Te Kāhui Whaihanga
New Zealand Institute of Architects

A 12-Month Sustainability Upskilling Roadmap

A suggested 12-month pathway to healthier, lower-carbon buildings aligned with the UN Sustainable Development Goals

	FOUNDATIONS + ENERGY FIRST	MEASURE PERFORMANCE	BUILDING SCIENCE + HEALTH	MATERIALS, CARBON + WASTE	REGENERATIVE THINKING & PLACE-RESPONSIVE DESIGN	EMBED + LEAD
Timeframe	**Months 1–2**	**Months 3–4**	**Months 5–7**	**Months 8–9**	**Months 10–11**	**Month 12**
Design for..... and related to SDG.....	**Design for low energy consumption** SDG 7 Affordable + Clean Energy	**Design for low energy consumption** SDG 7 Affordable + Clean Energy	**Design for low energy consumption and improved health and wellbeing** SDG 7 Affordable + Clean Energy SDG 3 Good Health + Wellbeing	**Design for improved health + wellbeing + circularity + transparency** SDG 12 Responsible Consumption & Production SDG 3 Good Health + Wellbeing	**Design for water stewardship + restoration + regenerative design** SDG 6 Clean Water + Sanitation SDG 13 Climate adaptation SDG 15 Life on Land	**Design for affordability, long-term sustainability + community** SDG 10 Reduced Inequalities SDG 8 Decent Work and Economic Growth
Focus	- Shared sustainability language within practice - Quick wins and low-hanging fruit - Passive design fundamentals - Better questions and early design decisions that cost nothing	- Making sustainability measurable in residential projects - Understanding residential performance benchmarks - Measurable outcomes	- Understand how buildings actually perform - Health + comfort - Building physics - Resilience	- Reducing embodied carbon - Healthier + natural material choices - Construction waste reduction + circular principles	- Moving beyond “less harm” - Residential projects as contributors to ecological health - Water saving strategies and water positive design	- Reflect and embed - Practice leadership and consistency - Long-term commitment to sustainable housing
Key Actions	- Read the *RIBA Sustainable Outcomes Guide* - Read the *RIBA Climate Guide* - Find out how to develop and trial passive design strategies on a live residential project - Ask fabric-first questions at concept stage*	- Begin Homestar Designer certification - Read the *Homestar Design Guide and review the NZIA Energy Modelling Series* - Use **ECCHO** to test energy performance - Apply Homestar principles to at least one project	- Look at certification schemes to assist with sustainability targets on a project e.g. **Certified Passive House Designer/Consultant - Introduction (CEPH1)** - Improve envelope continuity, airtightness, and ventilation strategies - Apply learning to live residential projects	- Find out how to specify and achieve low waste to landfill REBRI - Find out how to measure carbon or how to achieve a low carbon building Demystifying Carbon + Zero Carbon Basics - Healthy + natural materials – find out what not to specify - Identify high-impact materials and lower-carbon alternatives - Avoid common toxic or high-emission products Neco2 - Trial one carbon- or waste-reduction strategy per project	- Look at certification schemes to assist with sustainability + regenerative targets on a project e.g. Living Future Accreditation - Find out how to make your building project cope with the effects of climate change - Explore regenerative strategies appropriate to residential scale: minimise water consumption, water-sensitive and water-positive design, biodiversity-supporting landscapes, long-life, adaptable housing, power generating	- Set baseline: Formalise minimum sustainability standards for residential projects - Embed sustainability into QA, briefing, and design review processes - Plan year 2: Set 1–3 achievable sustainability goals for the following year - Introduce co-design and culturally responsive principles where appropriate - Find out more about doing co-design and Maori Design Processes by including the Nga Aho design principles and Te Aranga Principles
Commit to	- The learning journey - Orienting and shaping every home for performance - Designing for comfort first - Asking better questions early	- Using Homestar principles - Testing energy performance (ECCHO) - Explaining outcomes to clients clearly	- Continuous insulation & airtightness - Healthy ventilation strategies - Designing for comfort and wellbeing	- Avoiding high-impact materials - Choosing healthier + natural (biobased) alternatives - Reducing construction waste	- Water-positive design - Supporting biodiversity - Designing homes that last	- Minimum sustainability benchmarks - Consistent design processes - Supporting community + wider systems - Leadership through action
Practice Outcome	- Reduced operational energy demand - Improved comfort and lower running costs for occupants	- Ability to quantify sustainability outcomes - Clear, credible sustainability narratives for clients	- Healthier, more comfortable homes - Reduced risk of moisture, overheating, and performance failure	- Lower embodied carbon homes - Improved material transparency and specification confidence	- Homes that contribute positively to land, water, and community - Clear criteria for when regenerative ambition is appropriate	- Sustainability embedded in everyday practice - Clear leadership position and accountability

How to Use This Roadmap

Start small → build confidence → increase knowledge → embed practice

- You are not doing everything at once – you could spread these initiatives over a longer timeframe – adjust as appropriate to your practice
- Each stage builds naturally on the one before
- Learning is applied immediately to live residential projects
- Remember to evaluate and celebrate your progress
- Stay curious!

***Key Questions for “Fabric-first”:**

i. How can the building’s form, orientation, and envelope work together to reduce energy demand before technical solutions are added?
ii. What levels of insulation, airtightness, and thermal bridging control are optimal for this climate and use, not just code-minimum?
iii. How can daylight, natural ventilation, and thermal improvements be integrated into the fabric to minimise heating, cooling, and lighting loads?
iv. Is fabric first the right solution for my project? In retrofits sometimes fabric-first isn’t the right order, and it makes sense to address the energy systems first.