

Take actions to address climate change

Builders need to come to grips with the meaning of zero-carbon building and the impact of the climate change response on their practices. With an overload of information out there, it can be hard to know where to turn, but our list of seven practical actions will help show the way.

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In recent years, emphasis on sustainability and zero-carbon construction has grown. For example, MBIE has introduced its embodied carbon work programme and transforming operational framework.

Although discussions about emissions and sustainability are important, they can be overwhelming and may leave you wondering what you can do right now to start the zero-carbon journey. Here, we look at seven practical actions you can take.

1. Learn what zero carbon means and why it is important

A helpful first step is to familiarise yourself with common terms and concepts used when talking about the construction sector and climate change.

Engineering New Zealand's *Climate change 101: An introductory guide* explains and defines key concepts. The glossary of terms in MBIE's *Building for climate change* programme may also be useful.

The *Reducing carbon* short video series found at www.youtube.com/@BRANZmedia provides guidance on the



environmental impact of buildings over their lifetime.

2. Keep building knowledge up to date

Building regulation has recently undergone several changes, the most significant of which was the update to clause H1 *Energy efficiency* requirements in the Building Code.

BRANZ research from 2014 found that over 60% of wall insulation was incorrectly installed, with implications for the energy efficiency and therefore the carbon emissions of the affected buildings. The research highlighted the need for builders to maintain a deep knowledge of building products and practices. This is particularly important for airtightness and the proper installation of the air barrier, including sealing junctions and penetrations. Understanding effective insulation installation includes:

- fitting and placement of different insulation types, including consequences of poor installation
- concepts like thermal bridging, condensation risk management and thermal bypassing.

To learn about the H1 changes, visit the BRANZ H1 Hub (www.branz.co.nz/energy-efficiency/h1-hub). To learn more about thermal bridging, see BRANZ Bulletin 690 *Thermal bridges in external wall framing*.

3. Take action on waste

Separating and sorting waste into different types and recycling or reusing unwanted materials are perhaps the best and simplest ways to address climate change.

Construction and demolition produce around 30–50% of the total waste sent to landfill. Reducing that waste not only reduces emissions, it may also lead to cost savings in the long run.

There are several things you can do at the start of a project to minimise waste:

- Talk with the client or construction project owner about designing out waste.
- Set waste-reduction goals and assign responsibilities in the contractual agreements set up between the client, designer, main contractor and subcontractors working on the project.
- Ensure that a REBRI (resource efficiency in the building and related industries) Waste Minimisation Plan is specified in the contract (see www.branz.co.nz/sustainable-building/reducing-building-waste/planning/develop-waste-management-plan).
- Encourage a culture of waste minimisation on the construction site and appoint an on-site champion to provide guidance, encouragement and accountability.
- Regularly communicate waste minimisation expectations and processes to all team members involved in the project, including subcontractors.

- Set targets for reducing the amount of each type of waste generated.
- Ask for advice from others if you are unsure how to handle certain materials.
- Work with suppliers to ensure that materials are not oversupplied and organise the return of any unused materials.
- Work with others who can support you and your waste reduction goals.

REBRI is a toolkit for tackling waste. A key component is the BRANZ Resource Recovery Map (see QR code overleaf) – a searchable map that helps you identify where you can take your waste.

4. Be sustainable

Identify and use products that are sustainably and responsibly sourced whenever possible. These are more likely to have low embodied carbon – the emissions generated during a product's life cycle, including extraction, production, manufacturing and transportation.

As everyone strives to achieve the goal of zero carbon by 2050, prioritising materials with low embodied carbon is increasingly important because they can store greenhouse gases. For more, see *Design to cut carbon – the time is now in Build 177*.

It is also important to keep a record of materials used and retain any product labels, especially if the project is part of ►►

a certification scheme such as Homestar or Living Building Challenge.

Managing resources on site is also important. For example, conserve water by using aerated or sensor-controlled taps, low-flush toilets and trigger-operated hoses.

5. Understand your role

A construction project consists of many stages completed at different times. It is important that everyone has a good understanding of the entire process, including an awareness of the roles that all trades play, to minimise errors and reduce waste.

6. Enhance personal skills

While sustainable construction focuses on environmental impacts, it is important to remember that sustainability also requires the right mindset and abilities. A positive mindset is a key foundation for any job. Working in construction is about lifelong learning – whatever stage of your career you are at.

Think about how your professional development can be supported. If you're just starting out, skills to continue developing might include:

- curiosity, independence and self-evaluation such as taking the initiative and solving problems independently
- cooperating with others and considering different perspectives such as exchanging information with clients and colleagues in a constructive and friendly manner
- having the courage to accept colleagues' work-related remarks
- taking responsibility for pointing out dangerous situations
- assisting colleagues so that the construction team can work safely and efficiently
- coordinating, communicating, evaluating and negotiating in diverse situations
- analysing site conditions, diagnosing problems and finding solutions
- displaying the conduct, way of thinking and behaviour necessary to do your job to a level that satisfies everyone.

7. Advocate for zero carbon

Upskilling your knowledge and competencies around zero-carbon construction will take time and effort, but it will prepare you for the changes coming to the industry.

Don't be quiet about this mahi – share your knowledge. You should take an active

role in advocating sustainability among your colleagues – from experienced practitioners to apprentices, clients and anyone else you think needs to know.

BRANZ is currently working on several initiatives to help you improve your knowledge and practice around zero-carbon construction. If you are interested in learning more about how we can support you, contact us at zerocarbon@branz.co.nz. ◀

FOR MORE

Reducing building material waste ▶

BRANZ Resource Recovery Map ▶

