

re.c.be

RESOURCE EFFICIENCY
in Construction and the Built Environment



Resource Efficiency Collective is a research initiative at Cambridge University. Together, we seek answers to a challenging question: how can we deliver future energy and material services, while at the same time reducing resource use and environmental impact?





Smart Sustainable Packaging from Plants (S2UPPlant)



Joanna Wakeling
November 20, 2020

We're excited to announce our involvement in the launch of S2UPPlant – Smart Sustainable Plastic Packaging from Plants. Background: Over 90% of plastics are derived from fossil-derived feedstocks,...



Exergy calculator



Jonathan Cullen
September 15, 2020

The use of energy and materials in modern society is associated with greenhouse gas (GHG) emissions that exacerbate climate change. To reduce emissions, a combined energy and material...

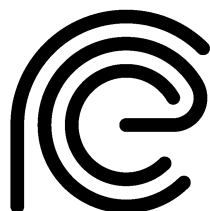


Resource Efficiency in Construction and the Built Environment (RECBE)



Michal Drewniak
August 24, 2020

Nearly half of the UK's carbon emission are linked to the construction and operation of the built environment, and this figure excludes the embodied carbon in the materials...



resource
efficiency
collective



The Lightest Beam Method



Michal Drewniak
January 11, 2021

The Lightest Beam Method – A methodology to find ultimate steel savings and reduce embodied carbon in steel framed buildings Over the last ten years, global demand for...



Should transition bonds have a place in the path towards carbon neutrality?



Ana Morgado
November 27, 2020

"The European Union's target of achieving net-zero emissions by 2050 is a costly one. An annual investment of €260 billion is estimated as needed to advance EU transition..."



Energy reduction in construction



Michal Drewniak
October 18, 2020

Redukcja energochłonności w budownictwie (Energy reduction in construction) by Michal Drewniak is now available! Download the chapter here (PL) EN: The construction sector is considered to be the...



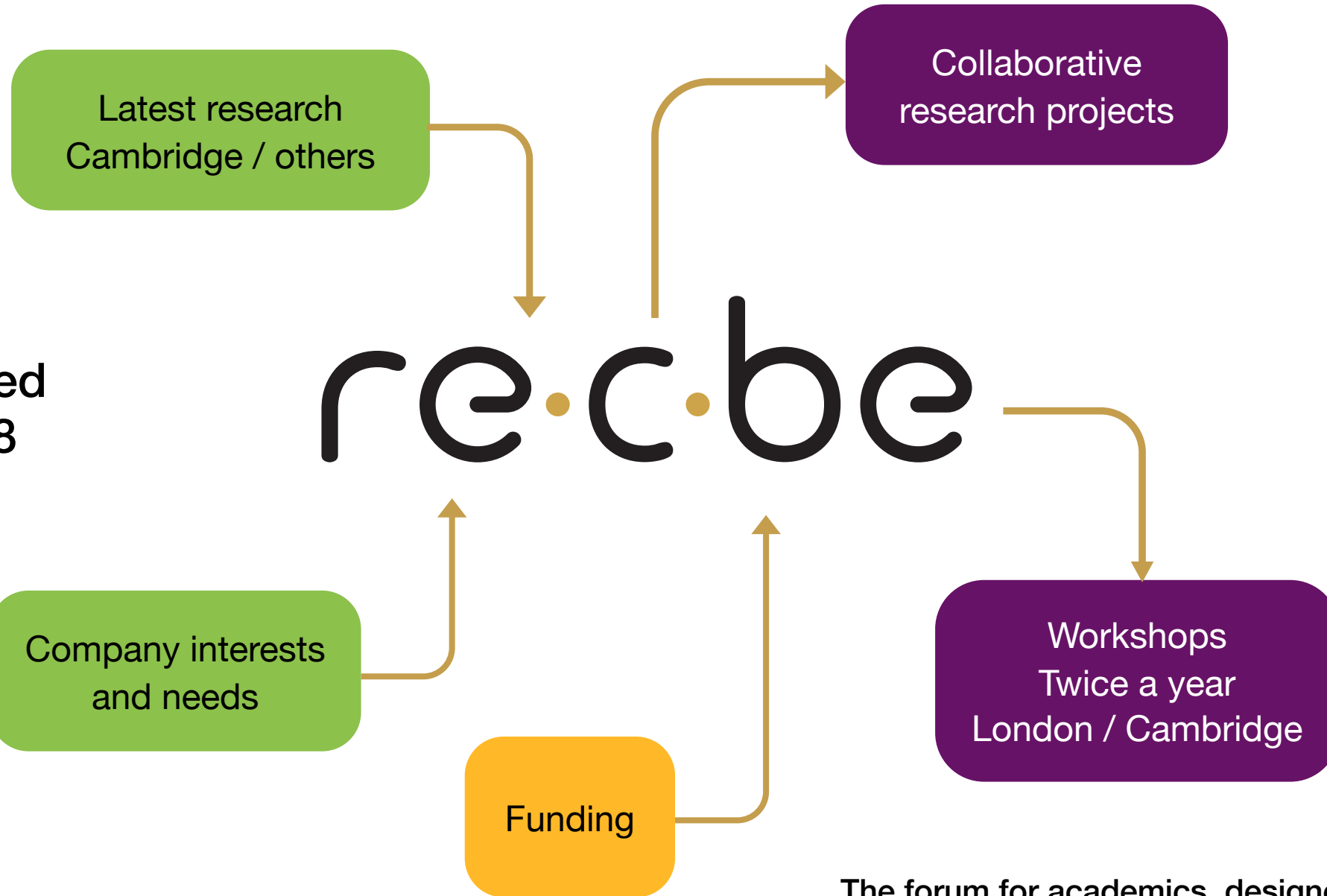
THE 'P' WORD



Jonathan Cullen
September 22, 2020

THE 'P' WORD – Plastic in the UK: practical and pervasive ... but problematic By Jonathan Cullen, Michal Drewniak and André Cabrera Serrenho Click here to download the...

Launched
in 2018



The forum for academics, designers, engineers,
contractors, clients and policy makers ...



Department for Business, Energy & Industrial Strategy



UNIVERSITY OF CAMBRIDGE



The University of Sheffield.



UNIVERSITY OF LEEDS



Loughborough University



UNIVERSITY OF BATH

UNIVERSITY OF WESTMINSTER



Sustainability and Whole Life Carbon in construction

13.00 Welcome – Jonathan Cullen (University of Cambridge)

13.05 – 13.45 - Session I:

Penny Gowler “IStructE Circular Economy & Reuse Guidance for Engineers” (elliottwood)

Alexandra Jonca “The Net Zero Whole Life Carbon Roadmap” (UKGBC)

Andrew Mullholland “Low Carbon Concrete Routemap” (AMCRETE UK)

13.45 – 14.00 Discussion

Sustainability and Whole Life Carbon in construction

14.00 – 14.35 Session II:

Peter Swallow “Grimshaw's decarbonisation pathway for buildings: Version 2.0 development and collaboration opportunities” (Grimshaw Architects)

Omar Abo Madyan “Towards Zero Loss Sustainability in Construction” (University of Cambridge)

Amila Sankalpa Jayasinghe “Comparing the embodied carbon and cost of concrete floor solutions” (University of Cambridge)

14.35 – Discussion

14.50 – RECBE next steps, funding opportunities

15.00 – End of the meeting

talks

discussion and Q&A

**Projects in collaboration with RECBE
and next steps**

EPSRC Impact Acceleration Account Postdoctoral Placement Scheme

“Relationships between building structural parameters and embodied carbon”

3 months (2020), £10k



GRIMSHAW



smithandwallwork
engineers

MAX FORDHAM



EPSRC Impact Acceleration Account Impact Starter Grant

“Post-construction assessment of Energy Cost Metric of the Civil Engineering building in West Cambridge”

3 months (2020), £16k



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CAMBRIDGE

EPSRC Impact Acceleration Account Impact Starter Grant

“Low carbon concrete technologies (LCCT) – understanding and implementation”

3 months (2021), £17k

EPSRC Impact Acceleration Account Knowledge Transfer Fellowship

“Climate compatible decision making in the construction sector”

12 months (2021), £70k

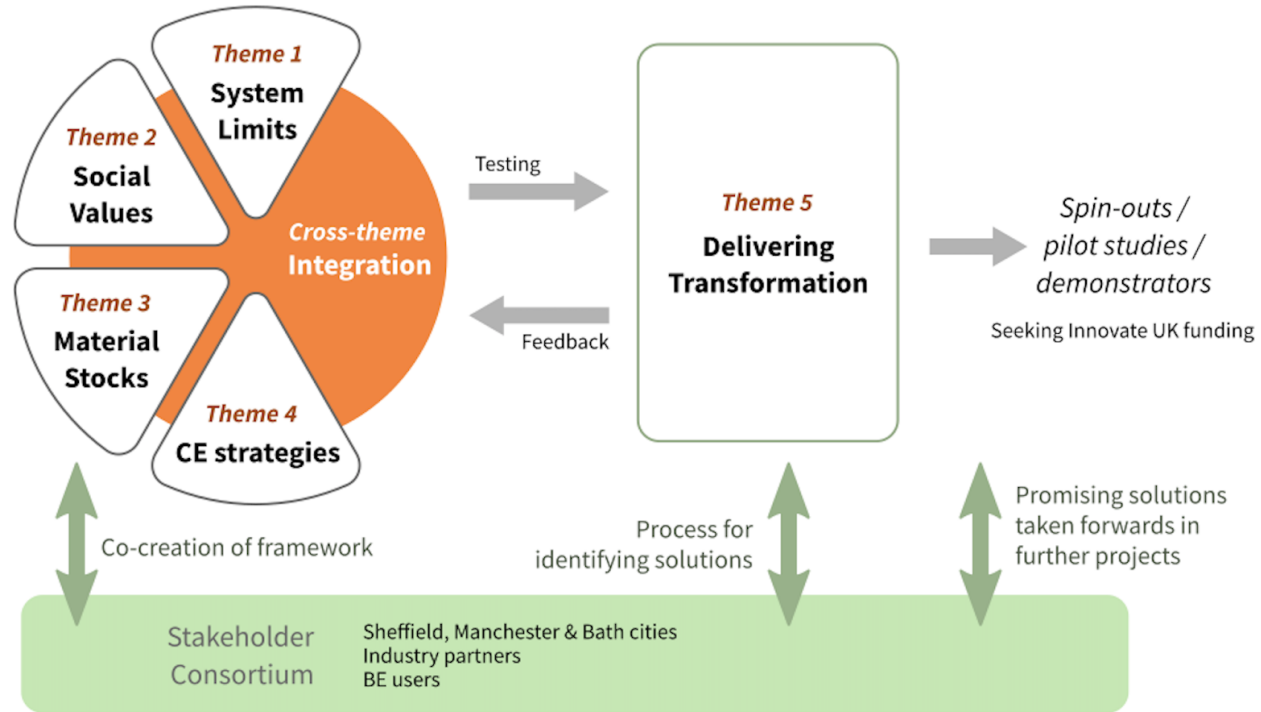


expedition



expedition

CircBE: catalysing circularity in the Built Environment



Dr Danielle Densley Tingley
Senior Lecturer
University of Sheffield



Dr Kate Scott
Presidential Fellow
University of Manchester



Dr Kersty Hobson
Senior Lecturer in
Human Geography
Cardiff University



Dr Rick Lupton
Lecturer in Mechanical
Engineering
University of Bath



Dr Jonathan Cullen
Lecturer in Energy, Transport
and Urban Infrastructure
University of Cambridge

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