

STRIDE TREGLOWN



SUSTAINABILITY IN BUILDINGS
14 March 2024

Certified



Corporation

Who am I?

Sarah Lee:

- Senior Associate Architect – **Stride Treglown**
- **RIBA** South West Chair currently
- South West Women In Construction (**SWWIC**) Member
- **Building Plymouth** Active Member and Supporter
- **Future Plymouth 2030** Founder
- **PEC Renewables** Non-Exec Director
- **Net Zero Exchange** Steering Group Member
- Plymouth City Council **Climate Ambassador**
- **Plymouth Net Zero Partnership** Executive Committee Member

RIBA 



**FUTURE
PLYMOUTH
2030**

**STRIDE
TREGLOWN**

STRIDE TREGLOWN

But I am also...

Sarah Lee:

- A hard-working **mum**
- **Married** (for many years...)
- Smitten **dog** mum
- Enthusiastic **gig rower**
- Sea **swimmer**
- **Nature** lover
- **Allotment** owner
- **EV** driver...
- Trying to do my bit for the planet!



A large group of people, likely employees, are gathered in a large, industrial-style warehouse or event space. They are standing around long tables covered with white cloths, which are set with water bottles and other items. Many of the people have their hands raised in the air, suggesting a celebratory or enthusiastic atmosphere. The room has a high ceiling with exposed metal trusses and lighting rigs. The walls are made of brick, and there are large windows on the right side. The overall scene is bright and energetic.

We are Stride Treglown

Who are we?

Stride Treglown:

- is an **employee-owned** architectural practice
- is a **Certified B Corporation**® using business as a force for good to protect people and planet, and
- was the **10th largest** architectural practice in the UK last year with 130 architects within our 333 total staff across our 9 offices!

Nine offices across the UK.



£22.3m turnover in 2021.



Employee owned practice since 2015.

21.1%

of shares owned outside the board of directors.

300+ people.



Expert Revit BIM users with over sixteen years experience.



Since 2015 we have reduced our carbon footprint by 78%. 100% of our electricity usage is from renewable sources.



We are now a



Since April 2021 Stride Treglown has Carbon Neutral status.



Certified



This company meets the highest standards of social and environmental impact

Corporation

STRIDE TREGLOWN

6 month
Process

101.5/200
B Impact Assessment

1st
AJ100 B Corp

3 Year
Review

3,500+
Certified B Corps

73
Countries

1
Unifying Goal

150
Industries

\$80bn
Combined Global
Revenues

75th
Largest Country
According to GDP



"B Corp is the only certification that demonstrates and measures how our business impacts our workers, communities, environment and customers, and gives us a framework to improve our performance across all our activities"



SCIENCE BASED TARGETS

A step-by-step process



COMMIT

Submit a letter establishing your intent to set a science-based target



DEVELOP

Work on an emissions reduction target in line with the SBTi's criteria



SUBMIT

Present your target to the SBTi for official validation



COMMUNICATE

Announce your target and inform your stakeholders



DISCLOSE

Report company-wide emissions and progress against targets on an annual basis



FUTURE
PLYMOUTH
2030

www.futureplymouth2030.co.uk

Seasons
1 and 2:

24

months

Nov 2020 -
Jun 2022



30

live webinars

=

60

hours of content

All recorded and hosted on our YouTube channel.
A resource to share, catch up, re-watch, refer back to.



Nearly

2,000

live webinar attendees

An average of 70-80 live attendees per webinar throughout the series.

Attendees are mostly from Plymouth and the South West.

However...

Past Webinars



MAY 19

#13 Future Housing for Plymouth

Alistair Macpherson from Plymouth Energy Community returns to tell us more about the Green Homes investment and new build Zero Carbon housing projects happening in Plymouth.

Rob Wheaton from Stride Treglown will talk us through a low carbon housing project which assessed carbon, nature and construction impacts informing the Future Homes Standard; and

Paul Britton from Homes England will join us to talk about how they are looking to drive construction innovation and unlock difficult sites, whilst seeking to work holistically with nature to create beautiful and sustainable places to live.

May 19, 2021



MAY 5

#12 Health and Wellbeing

Tunde Agoro and Katherine Adair from Hoare Lea Partnership will introduce us to Wellbeing principles and methodologies for assessing these in the context of the built environment.

Roger Higman from the Network of Wellbeing will discuss how healthy building and environments = healthy people and planet!

Mike Westley from the University of Plymouth will explain why the green and blue infrastructure of external spaces are so important to our Wellbeing from a design perspective.

May 5, 2021



APR 21

#11 Urban Design in a post COVID world

Niki Read, Urban Designer for Plymouth City Council will talk us through the Healthy Streets initiative and how important this and the quality of the external spaces between our buildings has become to us all following the Covid pandemic.

Steve Warren-Brown and Adam King of YGS Landscapes would like to introduce us to urban afforestation which often take the form of species rich dense micro forests in urban locations on a very small scale.

Tess Wilmot and Ian Smith from Food Plymouth will then explain some theories and local actions in permaculture and urban farming/food growing which is increasing in popularity as people chose to move towards a more sustainable future!

Apr 21, 2021



MAR 24

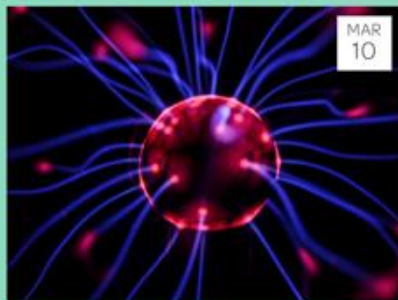
#10 Behaviour Change - Education

Another angle on Behaviour Change this week:

Chris Woodfield, Low Carbon Devon's Knowledge Exchange Officer at the University of Plymouth talks about how we can empower our students to be change leaders and role models for a brighter future through practical work experience and skills development.

Emma Hewitt of Building Plymouth - local construction industry representative and whirlwind! Will talk us through Plymouth City Council's strategies and Resurgam programme to 'build back cleaner and greener' following the Covid crisis, and Jessica Furner (19 yrs old) will speak about the local Youth Parliament group, their current projects and initiatives in relation to the Climate Emergency to empower them to become climate conscious adults

Mar 24, 2021



MAR 10

#9 Behaviour Change - Psychology

This week Elizabeth Kavanagh, Senior People and Change Consultant at PCSG, talks us through strategies and examples of Behaviour Change, and



FEB 24

#8 Retrofitting and Reuse

Please join us to hear Paul Elliott, Low Carbon officer for Plymouth City Council, talking about his extensive experience in retrofitting homes for



FEB 10

#7 Biodiversity & Carbon Sequestration

Labour MP for Plymouth Sutton and Devonport, and Shadow Environment Secretary Luke Pollard joins



JAN 27

#6 The Circular Economy

A circular economy is an economic system aimed at eliminating waste and the continual use of resources.

Global viewers!

1 5,600

+

-



39%

The % of carbon emissions the building and construction industry are responsible for

Source - Global Status Report 2017

Made up of:



28%

Operational efficiencies
(energy needed to heat/power a building)



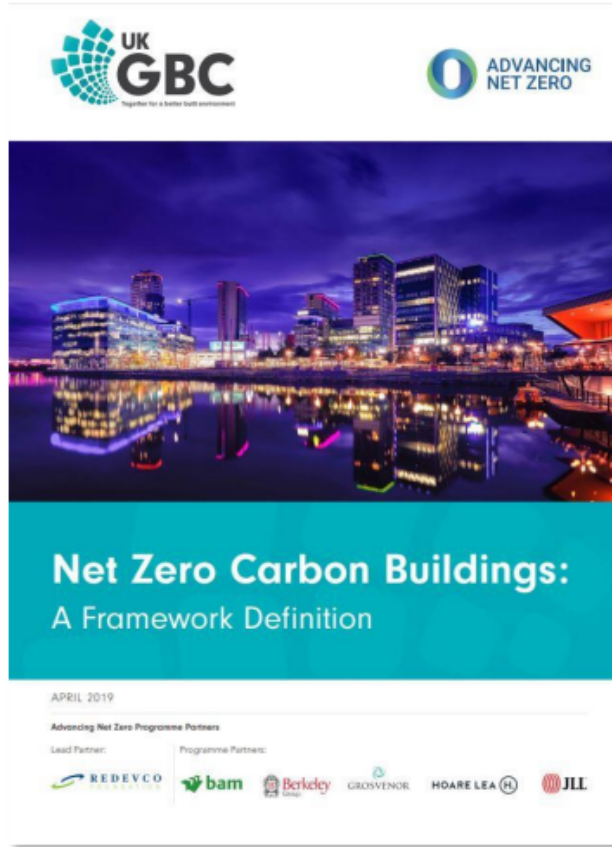
11%

Materials & construction



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What is Net Zero Carbon?

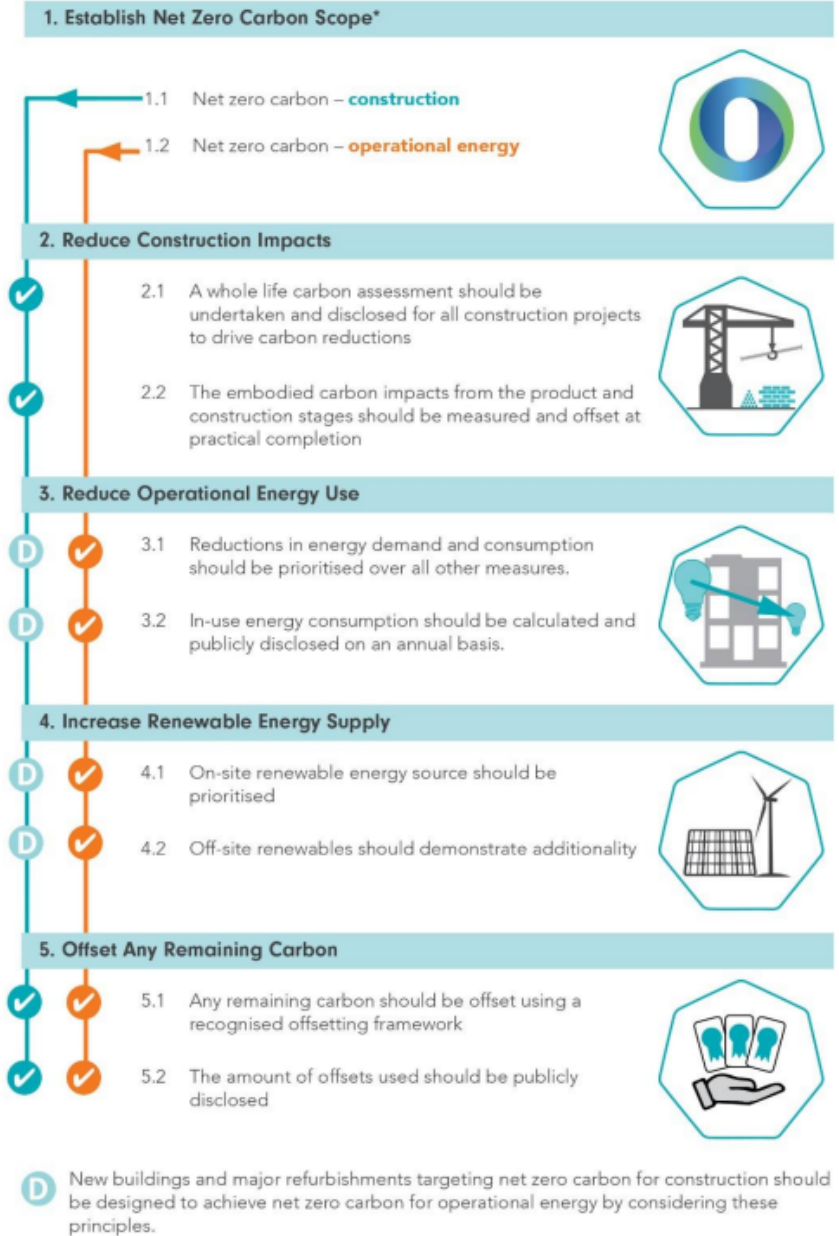


Embodied Carbon Emissions



Operational Energy Emissions

Steps to Achieving a Net Zero Carbon Building

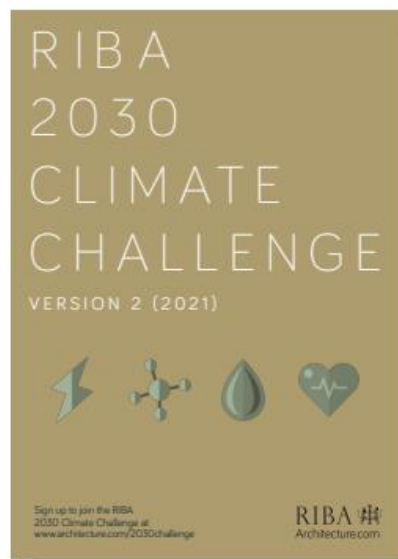


What does good look like?

- LETI & RIBA has established embodied carbon intensity targets measured in kgCO₂e/m² for various building typologies.
- To enable direct comparisons between projects and benchmarks, consistency of assessment method and reporting scope is necessary.
- Both LETI and RIBA recognise that there may need to be further refinement by sector and building type in the future as more data becomes available.



The LETI Embodied Carbon Primer offers supplementary guidance to the LETI Climate Emergency Design Guide.



RIBA presents a set of performance outcome targets for RIBA Chartered Practices to aim towards.

Upfront Carbon, A1-5 (exc. sequestration)

	Band	Office	Residential	Education	Retail
	A++	<100	<100	<100	<100
	A+	<225	<200	<200	<200
LETI 2030 Design Target	A	<350	<300	<300	<300
	B	<475	<400	<400	<425
LETI 2020 Design Target	C	<600	<500	<500	<550
	D	<775	<675	<625	<700
Current Average	E	<950	<850	<750	<850
	F	<1100	<1000	<875	<1000
	G	<1300	<1200	<1100	<1200

Embodied Carbon, A1-5, B1-5, C1-4 (inc. sequestration)

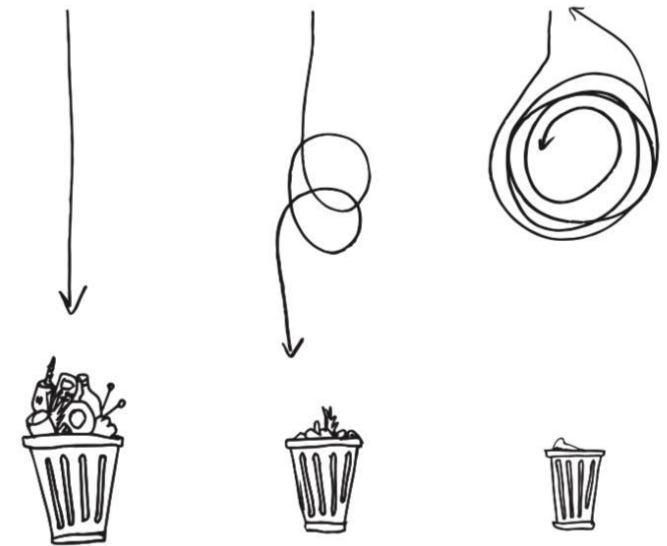
	Band	Office	Residential	Education	Retail
	A++	<150	<150	<125	<125
	A+	<345	<300	<260	<250
	A	<530	<450	<400	<380
RIBA 2030 Built Target	B	<750	<625	<540	<535
	C	<970	<800	<675	<690
Current Average	D	<1180	<1000	<835	<870
	E	<1400	<1200	<1000	<1050
	F	<1625	<1400	<1175	<1250
	G	<1900	<1600	<1350	<1450

All values in kgCO₂e/m² (GIA)

Reduce Reuse Recycle... the Circular Economy



usefulprojects
Based on Brand, S. (1996). How Buildings Learn.

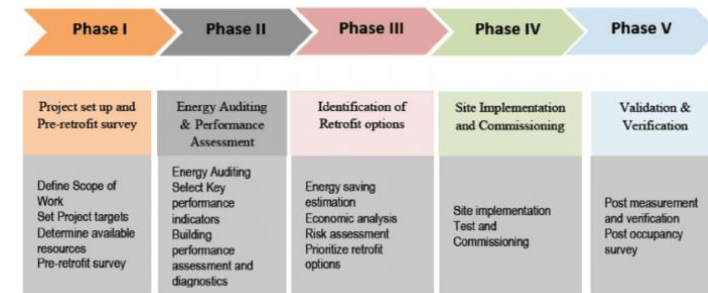


CC BY Circular Flinders

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Retrofitting Standards

There are several retrofitting standards that can be designed to, to ensure that improvements to your building provide a certified level of upgrade to the building fabric and operation.



Passive House seal



EnerPHit seal





The benefits to the adoption of PAS 2035 and PAS 2038

PAS 2035 and PAS 2038 are the standards for the retrofit of assessment and design of domestic and commercial buildings. Adopting these standards and demonstrating competency for them has a number of benefits for the organisation:

1

Sponsored by the UK Government's Department for Business, Energy and Industrial Strategy (BEIS) the standards are seen as key elements in the fight against climate change. Any contractor that provides services around enhancing existing building stock should demonstrate their understanding and implementation of the standards.

2

Having in place standardised outcomes of design processes across the business ensures a smooth handover process for the installation of retrofit of energy efficiency measures.

3

Having in place processes that meet the standards provide greater internal audit trail of the project management processes across the assessment and design aspect of retrofit; enabling continuous improvement of the effectiveness of installation of energy efficiency measures.

4

Implementing PAS 2035 and PAS 2038 reduces risk of internal and supply chain retrofit defects, therefore saving cost, resource and time across each project.

5

Implementing the standards will promote cross skilling and up-skilling of the supply chain, enhancing resilience and quality throughout.

6

Having in place the standards will demonstrate leading the way for de-carbonisation within existing building stock providing a competitive edge.



What is Retrofitting?

Global, national and regional **legislation** is starting to demand reuse and improvement of existing buildings rather than demolition and rebuild solutions to achieve **Net Zero Carbon by 2050**.

80% of buildings that will be here in 2050 are already here!

Anything from a minor building refresh to a major strip back to structure and rebuild is considered 'Retrofit'.

Improved building performance relies on a **good understanding of building energetics and physics** – how is it built and what systems are used. **Professional advice is required** to assess this as a whole!

Holistic 'Fabric First' approach:

- 1. Improve glazing/doors – weakest links – consider double/triple glazing or secondary**
- 2. Improve insulation to roof/walls/floor**
- 3. Improve air tightness – reduce draughts and heat loss**
- 4. Install more efficient MEP systems – LED lighting and sensors, reduce water wastage, only heat/light what you need to**
- 5. Replace fossil fuelled heating systems**
- 6. Install solar panels/renewable energy solutions**

Exeter College Maths & Science Centre

Full Refurbishment

Location
Exeter

Client
Exeter College

Completion
2015

This project involved the complete strip back, refurbishment and extension to a 1960s office building which had stood empty for years on a prime corner site in Exeter city centre.

The building was stripped right back to the original concrete frame and then remodelled to suit the proposals for 12 science laboratories, 7 classrooms with IT provision, staffroom and student facilities by way of a new cafe and information centre to the ground floor with high visibility from outside.



The building is surrounded by a Conservation Area, although not in one itself, and the external coloured concrete cladding panels were chosen to compliment the neighbouring painted and rendered victorian town houses in a sympathetic way.

Awards

Michelmores and TBF

Building of the Year Nominee

Somerset College of Art & Design Regeneration

Location
Taunton

Value
£12m

Completion
2015

The £12m regeneration of the School of Art and Design was a significant project for Somerset College, which included a major refurbishment of the existing 6000m² building and a new extension to provide specialist art studios and flexible work rooms.

The new build extension took cues from the original building in terms of exposing the structure, but in contrast it holds a glulam frame.



Awards

The project has been shortlisted for both the 2017 RIBA South West awards and the RICS South West (Building Conservation) awards.

University of Reading Library Retrofit

Location
Reading

Client
University of Reading

Completion
Autumn 2019

The University's brief focused on improving the functionality, circulation, access, sustainability and appearance of the library in the context of their campus redevelopment masterplan and estate strategy.

Working with the structural grid, our design reconfigures the layout to offer different kinds of space for learning, teaching and study; complementing those already installed on upper floors.



After



Getting everyone on board

We worked closely with the University to ease its plans through a rigorous approvals process involving fifteen different staff teams and consultation with the Student's Union.

Awards

Shortlisted by AJ Retrofit Awards in the higher and further education category

Intercity Place, Plymouth

Full Refurbishment

Location
Plymouth

Client
University of Plymouth

Value
£20m

Full refurbishment of a 1960s concrete framed tower block. When complete it will provide new medical training facilities for the university of Plymouth. Many significant challenges have been overcome to meet current design standards whilst the original structure is revealed and reclad in a high quality curtain wall system.

A significant challenge has been to ensure the structure meets rigorous modern safety standards.



Project currently in progress

The building will be a landmark project for Stride Treglown and the University of Plymouth.

How do we improve old/historic/Listed buildings...?

Perceived Planning/Conservation restrictions:

1. *“Retrofitting old buildings should be considered first, though it is vital that this is carried out in a sympathetic and proper manner. Inappropriate use of external cladding for improved insulation, for example, can have many unintended consequences and a “whole building approach” should be considered” (RTPI).*
2. In terms of current guidance, **Historic England** provide broad advice relating to the retrofitting of historic buildings via the link below, but acknowledge that more training, support and progress is required:

<https://historicengland.org.uk/advice/technical-advice/retrofit-and-energy-efficiency-in-historic-buildings/>



RTPI
Royal Town Planning Institute



Historic England

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Why bother...?

Breathe new life into your old buildings:

Retrofitting increases a building's lifespan.

Make your building 'future ready' and 'climate resilient':

Climate Change is bringing about gradual weather changes – more extreme weather events, hotter summers and wetter winters (flooding).

Building improvements provides better, healthier buildings for your staff and occupants/customers:

People are choosing to work and live in better performing buildings – don't get left behind!

It's also better for everyone's health!

We reportedly spend 90% of our time indoors!



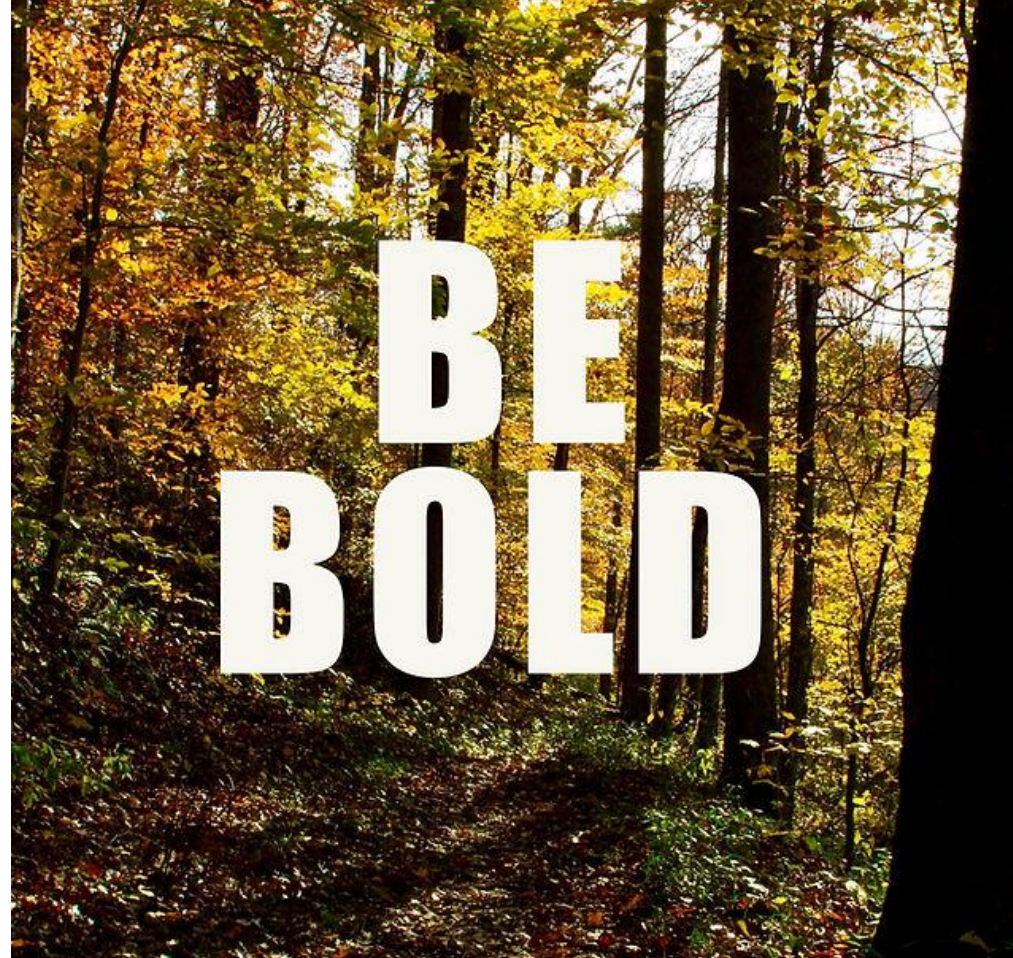
Planning your building improvement...

- 1. Understand** your own building and site – age/construction/materials/space (roof/site). You may need to commission surveys for this
- 2. Identify** strengths and weaknesses, and potential opportunities or constraints
- 3. Get professional advice to support this** – architects/building surveyors/engineers
- 4. Assess the building as a whole** – an understanding of building operation and energetics is essential for this
- 5. Produce a Retrofit plan** – identifying short and long term improvements to undertake.
- 6. Ensure this plan has an order or priority** – don't put in new heat pumps until the building fabric is addressed.
- 7. Ensure funding and permissions are in place** if required.

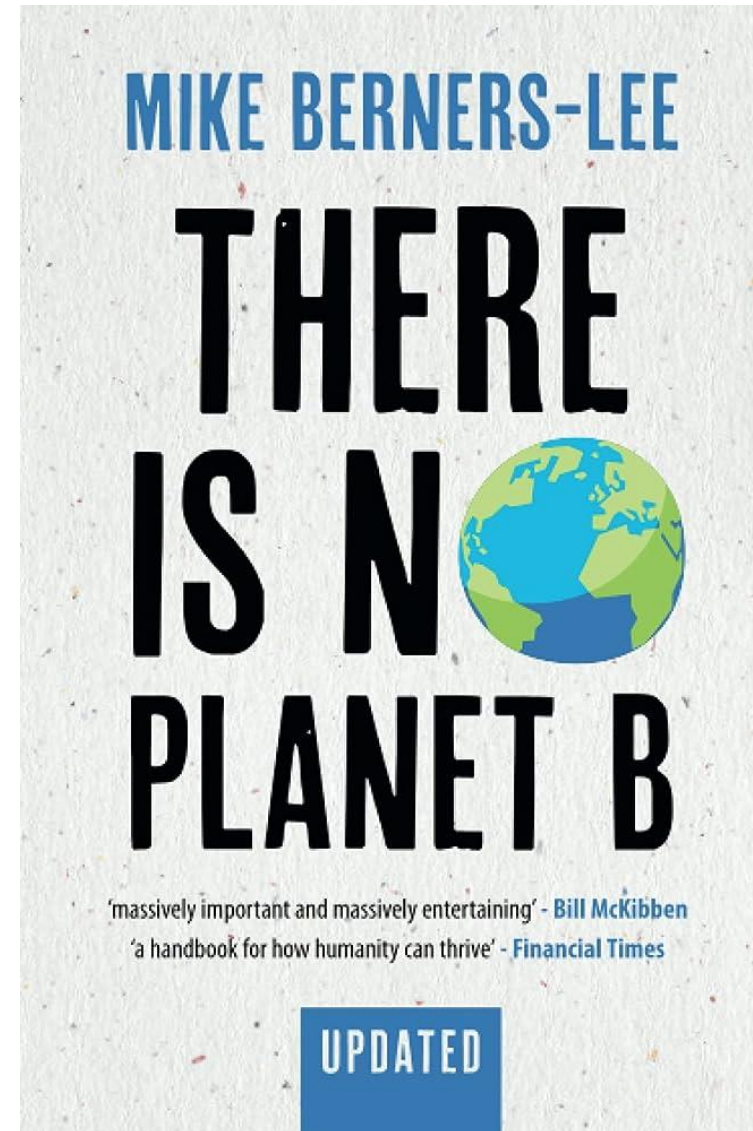


**Be brave, be bold and take action...
Doing something is better than doing nothing!**


*Be
Brave*





And most importantly...



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