Centre of Excellence
for Decarbonising Roads

Quarterly Newsletter

Q1 2025 Reflection

Department for Transport
ADEPT LIVELABS2 Decarbonising Local Roads
North Lanarkshire Council
Transport for West Midlands
Amey
COLAS WE OPEN THE WAY

Content

Welcome back to our quarterly newsletter for the Centre of Excellence for Decarbonising Roads (CEDR), a Live Labs 2: decarbonising local roads theme – part of the ADEPT Live Labs 2: decarbonising local roads programme, a three year £30 million UK-wide initiative, funded by the Department for Transport that aims to decarbonise the local highway network.

UK Centre of Excellence for Materials

A hub for research and innovation for the decarbonisation of local roads materials, developing a knowledge bank, real-life conditions testing and sharing and learning insights.

Lead Local Highways Authorities (LHAs): North Lanarkshire Council & Transport for West Midlands.

In this issue, you will find the latest highlights, trials, evaluations and thought leadership from the Centre.

Highlights of the quarter

Connected Places Catapult Future Foresights

This quarter, we published a Future Foresights Report, a collaborative effort between Connected Places Catapult and a consortium led by Transport for West Midlands, North Lanarkshire Council, Amey, and Colas. Backed by focus groups and one-to-one engagement with leaders across the private, public and academic sectors, the report aims to empower local authorities to plan and implement strategies for decarbonising road infrastructure by addressing the external drivers accelerating low carbon materials innovation. This involves identifying, trialling, and procuring novel materials to replace carbon–intensive ones. The contents of this report aims to de–risk decision–making, align stakeholders with a shared understanding of anticipated events, and provide a foundation for the development of shared strategies.

Read the report

Innovation Log

Road maintenance has long depended on carbon-intensive materials, making sustainability a pressing challenge. At the Centre of Excellence for Decarbonising Roads, we're driving change by identifying and championing low-carbon alternatives. One of our key tools in this mission is the Innovation Log – a curated, market-sourced database that empowers local authorities to identify, trial, and adopt low-carbon materials easily. We are excited to share this part of our innovation process, giving local authorities direct access to a resource that supports the selection of the most promising materials for trial and evaluation. As a precursor to the launch of our knowledge bank in a few months, the Innovation Log serves as a starting point in the journey to discovering your next low-carbon innovation.

See our Innovation Log

	A	B	C	D	E	F	G	H	
1	Sour	ID	Title	Supplier(s)	Overview	DMRB Series	Service Activity	Material Type	Link for more information
24	CEDR	30	Eco-Binder	Kemion	Sustainable eco-binder for dust binding that is completely biodegradable	Maintenance	Misc	Dust binder	https://kemion.fi/en/dust-binding/
25	CEDR	31	Woodcrete	Watanabe Sato	Wood-based pavement using cement as a base material and wood chips	1000 - Concrete Roads	Footway/Cycleway	Wood based pavement	https://www.road.or.jp/prague/corps/corp0109/pdf01
26	CEDR	32	Hahn Recycled	Hahn Plastics	Recycled plastic into construction material for fencing and roads	1200 - Traffic Signs & Road	Bollards	Recycled plastic bollards	https://www.hahnplastics.com/Products/Fencing-and
27	CEDR	33	Aqua Patch	MAEDA road	AQUA PATCH is a permanent repair solution for asphalt and concrete	Maintenance	Resurfacing	Asphalt Repair	https://www.aquapatchasphalt.com/
28	CEDR	35	Melody the-PEC	Seikitokyu	Construction method that combines musical road technology and freeze-	Maintenance	Resurfacing	Anti-freeze road surface	https://www.seikitokyu.co.jp/business/products/486/
29	CEDR	36	Urban LITE	Seikitokyu	A coating material mixed with soil that is ideal for pathways/footways.	1100 - Kerbs, Footways,	Resurfacing	Asphalt Pavement Material	https://www.seikitokyu.co.jp/assets/images/en/produ
30	CEDR	37	TR Mix Series	Taisei Rotec	Cold mix asphalt for pavement repairs that can be mixed by adding water	0700 - Road Pavements	Potholes + Patching	Asphalt	https://www.taiseirotec.co.jp/technicalinfo/tdm-2-2/
31	CEDR	38	Mild Guss	Maeda Road	Today, we are introducing "Mild GuSS", a cold-applied type of guss	0700 - Road Pavements	Potholes + Patching	Cold Applied Asphalt Repair	https://www.road.or.jp/prague/corps/corp0105/pdf01
32	CEDR	39	CO2-SUICOM	Kajima	Carbon-capturing concrete that is hardened by air, which traps CO2 gas	1000 - Concrete Roads	Concrete	Carbon Capture Concrete	https://www.kajima.co.jp/english/tech/c_sus_con/tech
33	CEDR	40	Eco-Foamed	Nippo	Warm mix asphalt with foamed asphalt that foams asphalt by spraying a	0700 - Road Pavements	Resurfacing	Warm mix Asphalt	https://www.road.or.jp/prague/corps/corp0103/pdf01
34	CEDR	41	Polymer Cool Mix	Hansoo Road	Polymer Cool Mix Asphalt is an asphalt mix that utilizes a proprietary	0700 - Road Pavements	Resurfacing	Polymer Asphalt Additive	https://ihansoo.com/theme/AT_WEB01/index_en.php
35	CEDR	42	Cyanoskin	Cyanoskin	Cyanoskin is a living paint designed to absorb pollution, through utilising	1200 - Traffic Signs & Road	Road Marking	Photosynthetic Paint	https://www.cyanoskin.com/
36	CEDR	43	Minimass	Minimass	Minimass is a set of structural truss designs for prefabricated concrete	1000 - Concrete Roads	Concrete	Prefabricated concrete beam	https://www.minimass.net/
37	CEDR	44	Fibre Mastic	Novapave	FibreMastic Asphalt (FMA) is a gap-gradedmix with a high	0700 - Road Pavements	Resurfacing	Asphalt	https://novapave.com/en/
38	CEDR	45	Flexipave	KBI	Flexipave is a porous surfacing system combining recycled rubber with	0700 - Road Pavements	Resurfacing	50% Recycled Rubber Pavement	https://www.kbiuk.co.uk/
39	CEDR	46	OmniGrip Hybrid	Omnigrip	OmniGrip Direct applies specialist slip and skid-resistant surfaces to	0700 - Road Pavements	Surface Treatments	Anti-skid surface treatment	https://www.omnigripdirect.com.au/products/omnigri
40	CEDR	47	Shell Bitumen	Aggregate	The new bio-component binder, Shell Bitumen CarbonSink, locks carbon	0700 - Road Pavements	Resurfacing	Bio-component Bitumen	https://www.aggregate.com/news-and-resources/pres
41	CEDR	48	Vegecol	Colas	Plant based binder, clear / colourless asphalt forparking, footways and	0700 - Road Pavements	Footway/Cycleway	Plant Based Binder asphalt	https://www.solutions-colas.com/en/vegecol/
42	CEDR	49	Valorcol	Colas	EX-situ recycling - for all classes of roads, for Base AND binder course – in	0700 - Road Pavements	Resurfacing	Cold Recycled Asphalt	https://www.gogreenwithcolas.com/dl/brochures/Go_
43	CEDR	51	Retread	Colas	Shallow in-situ recycling, for use on rural and unclassified minor roads,	0700 - Road Pavements	Resurfacing	Shallow insitu cold recycled	https://www.colas.co.uk/media/2621/north-somerset-
44	CEDR	52	Recycol - low	Colas	In-situ binder course recycling, for all classes of roads up to SRN – but	0700 - Road Pavements	Resurfacing	Recycled resurfacing	https://www.colas.co.uk/media/projects/recycol/
45	CEDR	53	Easycold STD	Colas	Easycold STD is produced from ambient to moderate temperature (40°C).	0700 - Road Pavements	Resurfacing	Cold Surface Course	https://www.solutions-colas.com/en/easycold/
46	CEDR	54	Milepave	Miles	open graded asphalt -40% carbon saving over HMA (less stone less	0700 - Road Pavements	Resurfacing	open graded asphalt with a liquid	https://milesmacadam.co.uk/milepave/
47	CEDR	55	Hardipave	Miles	alternative to concrete surface course materials, highways - bba hapas - 12	0700 - Road Pavements	Resurfacing	Eco concrete surface material	https://milesmacadam.co.uk/hardipave-industrial-distr
48	CEDR	56	Hardicrete	Miles	alternative to concrete - original cementitious grouting macadam, bba	1000 - Concrete Roads	Concrete	Eco Cementitous grouting	https://milesmacadam.co.uk/hardicrete-industrial-dist
49	CEDR	57	Velocity Patching	Velocity	Spray patching from Velocity - fast quick repairs, low carbon, full repair	Maintenance	Potholes + Patching	Spray patching	https://www.velocityroads.co.uk/spray-injection-patch
50	CEDR	58	Shell Agesafe	Shell	An additive into Shell bitumen that reduces the oxidisation of asphaltenes	0700 - Road Pavements	Resurfacing	Bitumen Additive	https://www.shell.com/business-customers/bitumen/
51	CEDR	59	Rubber Modified	Tarmac	Tarmac has created an innovative asphalt mix using granulated rubber.	0700 - Road Pavements	Resurfacing	Asphalt Additive	https://www.tarmac.com/products/asphalt/rubber-mo
52	CEDR	61	Lignin Asphalt	Steelphalt	Lignin as partial replacement of bitumen for producing bio-asphalt	0700 - Road Pavements	Resurfacing	Bio binder asphalt	https://www.steelphalt.com/
53	CEDR	62	Hybrid Polymer	NewRoad	Improved performance – Less frequent repairs, saving materials and plant	0700 - Road Pavements	Resurfacing	Polymer Additive	https://www.nviamg.com/asphalt
54	CEDR	63	Anti-Icing Agent,	Winterpave	Microcapsules with a chloride-free salt mixture that's added into asphalt	Maintenance	Resurfacing	Maintenance (Winter)	https://pubs.acs.org/doi/10.1021/acsomega.2c07212
55	CEDR	64	Solidia Concrete	Solidia	Lime content 20% lower, CO2 lowered in calcinationSintered at 1250°C	1000 - Concrete Roads	Concrete	Concrete	https://www.holcim.com/
56	CEDR	66	Greentech	Greentech	Using a nitrogen atmosphere to avoid excessive short-termageing (=	0700 - Road Pavements	Potholes + Patching	Asphalt	https://greentech-rs.co.uk/
57	CEDR	67	Finophalt	RMS - Road	Similar to Rhinophalt but is a Gilsonite-modified spray seal which uses	Maintenance	Surface Treatments	Preservation treatment	https://rms-ltd.com/solutions/asphalt-preservation/
58	CEDR	68	Pentack	Colas	Airfields, penetration tack coat approved for use in airfields – can be	0700 - Road Pavements	Surface Treatments	emulsion based rejuvenator	https://gogreenwithcolas.com/dl/brochures/Go_Green

Westminster Visit

We recently had the privilege of attending the Live Labs 2 parliamentary event at the House of Commons in Westminster. The evening was a celebration of collaboration, featuring engaging discussions with Minister for the Future of Roads Lilian Greenwood, Member of Parliament, our fellow Live Labs participants, and senior stakeholders. Together, we explored the critical role of decarbonising local road maintenance.

A notable moment was Mark Corbin's insightful speech, where he eloquently shared the invaluable lessons learnt during our Live Labs 2 journey. Mark's words highlighted the remarkable growth we've experienced, the strides made within the sector, and the importance of fostering partnerships with government to drive meaningful change.

Recent events

Live Labs 2 Expo

On March 25th, the Live Labs 2 Expo was held at the Hilton Liverpool, providing an excellent platform for the project teams from both the North and South campuses to present their major achievements, highlight recent and upcoming trials, and outline the future of CEDR.

The event also facilitated valuable interactions with industry experts, fostering meaningful discussions and idea-sharing with other Live Labs. Together, these efforts are driving the sector towards a sustainable, low-carbon future.

Connected Places Catapult Summit

We were thrilled to participate in a dynamic panel session at the Connected Places Catapult Summit in London. Representing the North Campus, Lauren SeBlonka, Innovation Business Partner at Amey, joined forces with Joseph Webster, Carbon Reduction Project Coordinator at Transport for West Midlands from the South Campus. Together, they showcased the collaborative efforts driving our partnership with Connected Places Catapult as part of the Live Labs 2 programme.

The panel featured insightful discussions with Simon Wilson from the Future Highways Research Group and Emma Pye, Founder and Director of PYE-Management, exploring the opportunities, challenges, and systemic transformations necessary for decarbonising road materials. From the stark realities of climate change to our Centre of Excellence's focus on knowledge-sharing and evidence-based strategies for achieving net zero, the session resonated deeply with both online and in-person audiences.

CIHT Emerging Professionals

The CIHT emerging professionals conference saw early careers professionals from across the highways, transportation and infrastructure sector discuss key issues, and how we can drive the sector towards a positive future. Lauren and Joseph's keynote session focused on the Centre of Excellence and how emerging professionals in the transport sectors can integrate decarbonisation in their daily decision-making.

The talk not only highlighted the progress made so far but also inspired attendees to take actionable steps towards a greener future, encouraging the emerging professionals to challenge the default.

Recent trials

Jerol Signposts

At the start of February, our North Campus – North Lanarkshire Council and Amey – completed a trial of the Jerol signpost, a passively safe, recycled glass composite signpost. Replacing a previous vehicle restraint system (VRS) on the A73, the Centre will be evaluating the carbon savings potential of shifting from traditional aluminium or steel signposts.

Project Pothole

This year, we're launching a series of trials to compare thermal repair systems with conventional hand-lay patching techniques. Thermal repairs have the potential to significantly cut carbon emissions due to reduced material usage, and we're keen to explore this further. The trials aim to evaluate multiple thermal systems across a range of defect types and road environments, helping us better understand both the carbon impact and operational performance of these innovative approaches.

Resurfacing Trials

The Centre has been busy focusing on planning for its most complex and integral trials to date this summer. Tackling the highest carbon emitting service activity, both campuses will trial and evaluate leading low-carbon surfacing materials. In North Lanarkshire, the team will trial 5 low-carbon binders against a traditional bitumen, coupled with in-situ recycling in the base course on a two kilometre-long SuperSite. Meanwhile, in the West Midlands, two sites will compare low-carbon surfacing materials, from graphene to improved International Roughness Index.

Quarterly Spotlight

John Ashcroft

Roads and Asset Services Manager

Can you describe your role as a Roads Asset Manager/ Senior Responsible Owner of CEDR and what a typical day looks like?

As the Roads and Asset Services Manager for North Lanarkshire Council and Senior Responsible Owner for CEDR my role is extremely varied. I have strategic oversight for areas such as the management and maintenance of the road network, development of digital asset management solutions, delivery of the council's capital works programme for roads, footways and streetlighting, individual project oversight for CEDR as well as performance management and development of the councils strategic Roads and Infrastructure Maintenance and Improvement Contract to name a few.

My day will generally start the previous day with a review of what is happening the following day. I would like to say that each day I come to work with a well-defined plan and at the end of each day I achieve everything on that plan. The truth is, while I have a plan for what I want to achieve each day you need to be dynamic working in Local Government. One minute you can be looking at developing a new Graduate Apprenticeship Programme or developing a new policy that will change the way you operate, only for a major road to close, normally on a Friday afternoon at peak hour when everyone is trying to get home. The great thing about my role is that no two days are the same and while many people like to have a very structured day, I prefer to be in a role where you need to be dynamic, and you are dealing with different situations. One thing that is certain, when you think you have faced every possible issue that could arise something will appear from left field and you need to draw on the experience within your team.

What inspired you to pursue this career?

I always liked technical subjects at school and initially I had a desire to pursue a career in the Architecture. My first job was on a Youth Training Scheme (if anyone can remember that), and I was placed with a Consulting Engineer that focused on building construction. Fortunately for me the business decided to close and provided me with a great opportunity to join Strathclyde Regional Council at a time when there was a lot of road construction and improvement projects. I was thrown in at the deep end and found the work extremely interesting. At that point I knew that a career in Civil Engineering was for me and I have never looked back.

What is the most rewarding part of your job?

From the outside looking in, it isn't always obvious how much work is involved in taking a project from feasibility, through design and construction. There are always many challenges that arise no matter how well a project is planned, and it takes a real team effort to face the issues head on and to achieve the best results. The most rewarding part of my job and the part that gives me the greatest pleasure is when a project is delivered on the ground, you see the sense of achievement within your team and the difference that this makes to the lives of our people living in our communities.

What final advice would you give to the Centre of Excellence, and anyone looking to decarbonise their road maintenance?

Local authorities have been reducing budgets for over a decade, and this has impacted the level of funding allocated to attending events and encouraging collaboration and learning. However, it's at times like this that collaboration should be encouraged and supported. When you look across different organisations you realise that we are all trying to deal with the same big issues, decarbonisation being one of them. Therefore, the final advice I would give is to reach out to colleagues, don't try and reinvent the wheel, increase the opportunities for collaboration as a joint approach will deliver much greater benefits than trying to do it on our own.

What to expect in next quarter's newsletter

- Surfacing and in-situ recycling trials across both campuses.
- Series of engaging online and in-person events for local authorities.
- Delivery of our sandbox.
- Launch of our second round of behavioural change research, focused on on-the-ground operatives and inspectors.

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Contact Us

Get in touch with our team
to discuss the Centre.

Enquiry Form

Share Your Innovation

Submit your low-carbon solution
for consideration within our
materials testing programme.

Innovators Form

Visit our website

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