



Post-participatory intentions in design for ecological citizenship and collective well-being



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ABSTRACT

With increasing environmental issues, social polarisation, and democratic disconnection, design practice must move from its customary consultation to approaches that constructively develop resilience, inclusion, and ecological stewardship. This article outlines the Ecological Citizen(s) Preferable Futures Deck (*PF Deck*), a speculative, scenarios-based set of tools co-designed with a UKRI-funded collaboration. Located at the intersection of participatory design, futures thinking, and ecological citizenship, the *PF Deck* is a well-being intervention that operates through physical, mental, social, and environmental space. In this article, we understand ecological well-being as the capacity of human and more-than-human systems to flourish together within planetary limits, and social well-being as the quality of relationships, inclusion, and justice that enable people and communities to live thriving, dignified, connected lives. It aims to cultivate reflection, conversation, and imagination and to evoke place-based action for individual and collective well-being for an ecologically ethical transition. The *PF Deck* recognises that human well-being and planetary health are connected. Evidence is repeatedly showing that access to nature, whether in green space, ecological stewardship, or innovations such as green prescribing, enhances physical and mental well-being. Yet, human activity substantially impacts ecological systems with responsibilities extending beyond individuals. The *PF Deck* responds by offering structured yet open-ended questions that challenge people to think about other possible futures, redefine civic agency, and think about their or their organisations ecological role.

Tested through contexts like the London Design Festival, the Royal College of Art, and Falmouth University, the *PF Deck* has enabled values-based dialogue, systems literacy, and co-design of civic futures that are attuned to social and ecological flourishing. Rather than imposing solutions, it is a relational scaffold that enables pluralism, care, and distributed authorship. We term this a post-participatory intervention: designers do not simply facilitate 'good' participation in predefined projects, but act as catalysts and conveners of ongoing, community-led practices that may continue and transform beyond the original design frame. By remapping designers as facilitators of participation rather than makers of results, the *PF Deck* encourages a post-participatory paradigm grounded in inclusivity, autonomy, and resilience. Theoretically, the paper demonstrates how design interventions can function as an ecology and social well-being mediator. Methodologically, it contributes a post-participatory design process that combines feminist situated knowledges, ethical language audits, and iterative live testing as an approach to designing for ecological and social well-being. Practically, it offers a piloted toolkit translatable between health, education, community, and policy settings, with particular relevance for; community organisers, educators, civil society organisations, local authorities, and policy-adjacent actors seeking to cultivate ecological citizenship in place-based ways, facilitating community-led ecological and democratic transformation in the midst of climate, health, and social crises.

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1. Introduction

Although this work originates in the UK through a UKRI-funded partnership, its conclusions are intended to have salience well beyond a single national setting. The UK setting is used to anchor in some institutional, cultural, and environmental conditions, but the issues it is trying to tackle, such as climate change, democratic disengagement, and social fragmentation, are very much common and globally interconnected. In what follows, we use ecological well-being to refer to the intertwined health of ecosystems and human communities, and social well-being to refer to the conditions of social connection, equity, and participation that enable people to thrive together. These concepts are treated as mutually reinforcing rather than separate domains. The intention is not to prescribe a standardised template for action but to offer situated knowledge that others may reinterpret, reassemble, and apply in ways appropriate to their own local contexts. This article introduces the Ecological Citizen(s) Preferable Futures Deck (*PF Deck*), a scenario-based design tool created to foster civic agency, ecological literacy, and community-action. *PF Deck* was designed to facilitate space for values-based collaboration, imagination, and dialogue in the context of complex climate and social tension. It enables participants to dig back into their values, and build solidarity, remaking people with people and with the ecosystems they depend upon. In line with contemporary design-for-well-being approaches, we treat well-being not as a stable end-state but as an ongoing relational practice, emerging from how people, places, and more-than-human actors are configured in everyday life towards seeking thriving communities. The *PF Deck* does not provide ready-made solutions. Instead, it enables relational and reflective processes whereby participants are experimenting with new modes of collaborative working and living. In the process, the toolkit positions well-being not as a destination but as an emerging practice based on care, empathy, and ecological interdependence.

2. Ecological citizenship

The theory of Ecological Citizenship provides a compelling framework for analysing the *PF Deck*. Following Curtin's account of Ecological Citizenship as a form of citizenship oriented towards ecological responsibility and the everyday practices required to sustain just and sustainable socio-ecological relations [1], we treat Ecological Citizenship as dispersed, ordinary, and enacted through practices of care and collective responsibility rather than solely through rights within the nation-state. In essence, Ecological Citizenship is all about collective action and shared responsibility for social and ecological well-being. Patagonia's 2019 "Tools Conference" is one illustration of how these principles have been embraced in practice. The company laid down three principles: grassroots action can effect change, harmed ecosystems can heal through efforts of many, and social movements require long-term dedication to thrive [2]. These principles are in alignment with Ecological Citizenship, which aims at common practices of sustainability and the creation of spaces for individuals to reestablish relationships with their environments and with one another. The Ecological Citizen(s) Network + has applied these principles as a foundation for design-led intervention with communities through the PFD design. It is concerned with building the conditions in which individuals, organisations, and communities can act as ecological citizens. These actors are not merely individuals who are making personal adjustments to their ways of life but also businesses, local groups, and institutions acting as ecological care agents. The role of the Network is to support these actors through design, creating spaces in which Ecological Citizenship can be exchanged, practiced, and reimagined. Ecological Citizenship is not an imposed identity any more but a constant process of inclusive design for social and environmental well-being. By explicitly linking Ecological Citizenship to ecological and social well-being, we foreground the notion that just, low-carbon futures depend on both material sustainability and the reshaping of civic relationships and

responsibilities and the systems that co-ordinate them.

3. Design context

Design is increasingly understood as a systemic, relational practice grounded in experience, culture, and long-term sustainability. Rather than focusing on predefined problem-solving, contemporary design often embodies co-creation, shared agency, and participatory sense-making [3,4]. This shift positions design as a tool for facilitating autonomy, care, and community thriving, particularly when participation is aimed at emergent rather than prescriptive ends [5]. Within this trajectory, we use post-participatory design to name practices in which designers move beyond organising one-off participatory events towards building infrastructures, tools, and relationships that enable communities to shape, reuse, and adapt design resources over time. Post-participatory design is therefore not simply 'mature' participatory design; it foregrounds distributed authorship, long-term hyperlocal stewardship, and the possibility that communities may appropriate and transform design artefacts in ways that exceed the originating designers' intentions. I.e. it is work that develops its own social life outside the original scenario transforming ownership models. The *PF Deck* was developed as a scenario-driven toolkit within this post-participatory context. Piloted in both university and public settings, including the London Design Festival, the Royal College of Art, and Falmouth University, it provided a structure for collective reflection and ecologically informed debate. Rather than offering fixed solutions, the toolkit convened diverse participants into dialogue, surfacing values, connecting local concerns to broader systems, and building collective capacity. As both process and methodology, the *PF Deck* enables resilience as a relational, place-based practice. It draws on traditions of participatory design [6] and "research in the wild" [7], prioritising experimentation, dialogue, and co-authorship as key practices for design in contexts of uncertainty.

Where ethnography documents, design acts. The *PF Deck* expands upon this intervention by creating civic imagination and distributed agency. It constructs conditions for open-ended, inclusive engagement resistant to too-easy solutions. The toolkit is not value-neutral; its value resides in its context, is care-dependent, and the relationships it enables. Inclusive design for social well-being is our design context, guiding how these values take shape. By relocating design into an ethic of collective stewardship rather than authority, the *PF Deck* moves towards a broadened eco-citizenship. It prompts others to re-use and adapt it, not as a dogmatic solution but as an inspiration to thought, collaboration, and action. In doing so, it facilitates a vision of design that centers on justice, care, and mutual flourishing. This also clarifies how we understand the connection between tools and relationships: the *PF Deck* is deliberately modest in its claims as an artefact, and our design effort is directed at how its material and visual properties can support the relational work of facilitation, trust-building, and shared imagination rather than acting as a solution in themselves.

4. Uniting ecological citizenship and design contexts

This section explores how Ecological Citizenship values can be embedded in design through toolkits and participatory interventions, promoting autonomous and collective action toward sustainable, regenerative futures that support social and personal wellbeing. Under the surface, this framework facilitates well-being not just through environmental outputs but through reconstituted social relationships, civic empowerment, and inclusive engagement with design processes. By foregrounding care, agency, and co-creation, Ecological Citizenship is an effective lens for design practice aimed at improving quality of life across a multitude of dimensions. More and more international projects illustrate how this integration can be achieved in practice. Shellcrete (Bosence, 2021), developed by Local Works Studio in the UK, is a materially-led design project upcycling marine waste into regenerative

infrastructure. Based in Liverpool Docks, it utilises locally sourced shell waste to create artificial reefs that enhance biodiversity. The project demonstrates how design can work in collaboration with ecological materialities, place-based knowledge, and more-than-human sensitivities to achieve tangible environmental benefits. It reveals how regenerative strategies also foster closer relationships between communities and the ecosystems they rely on. Civic Square (2020), based in Birmingham, offers a model of neighbourhood-scale civic infrastructure. It demonstrates how communities can co-design and self-manage street and home sustainable retrofits. The project creates participatory ecological transition spaces at the local level. It is a model of socially just urban change, in which tools and resources are shared and commonly owned to facilitate inclusive and accessible transition activities. Forest Green Rovers, FIFA has labeled the world's greenest football club (2020b), brings Ecological Citizenship into sport. From energy and food to transportation and outreach, all aspects of the club's activities are designed with climate-positive intent. Through education, philanthropy, and a commitment to inclusivity, the club serves as a model for the incorporation of sustainability and wellness into daily life and cultural practice. Its sustainable design practices for environmental well-being further link these commitments, showing how Ecological Citizenship can be embodied through sport in ways that align climate action with cultural participation.

As part of the UKRI-funded Ecological Citizen(s) Network+, we are also well positioned to fund, support, and learn from outside projects that demonstrate the potential of design in unleashing ecological responsibility. The following examples capture this ethos of distributed and participatory design. Brighton-based Wildhouse (Aksamija, 2015) reshapes domestic architecture as a living interface to ecological renewal. Located within a UNESCO Biosphere Reserve, the retrofit project incorporates bio-based materials, soundscapes, and co-design with the community to create a dwelling that is regenerative for human and natural well-being. Extending the legacy of the Brighton Wastehouse [8], Wildhouse demonstrates how regenerative principles can be cost-effective, scalable, and inclusive in the context of public housing. It places housing not just as shelter, but as a participatory space for environmental and social transformation. Ag Lab [9], situated at the University of Exeter, is exploring how farms can become low-carbon innovation hubs. Through the use of local knowledge and seasonal rhythms via the production of plant-based insulation blocks during farming downtimes, the project taps into local skills and seasonal rhythms. Ag Lab envisions a dispersed construction economy predicated on bioregionalism, decentralised production, and rural resilience. In this framework, farms are places of Ecological Citizenship, in which well-being is twinned with material sustainability and community practice. Flow. Walk. Drag. [10], led by Liverpool Hope University, combines participatory art and science to reinvent ecological care via embodied practice and play. Using drag performance, walking tours, and speculative storytelling, the project pulls local water histories into dialogue with broader ecological concerns. Participants engage with an array of microbial perspectives and multispecies imaginaries, building care and solidarity through playful, inclusive interaction. It is disruptive of mainstream ecological narratives and invites marginalised communities into a new mode of environmental stewardship.

Together, these case studies demonstrate the potential of design to activate Ecological Citizenship in different, place-based, and culturally located ways with consideration of our digital capabilities for a sustainable future. Each project enables well-being through enabling people to take meaningful, contextually relevant action. They illustrate that design can be a platform not just for innovation, but for conversation, care, and community-led change. Through the financing and learning from projects like these, the Ecological Citizen(s) Network+ is enacting a distributed ecology of practice. This approach pairs material intervention with social and civic empowerment, expanding the role of design as a means of enabling equitable, regenerative, and flourishing futures.

5. Toolkit(s)

Toolkits have emerged to become the hub of participatory design, offering accessible channels through which people can interact with complex issues. According to Franke and Piller [11], toolkits allow trial-and-error experimentation by enabling non-designers to actively shape their surroundings and their futures. This is consistent with a long tradition of collective creativity [3], where innovation arises from grassroots scenarios and not from being passed on by institutions. Toolkits externalise design processes into signifying forms, giving participants structure, constraint, and space to adapt [12,13]. They allow for the opening up of conversation, imagination, and ownership, especially when there is flexibility designed into them, as proposed by Roy et al. [14], since one tool does not suit all contexts.

Within design-for-well-being, a number of existing card-based toolkits already support designers and practitioners to consider happiness, quality of life, and community flourishing. For example, the Well-being Design Cards [15], the Design for Community Well-being Guide [16], and the Design for Happiness Deck [17]. These resources typically focus on individual affective states, user experience, or community outcomes and are often framed for professional designers or design students. By contrast, the PF Deck is explicitly framed around ecological citizenship futures and is intended to be useable by community facilitators, activists, educators, and policy-adjacent actors, as well as designers.

The *PF Deck* contributes to this broader field of participatory tools. Developed in reaction to ecological uncertainty, the *PF Deck* invites reflection, co-creation, and action through care-informed, interdependent modularity. Like toolkits such as the Urban Data Viz Cards and Smithery's Regen Toolkit, the *PF Deck* helps users to face complexity, build civic capacity, and write shared futures anew. While informed by methods like the IDEO Human-Centred Design Toolkit, the *PF Deck* shifts the attention from product design to Ecological Citizenship and underscores values of justice, autonomy, and responsibility. It also draws on activist tools such as *Climate Justice Conversations* and affect-sensitive practices like *Tending to Endings*, both of which emphasise vulnerability and bring multiple perspectives to the forefront. These toolkits point to a broader shift in participatory design from strict, expert-based models and toward flexible, co-owned strategies. The *PF Deck*'s unique contribution lies in combining futures-based scenario prompts with explicit Ecological Citizenship framing, and in embedding ethical language audits and feminist, care-based principles into both its content and its facilitation guidance. Rather than only helping participants to generate ideas, it is designed to scaffold ongoing collective agency, supporting groups to articulate roles, responsibilities, and preferable futures in relation to specific systems, places and ecologies. The *PF Deck* takes this further by using scenario prompts to drive systemic thinking, emotional engagement, and dialogue. Rather than providing solutions, it opens up space for meaning-making across different contexts. Evolved through a recursive cycle of in-house prototyping, workshop testing, and linguistic revision, it is based on feminist, decolonial, and design justice traditions [18]; [19]. Visual choices, soft visual look and feel, casual font, and hand-drawn iconography also enhance accessibility and relationality. The toolkit's success lies in its presentation and holding, more than in its content. It is conducive to the type of reflective, locally situated practice that DiSalvo et al. [20] and Lee [21] detail, in which civic transformation is conceived as fundamentally trust, care, and co-presence. This helps resolve the apparent paradox between tools and relationships: we describe the material and visual details of the *PF Deck* not because we believe the cards themselves 'cause' change, but because these details are integral to how facilitators and participants experience safety, invitation, and shared authorship in practice.

Co-design, similarly, has been a means of engaging people in creating their own systems and experiences. It introduces empathy and emotional connection into the design practice [22], converting user understanding into co-designed tools and action. Co-design is especially effective when paired with cross-disciplinary collaboration and bodily

materials [23], and when utilised to facilitate talk about what is and what could be [24]. Workshops are where it occurs, surfacing unspoken assumptions, testing out new stuff, and holding uncertainty at bay. The Johari Window's definition of knowns and unknowns [25] assists in the explanation of how design can extend awareness and ready individuals to confront new possibilities. Participatory Design (PD), which has its roots in 1970s Scandinavia, started as a democratic alternative to top-down decision-making [26]. Although the discipline has spread to include education and urban planning, among others, it has failed to fulfill its inclusive mandate. Critics have noted the tokenism that typically comes before participatory rhetoric [27]. The more recent developments in PD today emphasise increased collaboration, collective governance, and framing through participation (Simonsen & Robertson, 2012). Post-participatory developments go a step further. They place designers from central experts to catalysts, allowing communities to transform, develop, and craft their own tools and futures [5]. The citizens are now defined not as recipients but as co-creators of care and knowledge. Design justice strategies enable this by resisting technocratic control and placing historically marginalised voices [19]. The governance becomes in this case an effect of co-design and not a fossilized one. Participatory systems should be responsive and accountable in the long term [28], able to evolve alongside local values and lived experience. Futures thinking makes this stronger by creating space for the collective imagination. Rather than forecasting outcomes, methodologies such as the *PF Deck* enable individuals to pose “what if?” questions and envision preferable futures [29]. Rob Hopkins [30] summarises this ethos with questions that open onto hope and possibility, that remember imagination as key to resilience. Last, post-participatory design and co-design are more than methodologies but codes of ethics. They require people to be together, to build collective capacity, and to challenge the systems that underlie daily life. Sustainable design practices for environmental well-being extend this commitment, situating design as both an ethical stance and a mode of ecological responsibility. The *PF Deck* approximates these values by perceiving design as a collaborative practice of transformation, one rooted in dialogue, solidarity, and ecological responsibility. In this sense, the *PF Deck* operates not only as an intervention but as a methodological proposition: that toolkits for ecological and social well-being should be designed as open, reconfigurable infrastructures that communities can continue to adapt beyond the originating project.

6. Situating our work

The intersection of Ecological Citizenship, design settings, toolkits, and post-participatory design is a rich and generative territory for the nurturing of individual and collective flourishing. It does not dictate solutions but rather invites experimentation, conversation, and situated testing. This creates the potential for citizens to act on ecological issues in ways that are responsive, creative, and based on the conditions of their lived situations. Our practice is grounded in the Design Council's thinking on the designer as convenor [31], whereby the designer is positioned not as solution provider but as facilitator of processes through which others may gain control of their own futures. This route does not prioritise co-authorship as second best, rather aspiring for participants to work to describe their own values, trajectories, and practices in order to answer complex social and environmental conditions. Conceptually, what this work offers is not so much a toolkit as a series of orientation dispositions: humility in the design process, trust in participant-led meaning-making, and a principled concern with accessibility, care, and relational design. The *PF Deck*, as a material artefact, was intentionally structured to be iterative, malleable, and open to modification by multiple users and sites. In shifting the emphasis from end products and toward sustained participation, this book relocates design as a stewardship action. It enfranchises citizens as ecological transformation actors, capable of influencing not just solutions, but the questions themselves by which the solutions are imagined. By doing this,

the project contributes to common knowledge of design as a means to develop agency, enable multiple futures, and make well-being possible for people and the planet through participatory and post-participatory practices. These commitments delineate a methodological contribution: a way of working in which the design of the *PF Deck*, its facilitation strategies, and its evaluative practices are aligned with post-participatory, ecological citizenship principles.

7. Our process: expectations, positionality, and learning

7.1. Early hopes

When we initially embarked on developing the *PF Deck*, we hoped to produce something that would both be lovely and useful, something that might be of service to ecological thought and inspire sustainable action. We imagined careful design, expressive voice, and clear text would be enough to render the toolkit useful in many different situations. We had believed that a well-designed set of prompts and provocations could push people from the realm of abstraction to action. But in workshop environments and through application in daily life, we discovered a more subtle reality: change is not in the tool, but in the relationships it makes possible. We learned that facilitation, group process, and emotional context all combined to make each interaction effective. Openness, listening, and trust became viewed as essential prerequisites for influence. This realisation made us change. Rather than imagining the toolkit as a transformational agent, we began to employ it more as an invitation, a frame for conversation that had the potential to open up space for thinking and collective imagining. We also found that shared ecological concern did not automatically translate into a shared vision. Participants arrived with different levels of knowledge, emotional engagement, and literacy around environmental discourse. Our design therefore has to slow down, have multiple points of entry, and deal with uneven terrain. These lessons reaffirmed our commitment to dialogic, open-ended design, eschewing closure or agreement too early in favor of extended participation. They also reinforced our understanding of post-participatory design: the *PF Deck* would be most effective when communities could pick it up, adapt it, and embed it within ongoing local practices rather than treat it as a one-off intervention.

7.2. Situated positionalities

We recognised up front that any toolkit would inevitably bear the authors' imprint. Using feminist situated knowledge theories [18,32], we understood that our assumptions, institutional placement, and disciplinary vocabularies shaped how the toolkit was described and received. Our team included individuals with diverse perspectives, including lived experiences of neurodivergence, which sensitised us to how exclusion can operate both in form and language. This created a requirement for designing for softness and availability, to attract involvement instead of fluency in technical or scholarly discourse. We labor in institutions as well with colonial and extractive epistemological heritages. While the Ecological Citizen(s) Network + strives to disturb dominant paradigms through agency redistribution, more-than-human voice, prioritisation, and community-led work amplification, we are also aware that we are situated within systems we critique. We are not objective. Instead, we offer this work as a partial, reflective, and responsible contribution to collective transformation. Interdisciplinarity within our team, from speculative design to environmental science, digital methods, and arts-based research, has involved listening to each other, humility, and continuous flexibility. We also acknowledge the limits of our position: we would not presume to design on behalf of knowledge systems we do not understand, for instance by producing an Indigenous worldview toolkit without Indigenous leadership. We recognise that our tools won't be as useful in every situation, and that design for well-being calls for responsiveness as much as rigor. Here, feminist situated knowledges directly informed design decisions: they

led us to foreground partiality and accountability in our language, to design card prompts that invite multiple perspectives rather than assert universal truths, and to prioritise forms of well-being that emerge from situated relationships rather than abstract metrics. This theoretical lens is therefore central to our approach to ecological and social well-being interventions.

7.3. Challenging assumptions

We entered the process with the belief that the right mix of structure, clarity, and imagination would bridge the gap between environmental care and public action. Early versions of the *PF Deck* made this belief a reality, infusing direction and outcome-orientedness into words and layout. The format, which necessitated short texts, allowed the tone to sometimes become too formal, and text read more like research abstract than dialogue. Rather than prompting participant reflection, some questions inadvertently reinscribed the designer's voice. It revealed a more profound set of assumptions: that action needed to be goal-oriented, that facilitation was neutral, and that collaboration could be embedded in an object. In operation, these assumptions disintegrated. Machine translation used by participants demonstrated how academic language can inadvertently close off. What emerged instead was a more relational model of communication, one with which feminist ideals of co-authored, situated meaning resonated. Borrowing from Le Guin's carrier bag theory of fiction [33], we aimed to approach language not as instruction but as container: something to create room for rather than fill. The toolkit cannot replace the work of facilitation, nor should it. It can be utilised to enhance dialogue, but only within a relational care and conscious presence framework. These learnings have transformed our practice, reminding us that design interventions for well-being are less about control and more about creating the conditions in which others can productively engage, reflect, and act. Methodologically, this prompted us to incorporate iterative ethical language audits and to treat language, translation, and tone as central components of the design process rather than as secondary matters of presentation.

7.4. Building the toolkit

The *PF Deck* began with a question: could a set of simple, accessible prompts have the capacity to move individuals from ecological concern to grounded, collective action? Initial development centred around scenario cards, cards that were not designed to feed linear paths or determine endings, but to enable speculative, place-based, and systemic envisioning. Leveraging design fiction and speculative design horizons, the cards invited participants to envision beyond anthropocentric presumptions and to explore futures constituted through care, interdependence, and ecological reciprocity. Rather than offering sustainability as a problem to be solved, the cards attempted to disrupt received narratives and open up dialogue. Each situation was an entry point for reflection, designed to shift perspective and catalyse conversation rather than prescriptively dictate a response. Thematically coherence came from successive workshops, theoretical exploration, and mutual pattern recognition. In place of determinate categories, the group discovered recurring problems, action scales, agency types, shared values, and embedded temporalities, which were constructed into dynamic thematic groupings. These themes articulated tensions often occurring in environmental and public work, including the tension between individual and collective responsibility, the urgency of climate action and the need for long-term planning, and the challenge of keeping justice, care, and complexity in one space. Feminist and relational design theories informed this approach, eschewing dualisms and embracing plurality. We specifically designed for permeability, seeking interpretation rather than instruction, and leaving room for ambivalence, difference, and context. Original content for the cards was infused with institutional language, precise but abstruse, often distant from the quotidian experience of those the deck sought to assist.

Feedback from testing exposed these frailties. Volunteers asked, reasonably enough, to whom the cards were speaking, and what they were being told to do. In response, we shifted the voice and tone of the deck. Later editions used active voice, second-person, and more accessible syntax. Cards became invitations rather than commands, focusing on relationality rather than power. AI-rewording tools were sometimes employed to make content opaque but softer, followed always by a human edit for tone and contextual sensitivity. In line with emerging guidance on AI use in scholarly work, we limited AI support to the simplification of draft wording, retained full human control over conceptual content, and ensured that all final card texts and analytical claims were written by the team and checked by the authors. Informed by anti-oppressive and feminist language ethics, the language was changed from explanation to inquiry to care, moving from neutrality to care. The concluding deck comprises a number of types of cards, prompts, provocations, reflection questions, and framing tools, formatted modularly so they can be fashioned by facilitators or used informally in peer-to-peer conversation. Visual design was constructed from the beginning as simultaneously values- and affordance-bearing. We pitted the appearance of green branding and institutional publishing against soft color palettes, hand-drawn symbols, and handwritten font styles to suggest approachability and informality. These were stylistic decisions, yes, but political ones too. We wanted the toolkit to be something individuals would reach for, retool, and make their own. Aesthetic inspiration was taken from zine culture, feminist data visualisation, and open-source design communities committed to accessibility and collaborative authorship over polish or authority. The look and feel of the deck ended up reflecting its values, warm, dialogic, and invitational. Development proceeded through each phase in a circular, reflective process. Fig. 2 illustrates a sample of the *PF Deck* cards and their visual language, while Fig. 1 shows the toolkit in use during a London Design Festival session, highlighting how material design and facilitation practices come together in situ.

Each version of the *PF Deck* was tested in use, in universities, festivals, and workshops, and critiqued and revised through internal and peer critique. Feedback ranged from emotional resonance of particular cards to pacing and usability in session flow. Through this, we were able to consider the toolkit less as an intervention in itself and more as a tool that gains meaning through application, guided by the people, settings, and relationships in which it exists. While it can never replace trust, it could enable it. The power of the *PF Deck* lies not so much in its material, but in its ability to enable reflective, plural, and relational processes of imagining otherwise. These iterative cycles of making, testing, and revising form a core methodological contribution of the project: the *PF Deck* is both the outcome of and the vehicle for a post-participatory design process that is attentive to ecological citizenship, well-being, and situated knowledge.

8. Refining by practice: iterative approaches

The *PF Deck* was constructed iteratively, relationally, on care-based principles, reflection, and responsiveness. It did not develop linearly along a design path but rather emerged through a series of inner critique, live facilitation, and co-sense-making. The emphasis was not just to refine content but to ensure that the toolkit could actually enable collective participation, ecological agency, and well-being. Language within the team was continually scrutinised for emotional accessibility, tone, and clarity. AI tools were used sparingly to help with simplification of difficult language, but final cuts were always based on human judgment. This developed beyond clarity to establish trust and inclusion. Live testing at Kingston University, Falmouth University, LDF, and The Design Council provided invaluable insight into the cards' role in actual use. Observing the participants as they worked with one another taught us where language needed to soften, questions had to pose more gently, and pacing needed to shift. Conversation and journaling allowed participants to articulate both how they resonated with the toolkit and



Fig. 1. Photos from the LDF toolkit session. Credit: Kate Green Photography.

<p>Mindset #10 Creating Stories of Hope and Positivity We inspire positive change by creating empowering hopeful narratives. We focus on encouraging positive change rather than placing blame. We acknowledge the grief and pain connected to the eco-emergency and create space and time to respect and reflect on this. We foster an optimistic outlook through constructive action and collective equitable progress by accepting all our feelings connected to our ecological future. Creating Stories of Hope and Positivity #10 Mindset</p>	<p>Approaches #20 Resource(s) Audit WHAT: Understand the material composition of a place. Recover and repurpose materials from industry and urban environments, prioritising local resources first. HOW: Develop systems for material retrieval and redistribution, focusing on local networks to collect and repurpose materials efficiently. WHY: Lessen the burden on the planet by reclaiming existing materials. Emphasising local resources reduces transportation impacts and supports the local economy. Resource(s) Audit #20 Approaches</p>	<p>Archetypes #30 Archetypes #30</p>
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Fig. 2. Sample of ecological citizens PF Deck (Illustration Credit: Amber Anderson).

where they got stuck in processing it. Ethical language audits were used to identify where language maintained or rebuilt power. Words such as “manage” or “deliver” were substituted with “support” or “nurture,” which showed a wider commitment to care-based design. In-house, gameplay turned out to be one of the most valuable reflective tools. Playing together with the cards exposed misalignments between our intentions and how they were felt. These moments provided space for course correction, not only in word usage but in the way interactions were designed. Along the way, the PF Deck’s development remained faithful to a post-participatory ethos: not just building a tool, but also cultivating a process in which adaptation, difference, and dialogue were

working values. Each version came with the belief that design, when relationally held, could enable agency and imagination amidst ecological and civic complexity. From a methodological perspective, this means that the PF Deck contributes not only as an artefact but as a demonstrator of how iterative, care-centred, and reflexive design processes can be structured to support ecological and social well-being in practice.

9. Piloting the Toolkit: testing in context

To try out how the PF Deck would enable collective agency and

ecological imagination in action, a series of external workshop sessions were conducted. These were carried out across different contexts, i.e., the London Design Festival (LDF), the Royal College of Art (RCA), and Falmouth University. Each workshop was designed to observe how different groups responded to the toolkit and to quantitate how gameplay, form, and content contributed to discussion and reflection about ecological challenges. The workshops created arenas in which participants were able to navigate complexity with each other using the toolkit as a shared language to discuss, speculate, and plan. Although the initial pilots were primarily situated in educational and cultural settings, the scenarios and facilitation plans were developed with potential translation to community organisations and policy-adjacent forums in mind, for example, local authority engagement events or cross-sector climate assemblies. Feedback was collected through observation, group

discussion, and casual reflection after each session. Participants appreciated the *PF Deck's* ability to evoke creative responses and provide a sense of common purpose. In particular, the Mindset cards were appreciated for the tone of openness that they created and grounding discussion in shared values. They helped to establish a sense of trust and allowed the group to move onto sensitive or uncharted territory. Even with general reception being favorable, there were issues that assisted in informing further development. Several participants wrote that some of the card language was overly abstract or academic and presented challenging entry points. Others wished for more session time to come back and tighten up ideas. There were also requests for more direct facilitation prompts to help work through the deck's modular nature. These were thoughts of possibility, not of underlying deficits, pointing the way towards being able to make the toolkit more empowering for a larger

Table 1
Overview of PF Deck workshop contexts, participants, and formats.

	London Design Festival (LDF)	RCA (Design Futures, MDes)	Falmouth
Participant type	Students, academics, researchers, and community members (cross-disciplinary group).	Students, from international backgrounds of; strategy, digital, UX and service design.	Students, staff, researchers, cross-disciplinary academics, and community members from Falmouth and beyond.
Number	~40	~30	~35
Sessions run of play	Part 1: –Welcome & informed consent. – Intro to EC project & toolkit. –Forming groups based on themes. Part 2: –Group work using “Mindsets,” “Big Picture,” and “Approaches” cards. –Develop action-oriented briefs. Part 3: –Use “Consideration” cards to iterate. –Final reflections and plan summaries.	Part 1: –Welcome & informed consent. –Intro to EC project & toolkit. –Forming groups based on themes. Part 2: –Unpacking EC, the concept of the card themes and introduction to all of the cards. –The creation of What if questions, building on (Hopkins), <i>from what is to what if?</i> –How can we design (using the cards) to unpack questions that present preferable futures?	Part 1: Introduction & Team Formation –Welcome, consent, EC project intro, toolkit overview. –Select themes (from People's Assembly) and form teams. Part 2: Toolkit Trial – Build a Plan –Use “Mindsets,” “Big Picture,” and “Approaches” cards. –Co-create a plan through card-guided discussion. Part 3: Reflect & Iterate –Use “Consideration” cards to revise the plan. –Share insights, reflections, and written group summaries.
What were participants asked	Introduce themselves and state motivations – Choose a theme of interest. – Select “Mindset” cards to guide group values. –Use toolkit cards to collaboratively develop a plan. –Reflect on process, content, and toolkit usefulness. –Provide feedback through discussion and/or written notes.	Introduce themselves - Reflect on the cards in order of: approach, mindset and then who they wanted to be in their preferable future. - Reflect on the process. - Initiate ‘what if’ questions building on the card elements they have had access to. - Provide feedback through discussion and/or written notes.	– Share personal context and workshop expectations. – Choose a relevant theme from the People's Assembly (Falmouth focused session which took place the day prior). – Engage in card-driven idea generation and planning. – Develop actionable ideas that align with Ecological Citizenship. – Reflect on both the workshop content and experience. – Provide group feedback verbally and/or in written form.
Reflective questions	– What are you taking away from today? – How did the toolkit help you move from topic to action? – What was your experience using the toolkit? – Was the language clear and accessible? – Did the structure support collaboration and vulnerability? – What worked, what didn't, what could be better?	- How has this helped you reflect on new applications for sustainable practices? - What is missing from the process? - How do you enable preferable futures and invite people into the discussion? - What does ‘good’ look like? For you and others?	– What are you taking away from this session? – How well did the toolkit help move from issue to action? – Was the language accessible and inclusive? – Did the format support open, creative collaboration? – What worked well in your team's process? What was challenging? – How did the toolkit support systems thinking and care?
Key bullets of feedback	- The toolkit encouraged creative and open discussion. - Some found language slightly abstract, suggesting clearer definitions. - Gameplay felt engaging but could be more guided in places. - Mindset cards were useful for establishing a shared group tone. - Encouraged reflection and systems thinking. - Supported cross-disciplinary engagement. - Some groups wanted more time for planning and iteration. - A safe, respectful environment helped participation and trust.	- That we should not navigate contemporary or future challenges with today's means or approaches. - Understanding the bigger picture was critical for objective driven individuals. - The start point was too vast and overwhelming. We believe this is due to the intensity of the time. - The roles of people enabled people to think about their role, but also who was missing. - Asking better questions and enabling other people to re-write their question, i.e. designing with not ‘for people’.	– The <i>PF Deck</i> was imaginative and enabled deep engagement. – Random card mechanics spurred unexpected but productive ideas. – Language on the cards occasionally too abstract; more plain language suggested. – Collaborative framing encouraged shared ownership. – A safe and consent-based atmosphere made reflection easier. – Participants appreciated space for vulnerability and curiosity. – Mindset cards helped align team values early. – Suggested: more time for sharing between groups at the end. – Strong potential for toolkits to be used in other learning/research contexts.

cohort of users and facilitators. The live events underscored the applicability of the *PF Deck* as an extrovert, adaptable, and responsive tool for the construction of Ecological Citizenship and grassroots transformation. They also indicated the place of context in shaping how such materials are adopted. Toolkits do not work autonomously; their efficacy is based on how they are introduced, understood, and maintained. In Section “Piloting the Toolkit”, therefore, we are not only describing where the *PF Deck* was used, but using these workshops as empirical grounding for our claims about its contribution to Ecological Citizenship and collective well-being. The entire details of these workshop sessions, including participant profiles, types of sessions, and learning derived, are listed in [Table 1](#) below.

Following the external playtesting sessions, participant feedback became a critical driver of the *PF Deck's* continued development. These discussions provided valuable insight into how the toolkit was being used and perceived across varied environments. Participants consistently highlighted its value in enabling systems-level thinking and supporting collaboration across disciplinary and experiential boundaries. The cards were noted for their ability to invite respectful, open conversation and to hold space for diverse perspectives and emotional registers. However, several shared challenges also emerged. There were repeated requests for more accessible language, a clearer explanation of gameplay mechanics, and better pacing within the session structure. Some participants found the framing of the cards to be intellectually rich but at times too abstract, especially in time-limited sessions or with groups unfamiliar with speculative or futures-based thinking. These concerns were treated not as obstacles but as signals for meaningful adaptation.

As a direct response to the workshop feedback, several changes were made. Content on the cards was rewritten in simpler, more conversational language, and definitions were added where terms might not be widely known. Certain cards were renamed to more intuitively reflect their intent, especially for those new to design practices. Prompts were added to ease participants into deeper conversation, especially in groups with varying levels of familiarity with ecological or civic discourse. To address concerns about rhythm and timing, new facilitation notes were introduced. These helped guide session structure, ensuring that groups could move through the stages of gameplay without rushing or leaving sections incomplete. The notes were designed to support facilitators in holding space for reflection while also enabling momentum and flow. Overall, the toolkit format became more modular, allowing for multiple ways to use the deck. Whether for brief idea generation, long-term planning, or shared values alignment, the toolkit could now accommodate a wider variety of users, goals, and settings. Insights from the RCA and Falmouth sessions also led to the inclusion of an open play model, one that allows facilitators to shape card application in ways that suit the group's needs. This model encourages both structured and exploratory use, supporting session formats that are results-oriented or more dialogic and emergent. *The PF Deck* is now better positioned as a flexible platform, one that fosters Ecological Citizenship through collective imagination, creative experimentation, and values-driven conversation. These piloting activities provide empirical grounding for the *PF Deck's* impact: participants reported increased awareness of systemic interconnections, a stronger sense of shared purpose, and a clearer articulation of roles and next steps in their local contexts. While we do not claim long-term behavioural change on the basis of these sessions alone, they demonstrate the toolkit's capacity to mediate between ecological concern and collective, place-based planning.

10. Conclusion

This article has traced the conceptual grounding, development, and field use of the *PF Deck* as a post-participatory design intervention. Rather than a finished product, the toolkit is an evolving, dialogic resource that supports collective imagination, civic agency, and systemic reflection in response to ecological and social challenges. It

contributes to design for well-being by shifting focus from solution-making to creating conditions for shared meaning and action. Key insights include the importance of designing for ambiguity, plurality, and care, acknowledging that ecological futures cannot be reduced to singular outcomes. The *PF Deck* fosters open-ended, values-based dialogue and supports participants in exploring difference without demanding premature consensus. Its influence depends not only on content, but on how it is introduced, held, and adapted. The project was guided by a meta-design approach: creating tools that invite interpretation rather than impose direction.

Designers act as conveners, not authorities. Success lies in how others take up and reshape the resource within their own contexts. Language played a central role here. We moved from formal, abstract tone to one rooted in invitation and accessibility, recognising that inclusive participation begins with voice. For those working in participatory and civic design, this project reinforces the need to attend as carefully to facilitation and context as to method. The *PF Deck* offers more than a set of cards, it models a relational design practice. It supports communities in imagining, reflecting, and acting together. Ultimately, the *PF Deck* does not promise solutions. It invites a response. Its power lies in its ability to support situated transformation, shaped not by tools alone, but by shared care, intention, and presence. As such, the *PF Deck* contributes both practically, as a transferable toolkit for Ecological Citizenship and collective well-being, and methodologically, as an example of post-participatory design practice that brings together ecological citizenship theory, feminist situated knowledges, and design-for-well-being research into a coherent, reflexive approach.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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