

## Oculus is changing how building enclosures are designed and constructed in New Zealand.

### About

Founded in 2018, Oculus is an engineering and design company based in Auckland and Queenstown. Co-founders and owners James Powers and Shawn McIsaac have strong, international best-practice backgrounds in building design, construction technology and architectural engineering, as well as comprehensive knowledge of the New Zealand Building Code and consent processes. Oculus specialises in building cost-effective, high-performing, innovative and integrated buildings that have low lifecycle costs and are created with their intended occupants in mind.

### Healthy Homes a Key Factor in The Health of New Zealanders

Oculus knows that living in a dry and warm environment is vital for population health and even more important for people with any form of respiratory condition. Damp, cold homes have a strong, research-backed causal link with the aggravation of respiratory conditions.

- In New Zealand, one in seven children have asthma and one in six (over 700,000) have a respiratory disease – at an annual cost to taxpayers upwards of \$6 billion.
- Asthma and respiratory disease is the third most common cause of death in New Zealand.
- Around 1600 more deaths occur each year in winter compared to summer due to preventable respiratory illness in NZ.
- On average, 20 children die and 30,000 are hospitalised every year from preventable, housing related diseases like asthma, pneumonia and bronchiolitis.
- Across all age groups, hospitalisation rates are much higher for Pacific peoples (2.6 times higher) and Maori (2.1 times higher) than for other ethnic groups.

### Legislation in New Zealand

- The primary legislation governing the building industry in New Zealand is the Building Act 2004, which sets out the rules for the construction, alteration, demolition and maintenance of new and existing buildings in New Zealand.
- The Building Code states how a building must perform in its intended use and has aspects covering moisture control, durability, and energy efficiency.

### Advocacy For Change

- Oculus are advocating for change, both in legislated minimum standards and through providing advice and education to home-owners, landlords and tenants about what makes a home healthy.
- Oculus have created a Healthy Home Guide which sets out the facts and research on the range of indoor conditions that reduce the risk of adverse health impacts, and what happens in a home when these conditions are not met in relation to condensation, mould, allergens, volatile organic compounds and particulate matter.
- The Healthy Home Guide also provides tips for New Zealanders on a budget and dispels commonly believed myths.

The Healthy Home Guide is available at: <https://oculusltd.co.nz/resources/>

1\* Asthma Foundation website <https://www.asthmafoundation.org.nz> 2\* Asthma Foundation website <https://www.asthmafoundation.org.nz> 3\* Stuff <http://www.stuff.co.nz/the-press/news/7082814/Winter-triggers-1600-more-deaths>, NZ Listener <https://www.noted.co.nz/currently/currently-social-is-sues/1600-deaths-attributed-to-cold-houses-each-winter-in-new-zealand> 4\* NZ Herald [https://www.nzherald.co.nz/nz/news/article.cfm?c\\_id=1&objectid=1191339](https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=1191339) 5\* Telfar Barnard L, Baker M, Piers N, et al. The impact of respiratory disease in New Zealand: 2014 update. 2015. Available from: [www.asthmafoundation.org.nz/research/the-impact-of-respiratory-disease-in-new-zealand-2014-update](http://www.asthmafoundation.org.nz/research/the-impact-of-respiratory-disease-in-new-zealand-2014-update)



## Oculus is changing how building enclosures are designed and constructed in New Zealand.

---

### **James Powers: Co-owner & Director**

James Powers is a highly experienced engineer who has spent the last 25 years as a project manager, design manager, structural engineer, facade engineer and building envelope engineer in New Zealand, the UK, the Middle East and China. He has worked on many large, complicated structural engineering projects and takes an 'outside the box' approach combined with solid research and common sense to understand and communicate engineering principles at a deeper level than most.

### **Shawn McIsaac: Co-owner & Director**

Shawn McIsaac is a highly qualified building enclosure engineer who specialises in consulting on thermal, air, solar and acoustic performance. With experience working in America and Canada as well as in New Zealand, Shawn has cemented his position as an industry leader, sought-after specialist consultant and spokesperson. He is passionate about building science and promoting change in order to improve outcomes for people in terms of the way they inhabit the buildings where they live and work, as well as for their health.

### **Peter Raimondo: Senior Building Enclosure Engineer**

Peter Raimondo is an experienced and highly qualified engineer who brings a wealth of knowledge to Oculus from his time spent investigating and remediating building envelope problems in Canada's sub-zero winter temperatures. He takes a creative and informed approach to projects and is passionate about using his international experience to help improve New Zealand homes and buildings, as well as advocating for changes in the regulatory processes in this country.

