

Our Centre Report this month is from The Building Research Association of New Zealand (BRANZ) and, as an Association, we are thrilled to have this connection with professional sociologists working outside of academia. For our student members, the report from sociologists within organisations such as BRANZ is a reminder of the employment opportunities your sociological qualification can lead to beyond the university. For our academic faculty members, this report offers insight into BRANZ's sociological research on the relationship between people and the built environment and introduces us to a group of sociologists who may be potential research collaborators. Thanks to Casimir MacGregor and the team at BRANZ for this report.

Centre Report

Building Research Association of New Zealand (BRANZ)

November 2020 - Casimir MacGregor

BRANZ is a multi-faceted science-led organisation that uses independent research, systems knowledge and its broad networks to identify practical solutions that improve New Zealand's building system performance. BRANZ undertakes and commissions research funded by the Building Research Levy, that is both practical and drives positive change. This work helps improve industry practices around the performance of buildings and how we use them, through to informing policy and legislation and all points in between.

Social science research at BRANZ seeks to understand the relationship between people and our built environment - both how we use it and how we feel about it. We draw upon the theory and methods of sociology and social anthropology to examine these relationships.

We take a systems approach to our research, studying interactions and impacts across the building system with a focus on the human element.

We aim to create dialogue between building users, the building and construction industry and the government. Our goal is to help these groups confront contemporary challenges within the built environment and to pursue innovations in the practice of social science.

We provide expertise in:

- urban sociology
- science, technology and society
- social and behaviour change
- consumer studies
- industrial and organizational sociology.

Knowledge generated from our research has contributed to resources and tools for both consumers and the industry. We have also provided valuable evidence for government decision making.

Staff

Casimir MacGregor

Casimir MacGregor is a Senior Social Scientist and Leader of the Transition to a Zero Carbon Built environment research programme. He has a background in sociology, anthropology and public health. Before joining BRANZ, he came from the sociology programme at Monash University (Clayton) in Melbourne, Australia. Casimir's research explores how people interact with science and technology. He uses the theory and methods of sociology to understand peoples' experiences of science and technology from their point of view. By understanding how end-users and industry use and implement sustainable technologies and innovation, we can better inform solutions to address climate change and the transition to a net-zero carbon economy.

Current Research

Building Energy End Use Study (BEES) 2.0: addressing energy demand (2019-2021) BEES 2.0 is a study that examines energy demand and flexibility within Hospitals. The aim of this research project is to examine energy demand and flexibility at the whole building level, and not just focus on the energy use of technologies and systems used in the building. The study has an emphasis on the energy behaviours of people, so we can examine how, when and why energy is used in order to create energy efficiency and flexibility at the whole building level.

Get Ready! Preparing building and construction businesses for the transition to zero carbon (2020-2021). This research project is a collaboration with Associate Professor Sara Walton, University of Otago Business School. This research seeks to understand the preparedness of building and construction businesses to transition to a net-zero carbon economy.

Recent Publications (last 12months)

Reports:

Bell, M. & **MacGregor, C.** (2020). Models of behaviour change relating to energy and the built environment: An analytical review. BRANZ Study Report SR439. Judgeford, New Zealand: BRANZ Ltd.

MacGregor, C. and White, V. (2020) Industry perspectives of exceeding the minimum. BRANZ Study report SR385 Wellington: Building Research Association of New Zealand Ltd.

MacGregor, C. Blackwell, S. McChesney, I. and Jaques, R. (2019) Research and regulatory responses to the role of buildings in mitigating and adapting to climate change: A literature review. Ministry of Business, Innovation and Employment, Wellington.

MacGregor, C., Magan, C. & Brunson, N. (2019). A consumer survey of attitudes to exceeding minimum standards for refurbishments and retrofits. BRANZ Study Report SR419. Judgeford, New Zealand: BRANZ Ltd.

Other:

MacGregor, C. (2020, May) **Strategies for changing behaviour**, BRANZ Research Now: <https://www.branz.co.nz/pubs/research-now/changing-behaviour/1-strategies/>

MacGregor, C. (2020) **Preparing for climate change** Build 1 October 2020, issue 180 <http://www.buildmagazine.org.nz/index.php/articles/show/preparing-for-climate-change>

MacGregor, C. (2020) **Managing climate change risk** Build 1 April 2020, issue 177 <http://www.buildmagazine.org.nz/index.php/articles/show/managing-climate-change-risk>

Published conference papers:

Molina, G. Donn, M. Johnstone, M. & C MacGregor (2020) **Disclosing Indoor Environmental Quality to Create Value in the Residential Real Estate Market**, 26th Annual Pacific Rim Real Estate Society Conference, Canberra, Australia.

PhD Supervision:

German Molina, **Modelling the Feeling of Comfort in Residential Settings**, Victoria University of Wellington, School of Architecture and Design. (With Mike Donn and Micael-Lee Johnstone)

Alice Bui, **Zero carbon refurbishment for New Zealand's existing buildings**. Massey University (with Suzanne Wilkinson and Niluka Domingo).

Orin Lockyer

Orin completed his Master of Arts in Sociology at VUW in 2018, where he applied Bourdieu's theory of practice to the school to work transitions of apprentices in New Zealand. He was appointed in July 2018 as a social scientist at BRANZ. Orin's research expertise is informed by the sociology of consumption and work and its relationship to housing and climate change. Orin's current research sits within the eliminating quality issues programme at BRANZ, and involves investigating the practice of communication on a building site, exploring the information gathering practices of new build clients, and understanding how the building and construction industry construct and perceive quality in relation to new buildings.

Current Research

Measures of new build quality (2019- 2020). This mixed methods study seeks to establish how building and construction industry professionals perceive building quality, and how they want building quality to be measured in the future.

Client communication during new builds (2019- 2020). This mixed methods study seeks to help ensure that building and construction industry professionals have an enhanced understanding of customers' expectations during the building process.

Recent Publications (last 12months)

Reports:

Lockyer, O. & Marston, G. (2020). Knowing enough to ask. BRANZ Study Report SR443. Judgeford, New Zealand: BRANZ Ltd

Lockyer, O. & Clarke, C. (2020). New House Owners' Satisfaction Survey 2019. BRANZ Study Report SR449 Judgeford, New Zealand: BRANZ Ltd.

Brunsdon, N. & **Lockyer, O.** (2019). New House Owners' Satisfaction Survey 2018. BRANZ Study Report SR421. Judgeford, New Zealand: BRANZ Ltd.

Other:

Lockyer, O (2020) Home Builders and clients. Build 1 August 2020, issue 179
<http://www.buildmagazine.org.nz/index.php/articles/show/home-builders-and-clients>

Lockyer, O (2019) Want to be a tradie? Build 1 August 2019, issue 173
<http://www.buildmagazine.org.nz/index.php/articles/show/want-to-be-a-tradie>

Michael Nuth

Michael Nuth is a social scientist with an extensive background in housing policy and construction project management. Prior to starting a permanent role at BRANZ in November 2019, Michael worked in the development of housing and construction sector policy for the Ministry of Business, Innovation and Employment, a contract manager for a rural housing development programme in Northland and as a construction project manager within the private sector, with a focus on seismic retrofits. Michael's academic background includes completing a Master of Arts in Sociology at the University of Canterbury in 2007 on the sociology of risk. This involved investigating how global-level risks, such as a worldwide pandemic and climate change, could impact tourist dependent economies throughout New Zealand by undermining global air travel.

Michael's primary area of research interest is how organisations rationalise risk-based decisions when translating technical expert advice into public policy.

Current Research

Earthquake prone public buildings: balancing safety risks and community costs (2020-2021). This research seeks to understand how the socioeconomic impacts of public building closure (e.g. earthquake prone libraries and pools) are being balanced - or could be better balanced - by territorial authorities against the possible physical and human impacts of a seismic event that occurs on a geological timescale. The aim is to co-develop decision-making tools that will enable territorial authorities to form well-balanced and publicly communicable decisions on public buildings assessed as earthquake prone.

Improving design management (2020-2022). This project studies how the discipline of project management can add additional value within the construction project life cycle, with a specific focus on design management and coordination.

Recent Publications (last 12months)

Reports:

Nuth, M. (2020). Industry perceptions of weathertightness failure in residential construction. BRANZ Study Report SR442. Judgeford, New Zealand: BRANZ Ltd.

Nuth, M. (2020). Residents' perspectives of maintaining medium-density housing. BRANZ Study Report SR444. Judgeford, New Zealand: BRANZ Ltd.

Nuth, M. and Duncan, A. (2019). Medium-density housing technical issues. BRANZ Study report SR428. Judgeford, New Zealand: BRANZ Ltd.

Other:

Nuth, M. (2020) **Building for wellbeing.** Build 1 December 2020, issue 181. (To be published).

Nuth, M. (2020) **Ongoing weathertightness issues in residential construction.** Build 1 August 2020, issue 179. <http://www.buildmagazine.org.nz/articles/show/ongoing-issues>

Nuth, M. (2020) **Maintaining mid-rises.** Build 1 August 2020, issue 179. <http://www.buildmagazine.org.nz/articles/show/maintaining-mid-rises>

Nuth, M. (2020) **Balancing risks and community costs.** Build 1 April 2020, issue 177. <http://www.buildmagazine.org.nz/articles/show/balancing-risks-and-community-costs>

Nuth, M. (2019) **Technical Issues in MDH**. Build 1 December 2019, issue 175.
<http://www.buildmagazine.org.nz/articles/show/technical-issues-in-mdh>

Future BRANZ Research

From 2021 Casimir MacGregor and Orin Lockyer will be undertaking a project **Future of Work: what do we know and need to know to transition to zero carbon**. This project asks what expertise (knowledge, skills and competencies) are required of trades people and professionals to design and construct a zero-carbon building. Further, the project seeks to create with key government and industry stakeholders a new curriculum that outlines the new skills, competencies & expertise that will be necessary as this industry transitions to producing zero carbon buildings.

Orin Lockyer will also be undertaking a project entitled **How do clients choose a builder in residential construction?** Choosing the correct builder can play a large role in determining how smoothly a build will run and the quality of build once construction is completed. The project will seek to examine how can clients better ascertain the quality of their builder prior to signing a contract?

In 2021 Michael will undertake work provisionally titled **Building for Wellbeing**. This will involve developing a qualitative building performance framework to complement quantitative housing performance tools such a Homestar. The aim of the project will be to develop digital technology to efficiently capture the qualitative perspectives of end users about the wellbeing performance of buildings. The qualitative data would be used to complement existing quantitative building performance data to help inform the ongoing planning, design and construction of buildings that meet the wellbeing needs of New Zealanders. This will help to create a line of sight between the Government's strategic wellbeing objectives and what this could mean for the building industry and for building users at an everyday level.