerations derived from these core principles for guiding COS development are presented in Table 2 below. A worksheet for applying the core principles is [available here.](#)

Figure 14. Davie Village Community Garden, Vancouver. The community garden was once the site of a former gas station. Photo credit: Daryl Mitchell. Used under license [CC BY-SA 2.0](#).

Core Principle	Considerations
Apply systems-thinking	Rather than focusing on only changing a single aspect of an organization and/or the building, the COS development approach considers the interaction of system components (e.g., employee behaviour, company values, and HR practices) and identifies multiple key leverage points in the system for more transformative and durable, long-term impacts. These leverage points may be targeted simultaneously or sequentially depending on their connection with each and the potential for synergistic effects. Targets of integrated interventions can include policies and regulations, social practices and individual behaviours, resource flows, internal and external relationships, power dynamics, and mindsets.
Engage comprehensively	Engagement of various stakeholders is more likely to be effective if it is done comprehensively, that is, involving cognitive (thinking), emotional (feeling), behavioural (doing), and collective (being) dimensions of engagement. A comprehensive approach also considers the various environmental and social aspects of sustainability as represented by the UN Sustainable Development Goals or the Environmental, Social, Governance (ESG) framework. This comprehensive approach to COS development implies multiple interventions and engagement opportunities over time, rather than attempting to find a single solution that fits all or is limited to just one dimension of engagement or sustainability.
Develop a long-term adaptive strategy	COS engagement processes are built on relationships between people and mobilizing those involved in collective experimentation towards identifying 'what works' for a particular organization and context. Through both successes and failures collective experiments create opportunities to deepen bonds of trust between those involved and to learn through experience and critical reflection throughout the process ("systematic learning"). Given that shifting or creating cultures takes a long time, it's important to take a long-term strategic approach rather than implementing a bunch of isolated interventions and programs that do not build on each other. It may also be useful to consider that certain things need to be in place before other things can be successful. For instance, a sense of community amongst those involved may need to be established first before working towards more specific collaborative sustainability initiatives. However, given the organic nature of COS development, it is important to develop the strategy in an adaptive way. That is, on the one hand there are long-term visions, goals, and strategies but on the other hand, specific actions are planned flexibly with an understanding that they may need to be adapted based on changing circumstances and emerging opportunities.

Practice participatory co-design	For a culture shift to have broad impact and be sustained it needs to be collectively owned. It is not something that can just be mandated. Employees, managers, and other members will use their own information, experiences, and capacities to develop 'local theories' about the causes of problems and how to solve them in the process of COS development. Through a cyclical problem-solving and solutions-oriented process, people in the organization will co-design and collectively implement a series of solutions, learning from their results, in a way that is empowering of participation by all members. This is the best way to generate feelings of co-ownership and long-term sustainability of the COS.

Table 2. Core Principles for Guiding COS Development (Derived from the Theory of Change).

Illustration of applying the four core principles

It may be useful to illustrate how these principles can be applied. In the evolv1 study, for example, the research and implementation team applied a **systems-thinking lens** by engaging with the leadership of the tenant organizations in the building to discuss organizational values and policies, and opportunities to promote sustainability through Human Resource practices. At the same time, we **fostered bottom-up engagement with employees** and leveraged the sustainable features of the physical building through clear signage and an interactive website.

We engaged employees early on in **participatory workshops** to develop a mutual understanding of sustainability (including social aspects), and to co-create a vision for sustainability in the building and key aspects of an initial sustainability strategy. This sustainability strategy was then further developed by the Manager of Culture of Sustainability (COS) and a sustainability team composed of members from the different tenant organizations. We also considered it important that the building-wide COS **links to the culture** within each organization, for this culture to truly become embedded and flourish.

We all agreed that a first step in the **long-term development** of a strong COS in the building is to **build community** among the occupants across the different organizations. This was considered the base for the development of joint sustainability actions. Specific activities were developed to feature **cognitive** (e.g., educational events, a website, a photo exhibition), **emotional** (e.g., a mutual aid group to reduce meat consumption, fun community-building activities), and **behavioural** (e.g., a group tree planting event) aspects of engagement.

We also recognized that it is important for the long-term development and sustainability of the COS to **acculturate new employees** into the evolving COS. To support this, we developed documents and videos about our COS that can be shared by Human Resources during hiring and on-boarding processes. Throughout, we engaged in **ongoing experimentation, feedback, learning**, and **reflection**. When the COVID-19 pandemic

resulted in employees working from home, we pivoted our engagement strategies to the online context. To be frank, we had only limited success with this pivot. The number of competing demands during the pandemic restrictions (e.g., increased need for child care) and the fact that most activities shifted online leaving people in need of breaks from screen time made it challenging to engage people in investing their limited time in further online sustainability-focused activities. Given that today many organizations have shifted to being hybrid (online and in-person) it may be useful to organize activities that engage people with sustainability in a fun way in-person (e.g., group tree planting, sustainable lunches, or a fundraising competition) to provide the additional benefit of community- building while also providing tools for focusing on sustainability at home.

It's important to note that these principles are not prescriptive and that their application will likely look different in each organization. In some cases, new capacities may need to be developed first before certain principles can be applied effectively, such as skills in facilitating participatory co-design processes. Similarly, it may be useful at times to work with third-party organizations and consultants that specialize in these types of COS building approaches for organizations.

COS Principles Checklist

As you develop your strategy for COS development within your organization, consider whether it effectively embodies the four core principles that we have identified.

Box 2.13

In your culture of sustainability development process did you:

▶ Apply systems-thinking?

▶ Engage comprehensively?

▶ Develop a long-term adaptive strategy?

▶ Practice participatory co-design?

The process of guiding an organizational culture of sustainability

Before you begin

Embarking on a journey of culture change and engagement towards supporting organizational sustainability is an involved process that takes time, patience and a long-term vision from those involved – among other potential considerations. Above we looked at core principles for guiding organizational COS development for leaders to consider. In this section, we now unpack this development process step by step, starting from these earliest considerations. As you go through, bear in mind that COS development is often non-linear and organizations will naturally follow slightly different paths over your development journey. A worksheet for considering the steps 'before you begin' steps below is available here.

For ease of use, each step below also indicates where it may map onto the COS Development Model (Figure 2), to better situate your own organization at the different stages of development that at this time may best suit you.

Step 1: Are we ready for this?

▸ See COS Development Model – *Stage 1: Emergence*

The most essential step prior to 'diving into' COS development as an organization is this first one. As mentioned, shifting or developing a culture is a comprehensive, long-term process that will require a significant commitment. It also requires flexibility and compassion to understand and accommodate people with varying needs, beliefs, feelings and attitudes, so that you can build the capacity necessary for engaging in lasting change. Prior to engaging organizational members in earnest you need to ask yourself, and others: Are we ready?

Figure 15. Flow cycle.

One way to better understand your organization's degree of readiness for starting on this journey is to conduct an assessment before the process begins involving those who are decision makers, along with those who are representative of different teams or departments within the organization. An assessment allows for deeper understanding not only of existing levels of interest and potential commitment to the process among members, but also can help identify potential challenges and how they may be mitigated early on.

The format for such an assessment can be through the development of a survey, interviews or a charrette style meeting. Some empirically tested tools are provided for that in Appendices D, E, and F. The goal should be to understand the following: leadership buy-in and engagement, time and resources commitments, and system complexity.

i) Leadership buy-in and engagement

Leaders need to have a commitment toward the idea of a culture of sustainability and be open to change and learning. It also important that over time they become engaged and actively support the development of COS in their organization.

Organizational leadership may at first prefer "quick-fix" solutions that are more easily communicated externally, and are biased toward short-term 'wins' that may be more surface-level over longer-term thinking that requires deeper, more substantive changes. Hence, it is useful to understand whether such a preference exists, and if so, how leadership might be encouraged to better balance this tendency with longer-term thinking and also how quick wins can be built in to sustain commitment.

Box 2.14

Consider:

▶ Does the leadership expect quick results or do they align with the idea of a longer-term development process that may be slower than producing immediate outcomes, yet offers a deeper, more effective and lasting organizational COS in the long-term? A longer-term development process also recognizes the value of tangible shorter-term successes, within a larger long-term strategy.

▶ Will the program need to incorporate some initial actions or programs that can lead to 'quick wins' that can be shared and increase early buy-in across the organization? Is there a way to design these early actions to build towards longer-term goals and continued COS development?

▶ Is leadership willing to engage and not only defer the work on COS to others within the organization or external consultants?

ii) Commitment to the length of time

Changing cultures takes time. With this comes the risk of losing momentum, competing/overriding demands, and employee turnover within the organization, potentially leading

to loss of organizational memory of the culture. It's important to guard against these risks by building in strategies to document and 'pass along' important aspects of cultural development to employees as the organization changes.

iii) Commitment of employee time

To develop a COS will require conscious effort from a variety of people in the organization in order to make it participatory. This also includes devoting time to it, engaging on actions that may or may not be overlapping with typical duties in the workplace. Hence, it may be an issue for individual employees to justify spending their time on things other than more immediate, project-oriented work, and for leadership to support employee engagement on sustainability initiatives beyond immediate employment roles.

Once the COS is more established, this time conflict may become less of an issue as sustainability will be much more embedded within people's day-to-day activities and decision-making and will require less of a conscious effort. In the long term, acting in a sustainable way should not really be an extra "add-on" to one's day-to-day job requirements but just be "the way we do things." However, getting there will first take some extra effort, just like when you want to change an ingrained habit.

iv) Commitment of resources

Fostering cultural changes that are operating at a systems-level of an organization can be resource intensive. As a result, unless sustainability is seen as a key organizational priority this may not be an investment organizational members feel they are able or willing to make.

v) Complexity of the system

Buildings with multiple tenants and large organizations with multiple departments and teams pose unique challenges as they require consideration of different organizational cultures, climates, and structures that may vary throughout the organization(s). Communication mechanisms in these contexts may also be limited to particular teams and departments, making it more difficult to cohesively engage all members in the organization in a shared journey together.

Box 2.18

Consider:

▸ Are the building- or organization-wide interventions to develop COS inclusive of only one organizational department or team, or several within the organization? Can key contacts and system-wide communication channels be established early to help facilitate COS development more cohesively across the full organization?

▸ Are there efforts to promote inter-organizational or departmental interactions and community-building amongst diverse members of the organization(s)? Can these efforts be leveraged to help facilitate COS development?

Box 2.19

Example in the context of the evolv1 green building

In the context of the evolv1 COS engagement project situated within evolv1 (see Case Study 1), a COS team conducted site visits, held meetings with organizational leaders, held focus groups with managers and staff of key tenant organizations, as well as distributed targeted organizational surveys (all of these activities occurred both prior to and after the move into evolv1). Focus areas of these actions included assessing general organizational culture and values pre-COS development; existing organizational structures and communication channels; tenants' experiences with their current space prior to moving to evolv1 and expectations towards the new evolv1 space; current culture of sustainability and environmental engagement, wellbeing and sense of community in the organization; existing green teams and programming related to sustainability; and both successful and failed past major change efforts, as well as ideas for effective engagement on COS within the organization.

It is also useful to assess organizational realities that may potentially compete with COS development, such as low staff morale or another planned major change initiative, for

example. If those exist, it may be advisable to delay the start of implementing a COS strategy until these other issues have been addressed or just work on some initial sparks that can later be turned into more energizing fires. Alternatively, it may be possible to integrate sustainability more deeply into core business practices so that it is part of existing job duties and not something that is perceived as additional.

A copy of the research team's survey and focus group protocol used in the evolv1 project are included in Appendix G. Based on the information we gathered we created example organizational profiles, which may be useful to you to also consider the possible 'profile' of your organization. An illustrative example of an organizational profile can be found in Appendix D.

Step 2: What is our current culture?

▶ See COS Development Model – *Stage 1: Emergence*

Many organizations have realized that creating positive workplace cultures is key to attracting and keeping talented employees who are a good 'fit' with the organization. Hence, it follows that using culture as a catalyst for change requires an understanding of the existing organizational culture. Before embarking on culture change, it is worth taking time to consider: what is our current culture?
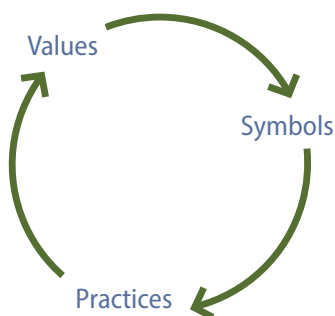
Figure 16. Interrelationship of organizational values, symbols, and practices.

Being aware of the existing organizational culture is important to being able to more effectively design interventions to help shape the current culture towards deeper integration of sustainability. Without such knowledge, existing efforts to foster an organizational culture may unintentionally compete with, counter and/or duplicate future culture of sustainability related initiatives. Identifying existing organizational culture-related efforts early on can allow for better integration of COS efforts as these develop, and even result in these different organizational initiatives becoming 'in sync' or synergistic.

When taking inventory of existing organizational culture initiatives, it is helpful to refer back to the three key dimensions of culture: **values, symbols,** and **practices.** Values (e.g., environmental sustainability) are the underlying base for which symbols (e.g., bike racks at the office; signs encouraging people to recycle) and practices (e.g., traveling to clients using public transportation) are manifested. Below are some strategies for beginning an assessment

of your organization's current culture, to then build from as you design interventions to support the growth of a shared COS. Consider incorporating the most relevant questions into an early assessment of organizational culture; for inspiration of what such an assessment could look like, see Appendix E.

i) Considerations for assessing current organizational culture

Assessment Step 1: *What are our values?*

Box 2.20

Consider:

▶ Is there a vision statement for the organization that articulates key values?

▶ Are there key pillars or principles that inform organizational values or are informed by them?

▶ How were the organizational values established (e.g., through a top-down or bottom-up process)?

▶ How do leadership and different teams define the existing culture?

▶ What existing values align with a culture of sustainability and which may need to be established or changed as part of the COS development process?

▶ How are employees being engaged with existing organizational values?

▶ How do existing organizational values affect how people in the organization make decisions?

Assessment Step 2: *What symbols communicate these values?*

Box 2.21

Consider:

▶ What features of the office building currently communicate a value for sustainability? How can those be emphasized or increased in number (e.g., adding a green wall)?

- How does the organization currently represent its core values, for instance, through specific language or visual symbols?

- What is the current organizational language used as it relates to sustainability?

- Do organizational communications such as the website include clear language and visuals related to sustainability?

- What sustainability-related initiatives are currently in place and how are these being communicated to employees, leadership and others?

- What workplace sustainability features exist and how are they being featured in communications, if at all?

- Do employees have a strong sense that they are part of a culture of sustainability in the workplace? Is a sense of the importance of COS present in employees' interactions with their workplace environment, managers, and peers?

- Are employees empowered to act on sustainability?

- Are relevant symbols being noticed, understood, and acted upon by employees?

Assessment Step 3: *What are our organizational practices?*

Box 2.22

Consider:

- What are current common practices in the organization that are either positively or negatively related to sustainability? This could include for instance practices relating to electricity use, water use, waste, social and environmentally conscious purchasing, food consumption, transportation, educational initiatives, and specific opportunities to take action, among others.

- What are recent examples of shifting organizational practices related to sustainability (e.g., meat-free lunches)? Who initiated and drove those changes?

- Are there currently any organizational policies related to culture in the workplace?

- Are there promotions or incentives currently offered by the organization to motivate and encourage certain behaviours that may be more sustainable?

- Are organizational leaders and managers leading by example?

Step 3: Who should be involved?

▶ See COS Development Model – *Stage 2: Visibility & Engagement*

Figure 17. Stakeholders brainstorming sustainability approaches in Waterloo, Canada. Photo credit: Sustainable Waterloo Region.

The process of developing an organizational COS is a complex challenge requiring multiple perspectives and connected solutions. To accomplish this, a multidisciplinary team is useful to better understand potential organizational sustainability challenges and their solutions from different perspectives, skill sets and worldviews. Designing such a team focused on early COS development can allow for more holistic consideration of both individual and collective needs, capabilities, and capacities of the people being engaged, and to involve many people in the decision-making process. To design this team effectively requires thoughtful consideration of *who should be involved* at this early stage, to bring multiple perspectives to the table and best champion COS development moving forward.

i) Consider establishing a COS coordinator

If possible, it may be helpful to establish a specific COS coordinator or manager of COS to support in future engagement, and in leading this early mapping and engagement process. It could also be a more general manager of sustainability for whom the development of COS is part of their responsibility. In either case, this person can function as a central contact and have ownership of the program momentum while still collaborating with others organization-wide on key decisions. The process is intended to be very collaborative, yet a central contact with direct responsibility can still be important to help avoid potential confusion, to clarify the engagement process and to help maintain organizational momentum. Experts in organizational change have emphasized the importance of such a role to help drive major organizational change efforts.

ii) Create an organizational systems map

To better identify who could be considered for involvement in an early COS development team, it can be useful to create a 'systems map' of people in the organization. By adapting an existing organizational systems map, or creating a new map, formal structures and roles within the organization can be more easily identified. This can also create a framework to place informal organizational structures in as well, and establish which positions may require redundancy in any future COS program so it is less susceptible to employee turnover risk.

A successful change process needs to be multi-layered. Mapping an organizational system will help identify these layers within the organization, while also identifying potential best areas of intervention or 'leverage points' and engaging key stakeholders in the process of change. The intention here is to be systems-oriented, strategic, comprehensive, and participatory in engaging stakeholders across hierarchies in the organization in a process of collaborative change.

> **Box 2.23**
>
> **Key elements of an organizational systems map - ensure the map identifies:**
>
> ▶ Key decision-makers
>
> ▶ Trusted opinion leaders
>
> ▶ Representation from internal teams that can be program champions
>
> ▶ Building operations and maintenance representatives (internal or external)
>
> ▶ Different levels of hierarchy
>
> ▶ Different levels of sustainability knowledge
>
> ▶ Equity and inclusion
>
> ▶ Different cultural backgrounds, worldviews, and perspectives (e.g., Indigenous perspectives)
>
> ▶ Multi-organizational leadership with additional internal representation, if applicable
>
> ▶ Potential partners and collaborators outside of the organization

Further details

▶ **Key decision-makers**

This can be organizational leadership and managers, property owners and/or management, among others.

▶ **Trusted opinion leaders**

An existing trusted opinion-leader can save time, as the basic trust needed already exists. This could include members from existing organizational-level green teams, for example, or a highly respected mid-level manager.

▶ **Representation from internal teams that can be program champions**

Individual teams can have very different roles within an organization, with very different needs, strengths and limitations. Consider the potential of specific teams to help lead important COS efforts forward.

Understand current priorities of teams that may interfere with or alternatively help support COS efforts and strategy towards implementation.

▶ **Building operations and maintenance representatives (internal or external)**

Such representatives can provide helpful insight related to building information and any available energy monitoring.

▶ **Different levels of hierarchy**

A key aspect of the theory of change is the need for bottom-up engagement for an effective culture transition. Recognizing this, consider how to engage different levels of the organizational hierarchy in supporting culture change.

▶ **Different levels of sustainability knowledge**

Ensure that different levels and types of sustainability knowledge are represented within your approaches to COS development, to engage people at different points on their sustainability journey.

▶ **Equity and inclusion**

Diverse teams and approaches that are considerate of people with diverse backgrounds, resources, and identities will more likely succeed in engaging people broadly and ensure that everybody feels they belong in the sustainable future we are trying to co-develop together.

Consider your approaches to ensuring that a diversity of teams and approaches are welcomed in the culture transition process.

▶ **Multi-organizational leadership with additional internal representation, if applicable**

For instance, if multiple organizations are working together towards a broader COS, multi-organizational leadership may be necessary.

▶ **Potential partners and collaborators outside of the organization**

As developing cultures of sustainability and acting in a sustainable way is complex, being able to draw on the expertise and knowledge of external organizations can be very valuable.

Engaging in communities of practice with other organizations that are also trying to develop strong cultures of sustainability can also help in sharing 'best practices' and potential barriers to be mindful of, with opportunity to share learnings both within and across organizations.

▶ **Perspectives from different cultures and worldviews**

Perspectives from different cultures and worldviews, such as Indigenous perspectives, can provide a richer insight into a collective understanding of COS and how to develop it and also make it more resilient to internal and external changes.

When finished, assess the organizational systems map you've created to identify who should be invited early on to establish an initial Culture of Sustainability (COS) Team – recognizing that this team may change and evolve as COS development continues. The COS team will create the program structure and help in planning and implementing sustainability engagement activities within the organization as the COS program develops. Making this role part of their job description would be supportive of these efforts, so that things like performance reviews and expected use of time are fitting in with this work rather than relying solely on the good will of employees.

Moving forward: Co-creating a strategy framework

Once the people who will be involved in the initial Culture of Sustainability Team have been identified, the formation of a strategic plan or 'organizational roadmap' for guiding COS development can begin. Like with any strategic plan, this can include a vision statement, goals, programs/actions to achieve those goals, an implementation timeline, and targets and indicators for monitoring progress over time.

Most importantly, the core COS Team, as identified above, should be involved in this shared development process to ensure it is founded on the idea of "co-creation" where all those who will be impacted by changes can help shape the program. This involvement by both a core team and organizational members is integral to effective culture change, as change will be more successful and long-lasting when people feel a sense of authentic involvement and ownership in the change process. Innovation and social change may often start with a few individuals but then ripple to others within a social group or organization, influencing further engagement. When successful, this can create a continuous reinforcing feedback loop, further strengthening constructive engagement in COS development.

i) Further details on early inclusive and broad-based engagement

Engaging a range of participants early on in COS co-creation can also help ensure those involved better understand resource constraints and opportunities from the outset. Waiting to co-create with a broader team until later in the process can risk leading to questioning of decisions made earlier in the process and increase feelings of not being truly included in co-leading organizational change. Also, if some participants were not involved in defining and setting the parameters for COS development, they may contribute ideas that are not feasible and end up feeling discouraged.

Engaging a range of participants in COS development from the start helps to increase buy-in and protect against future problems from occurring, increasing the likelihood for a successful organizational COS over the long-term. An example of such cross-organizational and broad engagement with a diversity of participants is described in the evolv1 COS case study below.

Box 2.25

Case study example: COS development in the evolv1 green building

Figure 18. Organizers at a sustainability event in Waterloo, Canada. Photo credit: Sustainable Waterloo Region.

In the evolv1 green building in Waterloo, Ontario, Canada, a series of co-design workshops for informing early cross-organizational efforts towards a shared COS were held using the social innovation lab approach from the Waterloo Institute for Social Innovation and Resilience (see Geobey, 2022). Workshops were held shortly after all tenants moved into the building and were intended to encourage a self-sustaining COS supported by all building citizens (see Theory of Change).

Participants from the different organizations and departments defined collaboratively what sustainability means to them, what a culture of sustainability in evolv1 could and should look like, and suggested efforts towards encouraging such a culture among tenants in the building. Specific activities included brainstorming sessions and developing "sustainability experiments" (for example, sustainability-related activities and programs to try and experiment with) that workshop participants then led based on their own self-identified interests and skill sets with the support of the COS manager. Early experiments led by participant volunteers included a sustainability cooking class, hosting building tours, community-building events such as building-wide group games and competitions, designing sustainability signage and messaging, and a community garden.

Note that while the COS Team at evolv1 deliberated for several months prior to the initial COS workshops, some unanticipated challenges arose when putting the workshop experiments into practice. For instance, some of these co-creative experiments struggled to take off due to competing demands, inter-organization budget constraints (including lack of clarity on who is responsible for funding the activity) and challenges with activity leadership over time (recognizing that leading these efforts required significant support and leadership from the COS manager, as well as COS volunteer team members from across the different organizations).

Learning from these experiences, our team has designed the following guidelines to help in developing the COS program design to both anticipate and prevent potential challenges, and to address challenges when and if they occur.

Helpful guidelines for COS program development

Guideline 1: Establish parameters

Each program structure to help guide COS development will be different, as each organization and organizational systems is unique. Understanding the specific program structure and parameters to guide initial COS development early on can help increase understanding of what the program is versus what it is not, and clearly state the goals. Note that as COS development is often iterative and non-linear, program structure should remain open to change as-needed as the development process evolves.

Box 2.26

Considerations for informing COS program structure and parameters

Consider the physical space

What are the current:

▶ building uses and hours of operation?

▶ technology and design features of the space?

▶ sustainability goals and future goals of the space?

▶ energy use monitoring of the space, if applicable?

▶ common spaces available for group activities?

▶ ability to communicate COS program activities and inspiration for COS engagement through signage, visual art, and other forms of public messaging?

▶ other considerations relevant to the physical space?

Consider the timeline

▶ What timeframe has been agreed to by leadership for initial COS development efforts?

- ▸ Will the process be phased? For instance, this could include emphasizing the development of community-building within the organization before tackling bigger sustainability initiatives, among other potential considerations. 'Phasing' COS development aligns with the idea of being strategic and developmental in your approach.

- ▸ Will the program need to incorporate some initial actions or programs that can lead to quick wins that can be shared? For instance, this could mean prioritizing 'low-hanging fruit' for initial action prior to moving onto more complex or involved actions.

- ▸ Other considerations relevant to timeline of COS development?

Consider the resources

- ▸ Forecast resources (people, financial, and otherwise) that may be needed to support the COS engagement strategy aligned with what is available.

- ▸ Identify existing knowledge, skill sets and skill gaps related to sustainability within the organization. For instance, this could involve surveying participants early in the COS development process to help assess this.

- ▸ Other considerations relevant to resources to support COS development?

Consider the success metrics

- ▸ Determine indicators to assess the successful engagement of employees in a culture of sustainability – what signs would indicate that COS development is moving in a good direction? For instance, this could include sharing surveys with participants related to experiences of COS, including potentially pre-development as well as during-development surveys (recognizing that a COS is always 'developing'). See Appendix G.

- ▸ Consider indicators of success such as an increase in the number of people supportive of sustainability related values; more visual signs and symbols of sustainability (e.g., a new covered bike rack, solar panels, signs encouraging sustainable practices); more communication focused on sustainability (e.g., a sustainability column in the organizational newsletter); new positive sustainability practices that emerge (e.g., no more paper-based forms) or an increase in existing ones (e.g., more people choosing vegetarian options at company lunches or more bikes in the bike rack); and other indicators such as increased interest in being part of the organizational green team.

- ▸ What are other considerations relevant to success metrics to help assess COS development in your organization?

> ▸ What are useful indicators that assess impact of a positive COS, such as greenhouse gas reductions and reduced water usage, and social indicators such as improved employee wellbeing and a more diverse workforce? How are these indicators material to the local and organizational context, and how do they relate to the organizational sustainability goals and targets?
>
> ### Consider the barriers
>
> ▸ Proactively identify what potential resistance or barriers to an engagement strategy might look like and where such barriers are likely to come from.
>
> ▸ Review policies and processes to ensure there are no contradictions between these and the proposed COS development process, and that they are supportive of the changes needed (e.g., ensuring adequate employee time for COS engagement, such as through a volunteer and sustainability hours policy).
>
> ▸ Other considerations relevant to considering potential barriers to COS development?

Guideline 2: Tell the story

Figure 19. Organizers at a sustainability event in Waterloo, Canada. Photo credit: Sustainable Waterloo Region.

i) Communication

Even the most well-designed program cannot be impactful without effective and clear communication. To engage people across the organization in a shared process of change often requires communicating a shared 'story' of the importance of COS, and opportunities for people to get involved in ways that will best resonate with them. Clear communication and a compelling story underpins the entirety of the COS program as these are the mechanisms that support ongoing engagement, which then in time leads to the formation of an emergent culture and engaged COS community.

Also, in order to continually reinforce a strong COS program and trusting relationships between those involved, it's important to ensure there are frequent opportunities for two-way or 'multi-way' communication between people. Before any specific communication content is developed, some consideration of how key messages will be communicated and via what channels to ensure a variety of communication mechanisms can help inform the design of COS strategies and interventions to come. To support this, you may wish to consider the following questions and suggestions below.

Box 2.27

Questions and suggestions for guiding COS program communication

Take time to identify the available communication channels within and between organizations, departments and teams, and consider the best practices for their use. The following questions and suggestions can help inform these considerations.

Consider:

▶ Are there existing internal communication mechanisms that can be used to share COS program information with everyone? Consider existing mailing lists, newsletters, social media, lunch and learns, onboarding documents for new staff, team meetings, and other potential mechanisms to share information.

▶ Are there existing mechanisms for employees to access COS information directly? Consider integrating COS information onto an organizational website, sharing contact information to COS program leads, etc.

▶ Where will you regularly share back information? Consider sharing COS information via internal meetings, newsletters, and other internal mechanisms.

▶ What will enable you to celebrate successes collectively? Consider celebratory lunches or other team-building activities that celebrate milestones and reward participants for program successes.

- What will be the most effective communication channel(s) for use in the COS program? If there are several options, consider program capacity to ensure there will be sufficient content, and only select channel(s) you can commit to using consistently.

- Will COS communication channels be resilient to potential staffing turnover? Consider building in redundancy to potential staffing turnover, for instance by ensuring adequate documentation of communication tasks in different roles in the organization.

Box 2.28

Further considerations for complex systems

For complex systems such as multi-unit buildings with multiple organizations co-developing a COS together, additional considerations for communication are important. This can include for instance designing mechanisms to enable two-way or 'multi-way' communication, among other considerations.

Consider:

- What are the mechanisms to support multi-way communication between those engaged in COS development? This could include establishing communication channels of different levels and types, with access provided either to all participants and/or to select groups and individuals engaged in different dimensions of COS development (e.g., establishing distinct communication channels for different COS processes and activities).

- How will employees/participants provide feedback, ideas or suggestions on COS development as it moves forward? Mechanisms for sharing ideas, feedback or suggestions should be clear. This could include for instance an online forum, contact information for COS leads, informal feedback boards and/or opportunities for formal meetings with COS leads and management.

Guideline 3: Establishing your unique culture of sustainability

Figure 20. Sunflowers and pollinators. Photo credit: Preston Keres/USDA.

As COS develops, it likely will naturally take on characteristics unique to your organization. While being cautious not to over-define COS, recognizing that any culture will continue to change and evolve, it can still be useful to co-develop an initial shared program identity and branding with those involved. This can help the program to be more visible within the organization, to develop a common direction and 'unify' engagement efforts, and to also attract more people to get involved.

See below for some suggestions for co-developing a unique COS program identity and branding with others who may be involved.

i) Program identity and branding

Program identity will naturally develop organically throughout the COS development process, however creating a rough outline of what this is and ways to represent a shared identity across all program content will help reinforce this identity and commitment to it for participants. Common imagery, branding and messaging can help the COS program to stand out from other organizational initiatives, which can be especially useful given the amount of information overload a modern employee is often receiving.

Also, for many people to want to engage in a given COS program to help build the momentum needed for culture change, they need to associate the program content positively with a shared identity, evident in program communications, goals and purpose. Eventually, existing individual or organizational identities can then connect in time to an emergent COS identity shared across the full organization.

ii) Aligning COS content and resources with program objectives

What a COS program consists of will ideally be generated through a process of

co-creation with the program team and should reflect the parameters and goals unique to each situation. While there will be elements unique to each organization or department, such elements should also aim to address one or more of the key objectives of a COS program as well, to ensure they are each contributing to a meaningful cultural transition.

iii) Tips for introducing the COS Program

As it is introduced, it will be important to ensure a new COS program meets people where they're at. No matter where someone may be in their sustainability journey, there is always an opportunity to learn and engage further. Hence, the COS program should be designed with these longer-term learning journeys in mind, and with multiple different potential 'entry points' for engagement and learning amongst participants. As more and more people become engaged, the change will accelerate as they and the overall culture will also influence other people.

To reach a variety of people, it can be useful to consider the various cognitive, emotional, and behavioural dimensions of engagement and to offer a good mix of program activities that tap into each of these different dimensions. In thinking about who to engage and what to focus on, it is useful to think about where you will get the most impact for your effort and resources. For example, spending a lot of effort on engaging those who are most resistant to change is likely not going to be a good investment of your time. In contrast, investing the most energy with those most receptive to change may be a worthwhile place to start.

Box 2.29

Support a mix of program activities with different dimensions through:

▶   Creation of a COS training module (or using an existing module) to establish a strong common foundation among participants.

▶   An opening webinar that introduces key sustainability concepts, with local and organization-specific impact related data, if available.

▶   Creating readily available training materials for identified knowledge and skill gaps, for 'upskilling' employees and participants in specific areas.

▶   Ongoing features and resources for COS communications that are easily digestible, and sharing interesting ideas, tips or facts related to sustainability.

▶   Activities that can be based on existing participant interests and hobbies, while also introducing and connecting to key sustainability concepts.

- ▶ Integrating sustainability into community-building and fun activities can go a long ways to increasing engagement, as engaging with sustainability topics such as climate change can be draining. It also help to lighten up the work day.

- ▶ Other opportunities for engagement that may be tailored to your organization's own unique needs, employees and context.

iv) Tips for onboarding into a COS Program

As a new employee joins an organization, or a new tenant moves into a building, there will be a need to 'onboard' the person or group into the COS program. This offers a unique opportunity to establish understanding and engagement with the organization's COS program right from the start.

Box 2.30

Suggestions include:

- ▶ Include one or more question(s) in the interview process to ensure values alignment with the sustainability focus of the organization.

- ▶ Incorporate COS program information and goals into the onboarding process.

- ▶ Develop orientation resources that can be available for people to access directly.

- ▶ Provide tours that introduce the sustainable features of an organization or work facility, and introduce COS-related programs and activities to new employees.

- ▶ Be cautious during onboarding to avoid 'information overload', by focusing on an initial introduction to key concepts and resources. Remember that you can always share more later, following a long-term, phased approach to COS development.

v) Tips for activities in a COS Program

Activities offer an exciting opportunity to create space for engagement in COS development to occur naturally, and can also be catalysts to the bottom-up engagement needed for shifting organizational culture. To some degree, existing organizational events

and activities can likely be leveraged and adapted for this purpose, however it will also be important to establish new events and activities as part of your emergent COS program, specific to your context. For instance, if your organization follows a hybrid working model, activities may need to be adapted to suit this format. Also note that many activities may serve multiple purposes – for example, both contributing to a reduced environmental footprint alongside community-building in the organization.

Box 2.31

Tips and ideas for COS program engagement

▸ Team potlucks including featuring plant-based dishes, and lunchtime demonstrations of how to cook sustainably (local, seasonal, plant-based, fair-trade, etc.)

▸ Regular groups to promote personal wellness that can be led by a participant with enthusiasm and some experience in a specific area, such as walking running, or meditation groups.

▸ Hobby based groups that also promote sustainable skill building, such as basic repair groups, sewing, knitting or gardening, among others.

▸ Educational webinars or featured speakers exploring relevant topics linked to sustainability

▸ Hands-on workshops linked to sustainability (for instance, how to create your own personal green wall or vegetable garden at home)

▸ Book or film clubs featuring sustainability-focused topics, with regular meetings or newsletters reviews

▸ Marketplaces or vendors on site that offer locally and sustainably made goods and services

▸ Opportunities for group volunteering initiatives in the community linked to local sustainability

▸ Building and organizational tours that highlight sustainability features, or ones that are tied to assessing and reducing energy use

▸ A photo project highlighting COS and sustainability features of the building

▸ What other ideas for COS program engagement can you think of? (see Appendix C)

vi) Tips for content in a COS Program

Sharing regular COS content using selected communication channels offers an ongoing strategy to continually increase program awareness and promote opportunities for people to engage. Example content that may be useful to informing your own can be found below.

Box 2.32

Example communication content

▶ Sustainability-related knowledge, research, technology or consumer products to build awareness, and also impact future decision making.

▶ Spotlighting different teams/departments/ organizations and team members that are leading on sustainability.

▶ Sharing information on local resources, events and organizations with opportunities to support sustainability related actions.

▶ Sharing organization or building-related sustainability progress towards specific goals, and any noteworthy program wins and successes.

▶ Sharing COS program stories back to the broader organization, featuring post activity recaps/quotes and highlighting participant's personal experiences.

▶ Sharing facts and information related to climate change and its impacts, linking this to the pressing need to act for sustainability.

▶ Support learning and awareness of the physical workspace by sharing details of any building technologies, interior design elements or details related to the site location that relate to concerns for sustainability. For instance, this could include information on electric vehicle chargers, nearby public transportation systems, nearby natural areas, use of elevators over stairs, use of natural lighting in the workspace, or temperature settings related to energy use, among others.

▶ Sharing easy sustainability steps and tips can provide opportunities for meaningful action that anyone can aspire to no matter where they are in their journey.

▶ Sharing actions that have both an environmental benefit and direct personal benefit to help reinforce the 'win-win' nature of sustainability actions. For instance, those could include emphasizing the potential health and financial benefits of using active transportation to get to work, among other possibilities.

▶ Sharing calls to action that give many participants direct opportunities to act, either by providing feedback or contributing to programming, or engaging beyond the organization in the larger community.

Guideline 4: Evaluate and evolve

Figure 21. Recycling and waste receptacle showing tiered options for disposal, Waterloo, Canada. Photo credit: Sustainable Waterloo Region.

The COS program framework should include guidance on how you plan to measure success and at what intervals this can be evaluated. Evaluating the effectiveness of engagement strategies being used allows you to identify their impact so the COS program can more effectively evolve. In addition, it is useful to reflect regularly on your organization's status regarding the developmental stages of COS described earlier in this document. That is, what stage is your organization currently most likely in and what can you do to move your organization into the next stage?

Bear in mind that your COS engagement strategy should be iterative and open to change as participants make observations and learn, identifying what works well and what may need to be adjusted. Hence, this strategy should be considered a 'living document' to ensure it is impactful, and to continuing to reinforce engagement and participation in shaping the program's direction forward. Also, by demonstrating the value that a COS can bring in terms of its many environmental, human, and economic benefits, this can reinforce engagement and build an even stronger and more committed organizational culture of sustainability.

Box 2.33

Strategies to evaluate program effectiveness and engagement

▸ Monitor the success indicators described above

▸ Communication analytics to monitor audience growth and engagement.

▸ Measuring attendance for planned activities.

▸ Capturing participant feedback, for instance via pre- and post-event surveys and questionnaires, participant observation, and one-on-one meetings.

▸ Actual progress towards meeting identified sustainability goals and aspirations.

▸ Measure progress on overall COS using the COS measure in Appendix E.

Guideline 5: Potential challenges and how to deal with them

Figure 22. 'High Line' converted railway line turned into urban park in New York, USA. Photo credit: US Department of Agriculture.

Key challenges to anticipate include lack of engagement, time conflicts, turnover of key champions and knowledge holders and a lack of leadership support, among others. We have already provided some insights regarding these challenges and also highlight a few key strategies to consider here.

Box 2.34

Strategies to address common challenges include:

▸ Involve key leaders from early on. Communicate the value of COS for the organization and the need for a long-term strategy rather than a quick fix solution.

▸ Connect COS to core organizational values and goals.

▸ Designate a COS manager and ensure they have sufficient paid staff time to coordinate the COS activities.

▸ Ensure broad involvement in planning of the COS strategy from early on. Co-design the strategy with leadership, mid-managers and employees.

- ▶ Start with fun and community-building activities that have broad appeal.

- ▶ Engage key opinion leaders early.

- ▶ Have a large enough green team of engaged members so that the loss of one or two key people is less impactful.

- ▶ Make sure to keep good documentation of key decisions, plans, and key information (including relevant contacts within the organization) to help with key staff transitions.

- ▶ Provide adequate resources to COS programming.

- ▶ Consider giving staff "sustainability hours" they can devote to COS and related activities.

- ▶ Schedule key COS-related meetings during lunch and provide lunch to participants.

- ▶ Celebrate successes and highlight champions.

- ▶ Continuously experiment, learn from failures and monitor progress.

- ▶ Always keep an eye towards how to help move the COS forward in the organization, for instance aligned with the COS model and strategies discussed earlier in this guide.

Conclusion

The insights we shared in this guide were derived from our review of the relevant literature, our empirical research, and our own experiences in fostering cultures of sustainability in organizations. However, it's important to note that we faced significant challenges in developing a culture of sustainability in our evolv1 case study, and what we shared is not based on having a "perfect" success story to draw from. Instead, we learned some hard lessons when certain approaches didn't work, alongside being inspired and affirmed by the approaches that did. We've also gained further insight on COS development processes in other contexts and organizations from our interview participants.

In total, we agree with the insights of many of our interview participants, who observed that while shifting culture is exciting and engaging in many ways it is also a challenging and messy process that can be difficult to guide forward. All the more reason for a strong guide to help support our shared work – sharing general principles, some theoretical considerations, and lots of ideas to draw from, rather than providing a step-by-step manual.

We also agree with various systems scientists who've observed that creating meaningful transformative change within a system, such as an organization, will always be difficult to accomplish without also shifting the underlying culture. As shifting cultures and mindsets can provide some of the biggest leverage points possible for creating lasting change within a system, it is worth investing in developing organizational cultures of sustainability, even if it is difficult and takes time. With this effort, led by organizations across sectors, organizations can also lead the way in a push towards much greater sustainability in society at large. Given the stakes – as well as potential – inherent in this shift, it is surely a worthwhile effort for all of us.

Thank you for your efforts in co-leading engaged cultures of sustainability, wherever you might be, as part of this broader movement for change. Please feel free to reach out and share your COS development journey with us or ask us questions as you engage in your own change process. We would love to hear from you.

Appendices

Appendix A - About the evolv1 building

Cora Group's evolv1 is a commercial office building located in Waterloo, Ontario, and is much more than just a building. It is the first office building to receive the Zero Carbon Building (ZCB) Design Certification from the Canada Green Building Council, which means the project demonstrates a design that can operate with a zero-carbon balance using onsite renewable energy systems. It has achieved its first annual ZCB-Performance certification and Platinum certification under the LEED Canada for Core and Shell Development 2009 rating system.

The development of evolv1 is in itself a unique story of collaborative partnerships and integrated design processes. An engaging account of this story is here.

Beyond the certifications, evolv1 was conceptualized to motivate, inspire and educate the public about sustainable design, all within the context of a competitive marketplace. To ensure this could be accomplished, before the first tenant even moved into evolv1 consideration was given to how the building occupants could be engaged to support its sustainability and wellbeing goals. The approach included the development of a five year research project to study how the development of a building-wide self-sustaining culture of sustainability may work.

For more information, see:

▸   evolv1 citizen handbook

▸   evolv1 interactive website

▸   *Collaboratively Disrupting the Building Industry: The Unique Story of evolv1 in Waterloo Region* (VERiS report)

Appendix B - Methods for COS Leadership Research

The primary goal of this research was to examine and compare the processual factors and pathways contributing to the development of strong COS across a diverse sample of organizations. For this reason, we recruited 15 leaders from 14 organizations perceived as being on a good path towards a strong COS - including organizations that achieved a relatively high COS score during a national survey we conducted two years prior, as well as through nominations from two intermediary organizations that support organizations in developing COS. The maximum variation sample (Patton, 2014) included a mix of large, medium, and small-size organizations, for- and not-for-profit organizations, shareholder companies, privately- and employee-owned companies (e.g., a co-op), various production and service industries, and organizations at different stages in the development of a COS.

Semi-structured 60-90 minutes interviews were conducted by the current authors and included questions about organizational context, current status of their COS, the development of that COS, factors influencing the development, and the role of their leadership approach. They were then analyzed using a common three-step thematic analysis process with consensus coding (Saldaña, 2009). This study applied a cross-case analysis, following the suggestion of Ketprapakorn and Kantabutra (2022) that "future research may adopt a cross-case analysis to qualitatively explore the propositions in sustainable business organizations" (p. 650).

Appendix C - Additional Engagement Programs

Box 2.35

Other potential engagement strategies include:

- ▶ Bike to work day

- ▶ Clothing swaps

- ▶ Community fix-in

- ▶ Community fridge

- ▶ Displays with feedback on GHG reduced

- ▶ Jane's walks

- ▶ Library of Things

- ▶ Lunch walking group

- ▶ Meat reduction group

- ▶ Mileage challenge

- ▶ Mural of what culture of sustainability means to organizational members

- ▶ Painting bike helmets

- ▶ Plant sale or plant exchange

- ▶ Salad clubs

- ▶ Sustainability problem-solving booth

- ▶ Sustainability-themed art creation night

- ▶ Sustainability-themed movie night

- ▶ Sustainability workshops

- ▶ TED Talks

- ▶ Tours of work building and eco-features

- ▶ Yoga sessions

- ▶ Zero waste challenge

- ▶ Zero waste potlucks

Other potential engagement strategies linking to community-based social marketing can be found at: https://cbsm.com/

Appendix D - Sample Organizational Profile COS Assessment Template

Find below a sample organizational profile including sample assessed ratings for the organization of its current building context, sustainability context, sense of community and interaction with other employees, meaningful engagement, past success and failed change efforts, and ideas and insights for sustainability engagement - all related to developing a shared organizational culture of sustainability.

The below organizational profile is fictional and shared as an example only, using assessment ranges from Good to Average to Poor (and combinations of these, for instance 'poor-average'), as well as definitive 'Yes' or 'No' responses based on what is appropriate for each rating category (see column three, 'rating'). A downloadable blank copy of this organizational profile that you can use is available here.

Note: This profile can be used to either compare different organizations or units against each other, or to compare the same organization or unit over time. The people rating (or 'raters') should use their best judgment to decide on a rating, for instance based on organizational focus group data and/or other relevant information that may be available (e.g., interviews with leadership or information from the organization's website). To arrive at the most credible and accurate ratings, it is best if the rating is done independently first by two or more raters, who then meet to come to a consensus on the best rating.

Current Building Context	Definition	Rating	Comment
General			
Traditional Office Space	Traditional hierarchical separation of staff and teams.	Yes	
Air Circulation	How well air is circulated in the office space.	Poor	
Natural Light	Presence of/access to natural light in the office space.	Average	
Open Concept	Whether the office space is primarily an open concept or not.	Yes	

Noise Level	How well the space suppresses noise pollution.	Poor-Average	
Accessibility to Public Transportation	Whether the location of the office space is located close to public transit.	No	
General			
Kitchen Space	The extent to which the kitchen space facilitates interaction.	Poor	
Physical Layout	The extent to which the physical layout of the rest of the office space facilitates interaction.	Poor	
Current Sustainability Context	**Definition**	**Rating**	**Comment**
General			
Paper Reduction	Clear efforts and procedures to keep paper use to the possible minimum	Poor	
Storage Reduction	Efforts have been made to reduce the need for storage space	Average	
Education	Education on sustainability is present	Poor	
Energy Use	Measures have been put in place to keep energy use as low as possible	Average	
Sustainable Organization	The organization identifies itself as a sustainable organization	No	
Values	**Whether the organization has sustainability values and the extent to which they're upheld.**	Average	
Behaviour change	Whether the organization has been able to change staff behaviour.	Poor-Average	
Motivation	Motivation of staff to engage in sustainability practices.	Poor	
Leadership			
Encouragement	The extent to which managers encourage their staff to engage in sustainable practices.	Good	
Practices	**Whether the organization has sustainability practices and the extent to which they're followed.**	Average	

Recycling/Garbage disposal	The extent to which staff properly sort their waste.	Poor-Average	
Reusable items	Whether the space facilitates the use of reusable products.	Average	
Sustainable Transportation	Whether the space promotes or facilitates more sustainable modes of transportation.	Average	
Signs & Language	**Presence of signs and symbols that encourage sustainable behaviours.**	Poor	Only one sign encouraging reduction of paper use at the printer
Building features			
Waste disposal	Whether the building has proper waste disposal receptacles.	Yes	
Bike Rack	Whether the building has access to a bike rack and the extent to which staff find it accessible.	No	
Policies	**Whether the organization has policies specifically for sustainability.**		Policies related to paper use
Planned Changes	**In what areas changes are currently planned**		
Paper reduction		Yes	
Storage Reduction		Yes	
Transportation methods		No	
Waste Reduction		No	
Barriers	**Any potential barriers listed that discourage or do not promote sustainability practices.**		
Transportation/travel	Needing personal vehicles for work.	Yes	
Habits/personal values	Difficulty overcoming personal values and habits for the sake of being sustainable	Yes	
Company values/ interests	Being sustainable potentially in conflict with company values (e.g. being cost effective)	Yes	
Inconvenience	Being sustainable being the more inconvenient option.	Yes	
Supports	**Potential supporting factors to being more sustainable or engaging in more sustainable practices.**		
Committee (ex. green team)	Presence of a green team or similar committee facilitating engagement in sustainability.	No	

Open Concept/Less storage space	Changing office space to being more open/communal with less personal storage space.	Yes	
Convenience	Making sustainability more convenient.	No	

Current Sense of Community and Interaction with Other Employees	**Definition**	**Rating**	**Comment**
Support by leadership	**Whether and the extent to which leadership supports community-building.**	Average	
Diversity	The extent to which the organization is diverse in their staff.	Good	
General interactions between employees			
Sense of community	Ratings of the organizations sense of community.	Average-Good	
Accessibility to events	Whether community-building/social events are accessible to all employee demographics	Average	
Interactions with other organizations	The extent to which the organization interacts with other organizations	Poor	

Meaningful Engagement	**Definition**	**Rating**	**Comment**
General			
Rewarding	The extend to which managers and staff are rewarded for promoting and engaging in sustainable actions	Poor	
Committees	Whether the organization has committees or opportunities to be internally involved in activities.	Good	
Initiatives	Opportunities to get involved outside of the organization	Good	
Desire for meaningful engagement	The extend to which staff are interested in seeking meaningful engagement opportunities	Average	

Past Success & Failed Change Efforts	**Definition**	**Rating**	**Comment**

Lessons Learned	Lessons learned from successful or failed change efforts		
Communication	Whether the organization needed better communication between staff	Yes	
Adequate training	Whether the organization believed education/training would help change efforts be successful	Yes	
Feedback	Whether the organization believed feedback from employees would help change efforts	Yes	
Convenience	Change efforts would be successful if they are convenient	Yes	
Successful Change Efforts			
Values	How successfully the organization changed their company values	Good	Organizational values were developed through a participatory process
Practices	How well the organization changed manager/employee practices in the past	Poor	
Factors for Change	**Factors contributing to successful change efforts**		
Gradual change	Whether the organization felt a slow change was needed to make change efforts successful	Yes	
Training	Whether the organization felt education/ training is needed to make successful change efforts	Yes	
Communication	Whether communication between employees is needed to make successful change efforts	Yes	
Consistency	Whether change efforts need to be consistent	Yes	
Competition	Whether competition within organization would foster successful change efforts	Yes	
Collaboration	Whether collaboration between employees and managers would foster successful change efforts	N/A	
Motivation	Whether motivating individuals would help make change efforts successful	N/A	

Ideas and Insights for Engagement	Definition	Rating	Comment
General	**What the organization believes would help engage staff in sustainable behaviours or/and engage with each other**		
Signage	Whether more/clear signage would foster sustainable behaviours	Yes	
Competition	Whether competition would foster sustainable behaviours	Yes	
Fun community activities	Whether fun community events would foster interactions between different organizations/units	Yes	e.g., trivia, sustainable cooking classes
Convenience	Whether showing sustainable behaviours as convenient would work	Yes	
Communication	Whether communication between organizations/unit would foster sustainable behaviours	N/A	
Organizational culture	Engaging organization's existing culture and seeking to integrate sustainability		
General	**Culture/Atmosphere of organization**		
Friendly	How friendly employees are within the organization	Good	
Management care	How well management considers employee well-being	Average	

Appendix E - Culture of Environmental Sustainability in the Workplace Measure

The following Culture of Environmental Sustainability in the Workplace Scale (ECS) was developed across several studies and datasets using careful psychometric measurement procedures and analytical tools to ensure a high-quality rigorous measure of environmental COS. We used other existing scales to measure social aspects of sustainability, such as sense of belonging. We were able to empirically establish that the scale reliably differentiates organizations with different levels of COS and is also able to assess changes in environmental

COS over time. For more information about the development process of the ECS and its quality indicators, please see the paper by Marcus, Riemer, et al. (in progress).

To administer the scale, include this scale with other measures focused on social aspects of sustainability and background demographic questions (e.g., the employee type and years of employment) in an anonymous online employee survey. Ask the employees to rate the appropriate unit (e.g., the whole organization, the culture within the building, the culture of a specific organization department) and make clear what that unit it. When the data is collected, delete any clearly incomplete or erroneous entries. Then, calculate the average of the ratings across items and individual respondents to generate the overall score for environmental COS. A score close to 0 indicates a weak COS while a score close to four represents a strong COS. You may also conduct some analyses by demographic and organizational variables to see if there are important differences of COS across demographics and organizational roles and units.

A downloadable copy of this measure that you can use is [available here](#).

Note: When filling out, please focus on assessing work-related activities and workspaces, including potential virtual workspaces (e.g., websites).

Please rate the extent to which each of the following items accurately describes your organization:

	Does not describe my organization (0)	(1)	(2)	(3)	Describes my organization very well (4)
Environmental considerations play a role in day-to-day decision-making. (ECS01)	☐	☐	☐	☐	☐
In comparison to other issues, reducing environmental impact is considered a priority. (ECS02)	☐	☐	☐	☐	☐
People in management positions lead or support environmental initiatives. (ECS03)	☐	☐	☐	☐	☐
Taking care of the environment is central to who we are. (ECS04)	☐	☐	☐	☐	☐
There is prominent signage that promotes environmental awareness and practices. (ECS05)	☐	☐	☐	☐	☐
There are numerous symbols that reflect environmental engagement (e.g. composting bins, solar panels). (ECS06)	☐	☐	☐	☐	☐
People commonly use environmental terminology (e.g. carbon, environmental footprint). (ECS07)	☐	☐	☐	☐	☐
There are regular programs and activities focused on environmental impact. (ECS08)	☐	☐	☐	☐	☐
People fulfill job tasks in environmentally-friendly ways. (ECS09)	☐	☐	☐	☐	☐
Environmental achievements are recognized and celebrated. (ECS10)	☐	☐	☐	☐	☐
Environmental objectives and performance are regularly communicated to employees. (ECS11)	☐	☐	☐	☐	☐

Appendix F - Environmental Engagement Measure

This is a sample environmental engagement measure. Note, you can use other existing scales to measure social aspects of sustainability, such as sense of belonging. A downloadable copy of this measure that you can use is available here.

Note: When filling out, please focus on assessing work-related activities, even if you are working from home. For example, reducing the energy you use at work might refer to adjusting heating/cooling, turning off lights, etc., in your home.

Please rate the extent to which you engage in the following behaviours at work:

	Never (0)	(1)	Sometimes (2)	(3)	Always (4)
I conserve the amount of materials I use at work. (EE01)	☐	☐	☐	☐	☐
I promote environmentally friendly behaviours amongst my coworkers. (EE02)	☐	☐	☐	☐	☐
At work, I reduce the amount of energy I use. (EE03)	☐	☐	☐	☐	☐
I encourage my organization to reduce its environmental impact. (EE04)	☐	☐	☐	☐	☐

Please rate the extent to which the following items reflect how you feel about environmental sustainability:

	Not at all how I feel (0)	(1)	(2)	(3)	Very much how I feel (4)
I feel guilty when I don't act in environmentally friendly ways. (EE05)	☐	☐	☐	☐	☐

	Not at all how I feel (0)	(1)	(2)	(3)	Very much how I feel (4)
I worry about my environmental impact. (EE06)	□	□	□	□	□
I feel good when I do something positive for the environment. (EE07)	□	□	□	□	□
I feel satisfied when I act in environmentally friendly ways. (EE08)	□	□	□	□	□

Please rate the extent to which the following items reflect how you think about environmental issues:

	Not at all how I think (0)	(1)	(2)	(3)	Very much how I think (4)
I know how to act in environmentally friendly ways. (EE09)	□	□	□	□	□
I regularly think about environmental issues. (EE10)	□	□	□	□	□
I consider environmental impact when I make decisions. (EE11)	□	□	□	□	□
I think about how I can reduce my environmental impact. (EE12)	□	□	□	□	□

Appendix G - Pre-Occupancy Focus Group Protocol

For your interest and to support you in your own organizational COS engagement efforts, our team has developed a sample "pre-occupancy focus group protocol", linked below. This protocol can be used/adapted as needed to host potential focus groups with members of your organization, or otherwise as may be useful to supporting organizational COS engagement.

This protocol was originally used as part of the broader COS research study that helped inform some parts of this guide, as it was used as a guide to host focus groups with organizational members prior to their move into the evolv1 high-performance green building in Waterloo, Canada. While this is technically a 'pre-occupancy' protocol, assessing organizational members' experiences and understanding of COS prior to moving into a new building space, the protocol can also be readily adapted to other contexts. This could include both to hosting other pre-occupancy focus groups - for instance, if your organization is in the midst of moving spaces - and potentially also to other appropriate research/discussion contexts where you wish to explore organizational members' understandings of organizational COS. A downloadable copy of this protocol that you can use/adapt to your context is available here.

Appendix H - Further downloadable worksheets

Find below three further worksheets that our team has put together, related to key sections/ components of this COS Engagement Guide for Organizations. These include:

Worksheet 1: Why do guiding core principles matter to developing a shared COS?
(download here)

Worksheet 2: Before you begin (download here)

Worksheet 3: Reflecting on the key stages of COS development (download here)

Appendix I - About the *Signs* Artwork

The *Signs* collage seen on the cover of this guide was created by artist and co-author Kai Reimer-Watts (he/him) over multiple time periods from 2022-2023. This collage was started as part of the outcome of a directed study course Kai took in Winter 2022, PS890: *Visual Sustainability Communication for Systems Change* at Wilfrid Laurier University, with support from his supervisor Dr. Manuel Riemer who is the lead author of this engagement guide. The collage was later finished in Winter 2023, near the end of Kai's time in the Community Psychology PhD program at Wilfrid Laurier University, which he graduated from in 2024.

Kai has since dedicated the finished art piece to the Community Psychology program and the Viessmann Centre for Engagement and Research in Sustainability (VERiS) at Laurier, of which he was a contributing researcher for many years and continues to be involved as a board member. Note: Only a selection of the full collage is visible on this guide's cover page; a complete photo is below. To view the full collage in detail and the accompanying artist statement, visit: www.peoplesclimatefoundation.org/signs-collage

Materials used: Collage made from news/magazine clippings, photos and ephemera, with overlaid drawings and writing from the artist.

Dimensions: 30.5 inches wide by 20 inches high (30.5" x 20").
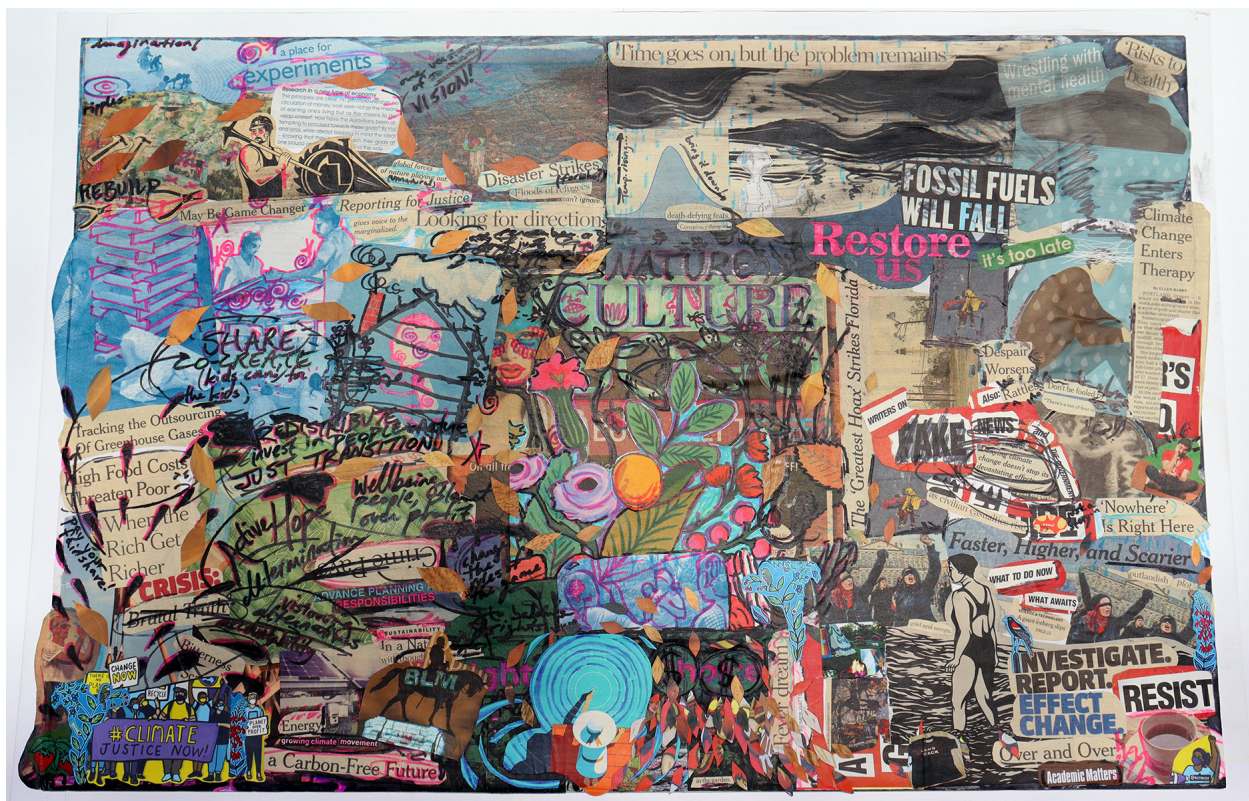
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