RESEARCH PROPOSAL

Hackney Wick neighbourhoods can serve as living labs for experimenting with circular economy concepts for the sake of scalability and replication

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ABSTARCT

This study investigates Hackney Wick, a prospering London neighbourhood, as a living laboratory for experimenting with the concepts of the circular economy. The study dives into the circular efforts established in Hackney Wick using a primary method approach that includes on-site observations during a field trip and comprehensive online research. The findings are aimed at revealing the complex interaction of community participation, governmental frameworks, technological advancements, and sustainable business models within the context of the circular economy. This study is significant since it contributes to scalable and reproducible circular economy solutions. The research aims to teach urban planners, legislators, enterprises, and communities worldwide by explaining lessons learned from Hackney Wick and giving practical insights for fostering circular practices on a larger scale. The research adds to the expanding body of information needed to encourage sustainable urban development and highlights the potential of localised trials to inspire a worldwide move towards circular economies.

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1. Introduction:

The circular economy concept has evolved as a transformational approach to sustainability, challenging old linear production and consumption paradigms. A circular economy, in contrast to the "take-make-dispose" linear method, strives to eliminate waste by keeping resources in use for as long as feasible by recycling, reusing, and regenerating. Urban neighbourhoods have become focal points for experimenting with circular economy principles with the goal of a more sustainable and resilient future. Among these, London's Hackney Wick stands out as a living laboratory, offering a vibrant and diverse urban context for testing and developing novel circular solutions. (*Circular Economy Hub*) As a result of its commitment to sustainability, as well as its vibrant community and forward-thinking businesses, this neighbourhood is an ideal candidate for studying how circular economy principles can be effectively implemented, in addition to how these lessons can be scaled up and replicated in other urban areas. Examining the circular activities in Hackney Wick becomes, in this context, not simply an examination of localised sustainability but also a model for supporting greater acceptance of circular practices on a global scale. (*Trees*)

As a diversified metropolitan region, Hackney Wick offers a microcosm of many problems and possibilities for applying circular economy ideas. This variety enables the testing and refinement of circular solutions that may be applied to diverse urban environments, addressing the complexity and distinctiveness of local neighbourhoods. (*Net zero - what is net zero?* 2023) The infrastructure of Hackney Wick, comprising buildings, waste management systems, and transportation, may be seen. Understanding how different parts interact in a circular fashion might help with planning and executing holistic circular infrastructure in other domains. Understanding the behaviours and attitudes of Hackney Wick inhabitants and companies towards circular practices might provide significant information. This data may be used to design teaching programmes and campaigns to promote sustainable behaviour in other communities. (*Circular Economy Hub*)

2. Literature Review:

The notion of "net zero" has emerged as a critical pillar in the worldwide effort to mitigate climate change and achieve environmental sustainability. The term "net zero" refers to a situation in which the whole amount of greenhouse gases emitted into the atmosphere is countered by an equivalent amount removed or offset, resulting in a balance that effectively neutralises carbon emissions. Achieving net-zero emissions requires a multifaceted approach that includes reducing carbon output via energy efficiency, renewable energy adoption, and sustainable practices, as well as removing or offsetting remaining emissions via methods such as afforestation or carbon capture technologies. As part of comprehensive climate action plans, governments, corporations, and communities throughout the world are increasingly committing to net-zero objectives. *(Our story 2023)*

The literature on the potential of neighbourhoods, such as Hackney Wick, to serve as living labs for circular economy experiments highlights a growing interest in sustainable urban development. (*Circular Economy Hub*) Numerous studies highlight the importance of cities in developing circular economy efforts, improving resource efficiency, and minimising environmental externalities. Circular economy research frequently investigates waste management, renewable energy integration, and creative business models—areas where urban neighbourhoods like Hackney Wick serve as real-world proving grounds. Existing research also emphasises the important link between community participation and the success of circular practices, emphasising the importance of local inhabitants and companies as active participants in the circular transition. (*Green & Circular Economy - Projects*)

Furthermore, research into the policy frameworks that enable circular economies emphasises the importance of governments in establishing an enabling climate for scalable and reproducible projects. As proven by literature exploring numerous urban initiatives globally, technological advances like smart infrastructure and data-driven solutions are emerging as crucial components in scaling circular practices. *(Dhaliwal, 2022)* While acknowledging the opportunities presented by neighbourhoods such as Hackney Wick, the literature also elucidates the challenges inherent in implementing circular concepts, providing valuable insights for policymakers, researchers, and practitioners seeking to promote circular economy practices on a larger and more impactful scale. (*The circular hub at Hackney Wick*) The aggregate information generated from these studies provides a solid platform for future research endeavours aimed at harnessing the lessons learned in such communities to achieve a worldwide paradigm shift towards sustainable, resilient communities.

3. Methods and Methodology:

It was a developing and rewarding experience to go on a field trip to Hackney Wick to undertake primary research on its circular economy projects. The author was able to experience the application of circular practices directly while walking through the bustling streets, connecting with local shops, and chatting with community members. Investigator acquired significant insights into the complexities of waste management systems, renewable energy integration, and the community's support of circular business models through participant observation. This comprehensive event provides a detailed perspective on Hackney Wick's circular economy's difficulties and triumphs. *(Lacy & Rutqvist, 2015)*

In addition to on-site observations, online research was critical to broadening the scope and depth of my investigation. Exploring official records, internet archives, and community platforms to gain a better understanding of the observed practices. Online resources enabled a thorough examination of legislation, technological developments, and community feelings, providing a well-rounded view of Hackney Wick's circular activities.

The collaboration of primary field studies with internet-based investigations increased the credibility and depth of my results. It allowed me to synthesise data, cross-reference findings, and create a coherent narrative on how Hackney Wick functions as a living laboratory for circular economy experiments. This dual-method approach not only enhanced my own research experience but also placed me in a position to add valuable insights to the debate on scalable and reproducible circular economy solutions. The mix of intensive fieldwork and internet investigation highlighted the interconnection of local projects and their global relevance, emphasising the potential for Hackney Wick lessons to inspire and catalyse larger-scale circular practices.

4. Analysis:

The impact of research on Hackney Wick as a living laboratory for circular economy experiments is set to resonate well beyond the boundaries of this vibrant London neighbourhood. This project intends to serve as a catalyst for greater transformative change in urban sustainability practices by unearthing and distributing learning from local circular efforts. The findings can educate politicians, urban planners, entrepreneurs, and community leaders throughout the world, providing practical advice on how to apply and scale up circular economy

principles. The findings give a template for fostering circular practices on a greater scale by illuminating successful techniques, policy frameworks, and community participation models. The study contributes to not just the academic knowledge of circular economies but also to the practical toolset accessible to communities throughout the world aiming for more sustainable and resilient urban futures. This research highlights the universal applicability of circular economy concepts by demonstrating how lessons learned in Hackney Wick can be implemented and adapted in other situations, pushing for a paradigm shift towards scalable and reproducible circular practices on a global scale.

Collaboration is key. Transitioning a city to a fully circular economy entails a wide range of themes, departments, and parties. It is critical to engage and interact with the appropriate decision-makers to connect diverse activities. A clear vision is essential for engaging actors, and it should be supported by facts to ensure full buy-in.

5. Results:

The circular economy is a system in which materials are never wasted and nature is regenerated. Products and materials are kept in circulation in a circular economy through operations such as maintenance, reuse, refurbishment, remanufacture, recycling, and composting. By disconnecting economic activity from the use of finite resources, the circular economy addresses climate change and other global concerns such as biodiversity loss, waste, and pollution. *(Circular economy introduction)*

"In our current economy, we take materials from the Earth, make products from them, and eventually throw them away as waste – the process is linear. In a circular economy, by contrast, we stop waste being produced in the first place." (Ellen MacArthur)

Dedicated study and mapping can uncover crucial intervention locations as well as the magnitude of the opportunity.

We move the emphasis from extraction to regeneration by altering our economy from linear to circular. Instead of perpetually deteriorating nature, we invest in it. We farm in a way that allows nature to restore soils, boost biodiversity, and return biological materials to the land. Most of these materials are now lost after use, and the land used to cultivate them is depleted of nutrients.

When we shift to a regenerative approach, we begin to mimic natural systems. Nature produces no trash. When a leaf falls from a tree, it provides food for the forest. Natural processes have been regenerating themselves for billions of years. Humans invented waste.

Adopting a circular economy has additional benefits for natural ecosystems. By reusing products and materials, less land is necessary for the extraction of virgin raw resources, such as from mines. More land may be restored to nature, and rewilding can occur if we gradually disconnect economic activity from material extraction by keeping materials in circulation after use.

Land committed to material sourcing in a circular economy will increasingly be focused on renewable resources cultivated in a regenerative manner rather than the exploitation of limited materials that will progressively remain in circulation. All of this will be supported by a shift to 100% renewable energy produced with infrastructure optimised for reuse, repair, remanufacture, and recycling. Only 55% of global greenhouse gas emissions will be reduced by switching to renewable energy. The remainder comes from how we manufacture and consume things and food, as well as how we manage land—here is where the circular economy comes in. A circular economy's economic, health, and environmental benefits for food alone would be worth USD 2.7 trillion per year by 2050. The food business may reduce its predicted greenhouse gas emissions by half by implementing circular economy principles by 2050.

For example, **Connect the Dots** is a city-led effort promoting local regenerative agriculture in the rural zone of the state of So Paulo, with the goal of safeguarding natural systems endangered by urban development and traditional agricultural practices. To provide healthy nourishment for disadvantaged individuals, the municipality purchases vegetables from local farmers. It does so at a 30% premium above market value to encourage the transition to regenerative practices and promote social inclusion.

PRD was contracted by B Hackney to design, establish, and manage a new business grant fund for Hackney Central utilising Additional Restrictions Grant (ARG) funds (Phase 1). This project's second phase expands on the activities and information obtained from the funded initiatives. It assists firms in transitioning to circular practices by increasing awareness of the potential of circular economies.

Brunswick East transformed a vacant rooftop in Gillett Square into London's largest food-producing rooftop allotment. They created a growing space of 50 square metres and cultivated enough food to sell approximately 10,000 items in the café, decreasing waste by about 240 kg per month and saving 34 tonnes of

CO2. Over the summer, over 450 individuals attended classes, and a free community feast with rooftop-grown food was served to 100 locals in collaboration with nearby businesses and community groups in the plaza.

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