

Niklavs Rubenis, Caroline Cumberbatch, Rohan Nicol (University of Tasmania)

USED: An introduction to redesigning waste for a future creative and circular economy

Keywords: Design, Waste, Circular Economy, Communities of Practice, lutruwita/Tasmania

Abstract

This paper introduces the rationale, frameworks and desired impact for a newly established lutruwita/Tasmanian-based creative enterprise titled *USED: design=waste=design*. This pilot project is decidedly Tasmanian-centric and aims to address waste and sustainability issues by linking the creative sector with new markets and networks. In lutruwita/Tasmania (and across Australia), waste continues to increase at unsustainable levels with consequences that adversely affect social, environmental, cultural and economic imperatives. In response, *USED* is aimed at developing pathways towards a circular economy that draw from design/creative practice methods. The project focuses on providing practical solutions for the use of problematic and 'perceived' low-value reprocessed industry, construction and demolition waste. Although in its infancy, *USED's* ambition is to develop, apply and test new processes, materials and approaches for industry applications that provide genuine responses to a changing climate. In an initiative that positions the creative sector as fundamental to future waste mitigation and management, *USED* also involves a diverse group of Tasmanian designers, makers and creatives to engage with issues of waste together with industry, policy makers and the cultural sector and tasks them with developing new and transformative applications for recovered materials to evidence the value and viability of otherwise wasted resources.

Introduction

This paper is largely a nuts-and-bolts introduction to a recently initiated lutruwita/Tasmanian-based speculative design project titled *USED: design=waste=design*. *USED* was officially established in mid-2023, although the conceptual bones and industry partner relationship building has been in play for a lot longer. In essence, *USED's* primary objective is to rub exponentially growing waste and sustainability concerns – specifically related to construction

and demolition waste – together with the creative/design sector to explore the parameters of practice in a quest for viable practical, applied and scalable pathways to a circular economy.¹

Our project is in its infancy and yet to yield significant results. This paper's intention, therefore, is to map out the project's rationale, frameworks, unique lutruwita/Tasmanian conditions, and longer-term desired impacts. To partly formalise and bed down our approaches (and to make them feel real), in this discussion we will provide a few points for departure around some elementary theoretical 'what, why, how' parameters to establish a working schematic for us to build the momentum and scale of the project, and to receive feedback.

Driving our project are four underlying questions:

1. What are emergent strategies for waste reduction? Is it even possible?
2. What distinctive role does the creative/design sector play in waste mitigation and/or management? Does creative/design practice have transformative and persuasive capacity?
3. What might a future creative/design practice look like in the context of circular economies, industry engagement and climate change?
4. And how can creative/design practices evidence tangible impact in the development of circular economies?

In conjunction with the questions steering our initial inquiry, another layer of the *USED* framework is to establish a Community of Practice (CoP) that includes employment, training, support, mentoring, development and sharing of open-access resources, and to broker new national markets for the lutruwita/Tasmanian creative/design sector. This is a longer-term ambition. Over time, *USED* aims to facilitate and fold into its development the support, production, documentation and exhibition of new creative works from a mix of regional and remote emerging, mid-career and established lutruwita/Tasmanian artists, craftspeople and designers. The idea here is to take the project's premise beyond the institution by providing creatives with recovered and remediated construction and demolition waste, introduce them to

¹ Throughout this project introduction we will refer to the circular economy (CE). We will, however, reserve going into depth about what defines CEs, in the context of this project, for another article. For this paper, and although a complex framework of many parts, we are loosely defining a CE as a closed loop system that keeps things in circulation by transitioning from current negative linear extract-consume-dispose to an approach that returns a positive impact across environmental, cultural, social, and economic imperatives.

studio-based processes for their various applications, and further support them to invent their own approaches. Linking into this is a growing list of disparate project partners and stakeholders from the waste, cultural and government sectors, as means to provide alternative opportunities, avenues, networks and perhaps begin to develop scalable blueprints for future creative/design practice/s that step up to and confront an increasingly unsustainable and volatile world.

As a project initiated within the School of Creative Arts and Media, University of Tasmania (UTAS), we form part of the only tertiary institution in the state. It is an organisation with multiple campuses scattered across the island, and our core team members (the authors) are geographically situated both north and south. We recognise that a key imperative of our school's mission is to be leaders within the local cultural sector. Part of our function, as noted above, is to showcase lutruwita/Tasmanian creatives to national and international audiences by leveraging the capabilities, networks and reach of the institution. As a team we are also cognisant that beyond instrumental research questions and satisfying university metrics, our work stems from a values-based approach. This is to provide guidance for steering the project and to maintain the ambition of developing a genuine CoP. Obviously subject to change and amendment as the project evolves, and aspirational in its intent (let us see if we get there), our agreed initial team values are:

- a) *We are catalysts for the transformation of design:* Our efforts are actively reshaping the role of design. We are transforming it from a passive service provider to a proactive instrument for reimagining our world.
- b) *We are driven by a care for a cohesive, connected and creative community:* Our work brings together diverse voices and approaches. We facilitate the connection of disparate places, people and sectors to foster creative, resilient and interconnected communities of care.
- c) *We realise projects and methodologies that shape a positive future world:* Our projects include practical outcomes that apply design-based methodologies to construct innovation chains. We connect creative communities to circular economy solutions.

The lutruwita/Tasmanian context

The conditions that provide the context and backdrop for this project are distinct and need to be acknowledged as they set the scene for a complex local ecology. We are positioned in lutruwita/Tasmania, an isolated island state located to the south of the Australian mainland. As

such, this presents significant challenges; yet through a half-full schooner, these provocations can be viewed as opportunities where design may have potential to realise productive impacts.

The entire state, under the Modified Monash Model², is MM2 or above. This classifies all lutruwita/Tasmanian cities and towns as rural or remote (Department of Health and Aged Care 2023). It has a total state-wide population of 558,000, and almost two-thirds live outside of the capital of Hobart (ABS 2022). Lutruwita/Tasmania's First Nations people are the palawa. Currently there are 30,000 palawa living on the island, alongside a small percentage of Nepalese, Indian, Chinese and other migrant communities (ABS 2022). Most people that live in lutruwita/Tasmania have been born in Australia (Department of State Growth 2022).

lutruwita/Tasmania has been historically described as economically dependent, socially backward and reliant upon resource-extractive industries (Stratford 2008). The late Tasmanian-born Harvard Professor Jonathan West wrote in his 2013 *Griffith Review* essay 'Obstacles to Progress: What's Wrong with Tasmania, Really?': 'Tasmania has developed a way of life, a mode of doing things, a demographic, a culture and associated economy, that reproduces underachievement generation after generation' (West 2013).

West notes that for many Tasmanians a shadowy reality lies behind enticing tourism campaigns that market unspoiled wilderness, promising food culture and MONA³, a world leading privately-owned art museum (West 2013). Whilst there are reports of strong economic performance by certain indicators (CommSec 2023), lutruwita/Tasmania ranks at the bottom among Australian states on key economic, social and cultural performance measures which include the lowest rates of literacy, numeracy and median income (Denny 2021; ABS 2008; ABS 2023a; ABS 2023b; Warner 2021). Tasmanians also have the most chronic disease, are the most likely to smoke, most likely to be obese, and have the highest petty crime rates and worst domestic violence rates in the country (West 2013).

² The Modified Monash Model (MMM) is a classification scale that defines whether a location is metropolitan, rural, remote or very remote. MMM measures population size and remoteness on a scale of categories from MM 1 to MM 7. MM 1 is a major metropolitan city and MM 7 is defined as very remote (see <https://www.health.gov.au/topics/rural-health-workforce/classifications/mmm>).

³ See www.mona.net.au

Despite many ethical, social, economic and structural issues, lutruwita/Tasmania was the first Australian jurisdiction to achieve net zero emissions and remarkably, reported negative emissions in 2021 (Department of State Growth 2023). This noteworthy environmental achievement was the result of a 'David and Goliath'-like battle to protect native forests from wood chipping (Alexander 2022) which ultimately resulted in a significant drop in native forest logging around 2011 (Mackey et al. 2022).

Yet in light of so-called environmental credibility, and to circle back to West's underlying sentiments, there exists an underbelly which in many ways contradicts lutruwita/Tasmania's reported environmental achievements. For example, lutruwita/Tasmania's contribution to Australian native log volume totals 40% (The Australia Institute 2023), which is significant given it is the smallest of the country's 8 states and territories. The forestry industry accounts for only 1.4% of the total lutruwita/Tasmanian labour force and is heavily subsidised by the Tasmanian Government. This statistic suggests a sector unable to achieve a viable return on a highly valuable resource (The Australia Institute 2023; Lawrence 2018). The processes associated with native logging also make for the largest carbon-emitting sector in the state at 2 and half times higher than its closest cousin the transport industry (Sanger n.d). lutruwita/Tasmania has garnered a global reputation for its forests and unique timber species and conservation values, however, there appears to be discrepancies between perception and reality.

lutruwita/Tasmania also lags significantly below the national average in resource recovery and has an underdeveloped local resource recovery industry (Pickin et al. 2020; Pickin et al. 2022). Historically there has been a lack of accurate waste data (Oosthuizen et al. 2018) and quantities of construction and demolition waste are set to increase with a construction industry growth rate that is 4 times higher than the national standard (Department of Premier and Cabinet 2021). Noting too, this is a significant problem Australia-wide: construction and demolition waste accounts for approximately 40% of all landfill waste (Shooshtarian et al. 2021). Despite all this, new legislation⁴ proposed in 2022 seeks to increase waste recovery and a recently formed Tasmanian Waste and Resource Recovery Board⁵ will no doubt benefit from the progress of other Australian states in waste management and recovery strategies.

⁴ *The Waste and Resource Recovery Act 2022* is a newly proposed Bill that sets out the establishment of the [Waste and Resource Recovery Board](http://www.legislation.tas.gov.au/view/html/inforce/current/act-2022-006) to provide strategic oversight of resource management and to steer a circular economy agenda (see www.legislation.tas.gov.au/view/html/inforce/current/act-2022-006).

⁵ *The Tasmanian Waste and Resource Recovery Board* has been formed under *The Waste and Resource Recovery Act 2022* and advises the Tasmanian government on waste management, resource

Approaching practice

Waste is both a problem of and for design, and a significant issue that is generally not centralised in practice. While design as a mechanism has been proposed as a solution to reduce the escalating environmental and social impacts of consumerism (Chapman 2009; Satyro et al. 2018; Walker 2006; Walker 2014, 2017), the complexity, critical nature and scale of the problem suggests redirection of design practice offers only a marginal intervention without idealising its agency. An alternative in approach positions design in a transformative context with a degree of actual transformative capability. This requires a model delivered alongside industry that imagines and articulates ways forward that challenge the existing order and demonstrate new possibilities (Walker 2019).

To this end, we propose employing a practice of social theory that addresses the actual doing and materiality of our lives, in preference to further excavation of meanings, interpretations and intentions (Hyysalo 2013; Schatzki 2002). Social practice theory exists in this paper as the starting point for the adoption of a wider body of policy interventions, and can be defined as a range of concepts, arguments, hypotheses, thought experiments and speculative explanations that explore the processes behind the formation, evolution, transformation or disappearance of human societies or their components and structures over time (Harrington 2005). To demonstrate this approach, we note the parallel with policies related to smoking by Hyysalo (2013), which demonstrate how employing multiple methods, such as progressively banning smoking in public settings, increasing taxes, reducing opportunities to advertise, deploying scientific evidence and making counter-advertisement increasingly gruesome and visible, has complicated the practice of smoking and, after decades of piecemeal and relatively unsuccessful policies, started to have a tangible effect. There are learnings to be drawn from this context that can be applied to the deeply systemic problem of waste, noting that a multi-pronged strategy will need to be developed that largely revolves around policy and legislation (hence the initial project question that probes whether design and/or a creative practice has transformative capacity to operate at that level).

A transformed design practice can exploit design's co-existence with industry, which is typically driven by economic imperatives, by leveraging the increased performance available through

recovery and the circular economy (see <https://nre.tas.gov.au/environment/waste-and-resource-recovery/tasmanian-waste-and-resource-recovery-board>).

strong collaboration between creatives and commercial enterprise (Daget and Zhang 2023). Placing the foundations for an engagement with industry as a key strategic imperative serves as a mechanism to realise substantial change through scalability and reach. As stated by the academic Adrian Forty over three decades ago,

the design of manufactured goods is not determined by an internal genetic structure, but by the people and the industries that make them and the relationships of these people and industries to the society in which the products are to be sold. (Forty 1986: 8).

From a slightly different perspective, parallels can be drawn between Forty's sentiments and Tony Fry's (2009) writings that in the context of a sustaining future, the application of design '...needs to be circumstantially and critically responsive to the minds, dreams, feelings, material conditions, dispositions, values and beliefs of people within the world they inhabit' (101).

We are initially targeting construction and demolition waste (C&D). Manufacturing and distribution systems for building and construction products are more entrenched and global than at any other point in history (Deetman et al. 2020) and arrive with a huge carbon footprint, and as already discussed, account for a significant amount of waste. The early, pilot phase of *USED*, deploys a vertically integrated model using reprocessed C&D waste that is problematic and perceived low value. The idea is to produce high value propositions, approaches, processes and/or products that exploit reclaimed waste to form part of a closed-loop system. The design of this model stands in contrast to conventional design practice that looks to fulfil an idea using new/virgin materials which then manipulates those materials using any desired technique or process. Working in reverse – that is, waste first – allows those materials to guide intent, application and processes, ultimately steering the outcome. This shifts preconceived ideas of end results, and in doing so offers a counter to default practice that continues to perpetuate unsustainable approaches (Rubenis 2018).

Reuse is distinct from recycling, on which significant effort is focused (Pickin et al. 2020). Recycling tends to be downgrading (Mau et al. 2004), disruptive and reductive (MacBride 2013), removing the social, cultural and material values acquired through use (Appelgren 2019; Rinkinen et al. 2021) by focusing on the energy and material value of circulating materials (MacBride 2013). Despite the merit in saving resources, reuse and repair are fraught with complexity and contradiction (Appelgren 2019), and require greater stewardship than conventional practice (Isenhour and Berry 2020). Trivial tasks present added challenges (Appelgren 2019) and materials/goods take time, energy and skill to find, acquire, fix, clean,

market and redistribute (Isenhour and Berry 2020). Repair is the natural partner to reuse and crucial to maintaining value, yet it battles the inescapable cycle of decomposition and damage (Mattern 2018). Not surprisingly then, reuse often comes with higher labour input, and does not meet expectations of saving money (Baker-Brown 2017).

To circumvent some of these issues, our approach focuses on utilising reprocessed waste to reduce overall impact by closing loops, increasing efficiency, providing genuine responses to meta-issues such as climate change, and ultimately lowering waste streams. Reprocessed C&D waste is consistent and in abundant supply (unfortunately) and therefore offers potential as a viable, scalable and potentially economic practice – one worth leveraging to explore transformational change.

USED commences with an approach that:

- Establishes a list of key partners and stakeholders together with a diversity of designers, makers and creatives to engage with issues of waste by linking with industry, policy makers and the cultural sector.
- Facilitates symposiums and training opportunities that bring disparate sectors together (waste, industry, government, cultural, social, design) to generate new knowledge, data and identification of key issues and opportunities for innovation.
- Utilises problematic and perceived low-value reprocessed industry C&D waste to develop, apply and test new products, materials, propositions and approaches for other industry applications that directly address climate change.
- Plans for open access platforms and repositories across a range of platforms that share knowledge, outcomes and tool kits for practice distributed locally and nationally through stakeholders and networks.

Communities of Practice (CoP)

Integrated into exploring longer-term sustainable initiatives alongside industry is the engagement of the creative/design industries, which are well positioned to confront emergent issues such as ever-escalating waste. Creative industries are noted as key drivers in the future economy (Office of the Coordinator-General n.d) as well as innovation (Department of Communications and the Arts 2019), particularly in relation to the development of circular economies. To expand slightly the above section on approaching practice, and aside from the core research team, *USED* brings in a host of creative practitioners both internal and external to

the institution. To initiate the process, 9 creatives have been selected and engaged based on their diverse creative practices. Two additional creatives have been tasked with developing the artistic direction of the pilot project and associated collateral such as film, documentation and branding.⁶

As already noted, built into this project is the wider ambition of a CoP. The pilot project aims to begin to:

- provide Tasmanian creatives a unique opportunity to develop/exhibit new works within an initiative that proposes to add value to waste materials
- encourage creatives to take risks and experiment with new materials to express work relevant to them and their practices backed by a CoP inclusive of supporting organisations
- loop the creative/design sector into the process of tackling waste mitigation by establishing links with key industries, and as the project scales include policy makers, the wider cultural sector and commercial markets to create shared resources, knowledge exchange and new markets
- develop creatives' skills and capabilities via formal workshops, training initiatives, mentoring and open-access resources in collaboration with national and state-wide enterprises
- broker new markets for creatives via organised exhibition/s aimed at showcasing to a local, national and international audiences
- initiate the research of potential sustainable and viable practice models that address waste and sustainability issues
- support safe environments and wellbeing through education, advocacy, shared information and access to a range of resources
- enable national and international opportunities through exhibition, digital platforms and partners
- develop strong relationships and collaborative approaches with partners for long-term projects and shared investment.

⁶ The team of participating creatives are located across Tasmania and selected for their diverse practices. Examples include a range of scales, mediums and approaches such as habitat rehabilitation, composite material development, reuse and repair, timber and concrete specialists, industrial and interior design, and waste activism. As the project develops, we will provide more detail on participants.

Where to next?

Our approach is informed by sociological theories of material culture, consumption and practice as a means of conceptualising the changing status of culture, and longer-term transitions in the resources required to participate effectively in society (Rinkinen et al. 2021). We therefore commence by prioritising opportunities for shaping interpretations of normality and need in ways that reduce (rather than increase) overall resource consumption (Rinkinen et al. 2021). To emphasise, it is proposed a collaboration with the creative and waste industries has the capacity to:

- reduce waste and add ideas about the circular economy and how it could work to inform policy
- provide employment, training, mentoring, support and further opportunities to broker new national markets, networks, research and design propositions that confront climate change
- develop new approaches to become national exemplars of best practice positioning the lutruwita/Tasmanian creative/design sector as leaders in the future cultural and waste economy.

Planning, realising and evidencing pathways to change within a local context that is both riddled with structural issues and deeply integrated within a globalised system of production, consumption and waste, is a huge challenge. However, projects that survey difficult terrain and map pathways are important to open new ways of thinking, acting and gaps in knowledge. Albeit outlining the evidence that points to lutruwita/Tasmania's perceived unsustainability may paint the landscape under a certain light, the state's poor performance in resource management and recovery does present as a unique set of conditions to explore and redefine design's transformative capacities.

In this introductory overview of *USED*, we have aimed to provide an initial blueprint for action that we have begun implementing through partnerships with important enterprises in the resources and materials recovery sector with whom we are exploring new approaches, materials and applications. Repairing a cycle of entrenched unsustainability and transitioning to a circular economy is complex and not clear cut and will require long-term investment from a range of disparate stakeholders and governments. Part of this project is to also test if design and creative/design practices can prove themselves to have a positive impact through projects that reform approaches with results that satisfy stakeholders, mitigate impacts on the environment

and link with opportunities in resource recovery. If this can be achieved, if only on a small-scale, then perhaps it will demonstrate that design does indeed have an element of transformative capacity – a component that is urgently needed to dig ourselves out of this extractive and wasteful crater.

So, let's roll up the sleeves and start sweeping up the mess: we will report back on progress at the next ACUADS conference and discuss what we have achieved (if anything!) ...

Acknowledgement

We have conducted this project across lutruwita/Tasmania Aboriginal land, sea and waterways. We would like to acknowledge with deep respect the Traditional Owners of this land, the palawa. The sovereignty of the First Nations peoples over the land, sea and waterways on which we conduct this project was never ceded.

References

- ALEXANDER A (2022) *Tasmania V British Empire: The Battle to End Convict Transportation*, Hobart: Forty South Publishing.
- APPELGREN S (2019) 'Building Castles out of Debris: Reuse Interior Design as a Design of the Concrete', *Worldwide Waste*, 2:1, doi:<https://doi.org/10.5334/wwwj.19>
- ABS (AUSTRALIAN BUREAU OF STATISTICS) (2008) [Tasmanian State and Regional Indicators, Jun 2008](#), ABS website, accessed 1 February 2024.
- ABS (2022) [Snapshot of Tasmania: High level summary data for Tasmania in 2021](#), ABS website, accessed 1 February 2024.
- ABS (2023a) [Personal Income in Australia: Regional data on the number of income earners, amounts received, and the distribution of income](#), ABS website, accessed 1 February 2024.
- ABS (2023b) [Employee earnings: Weekly earnings of employees, including distribution of earnings and hourly earnings, by State, Occupation, Industry and Qualifications](#), ABS website, accessed 1 February 2024.
- BAKER-BROWN D (2017) *The Re-Use Atlas: A Designer's Guide Towards the Circular Economy*, Milton: RIBA Publications.
- CHAPMAN J (2009) 'Design for (Emotional) Durability', *Design Issues*, 25:4, doi:<https://doi.org/10.1162/desi.2009.25.4.29>
- COMMSEC (2023), [State of the States State and Territory: Economic Performance Report](#), accessed 1 February 2024.
- DAGET YT and ZHANG H (2023) 'Influence of collaborative relationships on the performance of design-construction efficiency of industrialized construction', *Journal of Civil Engineering and Management*, 29:5, accessed 1 February 2024, doi:<https://doi.org/10.3846/jcem.2023.18868>
- DEETMAN S, MARINOVA S, VAN DER VOET E, VAN VUUREN DP, EDELENBOSCH O and HEIJUNGS R (2020), 'Modelling global material stocks and flows for residential and service sector buildings towards 2050', *Journal of Cleaner Production*, 245, accessed 1 February 2024, doi:<https://doi.org/10.1016/j.jclepro.2019.118658>
- DENNY L, ESLAKE S, JONES A, MARTIN R, MAWAD R and ROWAN M (2021), '[A road map to a Literate Tasmania](#)', The Tasmanian #100percentliteracy Alliance, accessed 1 February 2024.
- DEPARTMENT OF COMMUNICATIONS AND THE ARTS (2019) [Creative skills for the future economy](#), Bureau of Communications and Arts Research, Department of Communications and the Arts, Australian Government, accessed 1 February 2024.

DEPARTMENT OF HEALTH AND AGED CARE (2023), '[Modified Monash Model](#)', Australian Government Department of Health and Aged Care website, accessed 1 February 2024.

DEPARTMENT OF PREMIER AND CABINET (29 September 2021), '[Booming construction sector keeping Tasmanians employed](#)' [media release], accessed 1 February 2024.

DEPARTMENT OF STATE GROWTH (2022), '[Appendix - Population Strategy - Demographic Data and Related Tasmanian Government Strategies](#)', Tasmanian Government Department of State Growth website, accessed 1 February 2024.

DEPARTMENT OF STATE GROWTH (2023) '[Tasmania's Greenhouse Gas Emissions](#)', *Renewables, Climate and Future Industries Tasmania*, Tasmanian Government Department of State Growth, last accessed 1 February 2024.

FORTY A (1986), *Objects of Desire: Design and Society Since 1970*, London: Thames and Hudson.

FRY T (2009) *Design Futuring: Sustainability, Ethics and New Practice*, Sydney: University of New South Wales Press Ltd.

HARRINGTON A (2005), *Modern social theory: an introduction*, Oxford: Oxford University Press.

HYYSALO S (2013) 'Shove, Pantzar and Watson. The dynamics of social practice: everyday life and how it changes', *Nordic Journal of Science and Technology Studies*, 1:1, accessed 1 February 2024, doi:<https://doi.org/10.5324/njsts.v1i1.2125>>

ISENHOUR C and BERRY B 2020, "Still good life": On the value of reuse and distributive labor in "depleted" rural Maine', *Economic Anthropology*, 7:2, accessed 1 February 2024, doi:<https://doi.org/10.1002/sea2.12176>>

LAWRENCE J (2018), '[Tasmanian regional forest agreement delivers \\$1.3bn losses in 'giant fraud' on taxpayers](#)', The Guardian website, accessed 1 February 2024.

MACBRIDE S (2013), *Recycling Reconsidered: The Present Failure and Future Promise of Environmental Action in the United States*, Cambridge: MIT Press.

MACKEY B, MOOMAW W, LINDENMAYER D and KEITH H (2022), 'Net Carbon Accounting And Reporting Are A Barrier To Understanding The Mitigation Value Of Forest Protection In Developed Countries', *Environmental Research Letters*, 17:5.

MATTERN S 2018, '[Maintenance and Care](#)', Places Journal website, accessed 1 February 2024.

MAU B, LEONARD J and THE INSTITUTE WITHOUT BOUNDARIES (eds) (2004), *Massive Change*, New York: Phaidon Press, Inc.

OFFICE OF THE COORDINATOR-GENERAL (n.d.) '[Creative industries](#)', Tasmanian Government Office of the Coordinator-General, accessed 1 February 2024.

OOSTHUIZEN H, WILLETT RJ, WILMSHURST T and WILLIAMS BR (2018), 'Accounting for national waste data: a Southern Tasmania outsourcing perspective', *Public Money & Management*, 38:5, doi:<<https://doi.org/10.1080/09540962.2018.1478495>>

PICKIN J, WARDLE C, O'FARRELL K, NYUNT P and DONOVAN S (2020), [National Waste Report 2020](#), Blue Environment Pty Ltd, accessed 1 February 2024.

PICKIN J, WARDLE C, O'FARRELL K, STOVELL L, NYUNT P, GUAZZO S, LIN Y, CAGGIATI-SHORTELL G, CHAKMA P, EDWARDS C, LINDLEY B, LATIMER G, DOWNES J, AXIÖ I (2022), [National Waste Report 2022](#), Blue Environment Pty Ltd, accessed 1 February 2024.

RINKINEN J, SHOVE E and SMITS M (2021) 'Conceptualising urban density, energy demand and social practice', *Buildings and Cities*, 2:1, accessed 1 February 2024, doi:<<https://doi.org/10.5334/bc.72>>

RUBENIS N (2018) '[The Ethics of Making: Design for Reuse and Repair](#)' [PhD exegesis], Australian National University, last accessed 1 February 2024.

SANGER J (n.d.) [Tasmania's Forest Carbon: From Emissions Disaster to Climate Solution](#), The Tree Projects.

SATYRO WC, SACOMANO JB, CONTADOR JC and TELLES R (2018) 'Planned obsolescence or planned resource depletion? A sustainable approach', *Journal of Cleaner Production*, 195, doi:<<https://doi.org/10.1016/j.jclepro.2018.05.222>>

SCHATZKI TR (2002) *The Site of the Social: A Philosophical Account of the Constitution of Social Life and Change*, University Park: Penn State University Press.

STRATFORD E (2008) 'Islandness and struggles over development: A Tasmanian case study', *Political Geography*, 27:2, doi:<<https://doi.org/10.1016/j.polgeo.2007.07.007>>

THE AUSTRALIA INSTITUTE (2023) '[Native Forest Logging in Tasmania: The Facts](#)', The Australia Institute website, accessed 1 February 2024.

WALKER S (2006) 'Object Lessons: Enduring Artifacts and Sustainable Solutions', *Design Issues*, 22:1, doi:<<https://doi.org/10.1162/074793606775247763>>

WALKER S (2014) *Designing Sustainability: Making Radical Changes in a Material World*, Oxford: Taylor & Francis Group.

WALKER S (2017), *Design for Life: Creating Meaning in a Distracted World*, London: Routledge Taylor & Francis Group.

WALKER, S 2019, *Design Realities: Creativity, Nature and the Human Spirit*, Routledge Taylor & Francis Group, London.

WARNER K (2021) [Improving Literacy And Education Standards In Tasmania](#), Royal Society of Tasmania website, accessed 1 February 2024.

WEST J (2013) 'Obstacles to progress: What's wrong with Tasmania, really?', *Griffith REVIEW*, 39, doi:<<https://search.informit.org/doi/10.3316/informit.105986896531517>