

ID	TW Type	Subcategory	Type	Description	Outcome	TWf Partner
1	Site Establishment	Welfare Facility	Innovation	Plastic re-usable crates	Saved concrete footings and HAVS	Wysebase
2	Other TW	Concrete	Trials	Both CEM-FREE and EFC for structural use		Byrne Bros
3	Other TW	Concrete	Trials	ULCC concrete for mass fill		Kier & EA
4	Construction Plant	Haul Roads Tensar	Innovation	Using FEA value to reduce thickness on poor ground	Normal method used ~£18.3/m2 FEA T-Value Data ~£13.6/m2	Tensar
5	Material	Concrete	Innovation	Wagners ULCC for all TW and some PW		Kelibray/Wentworth House
6	Material	Concrete	Innovation	Reduce the partial factor for reinforcing steel (γs) to 1.05 for flexure	9.5% reduction in the area of reinforcing steel required	Concrete Centre
7	Material	Concrete	Innovation	Use of CEMEX Vertua Classic Zero concrete for the foundations of a new student accommodation block	Product estimated to give a 30 - 50% reduction on standard mix	Kier (Build)
8	Material	Plastic	Innovation	Aquaspira CSR (Composite Steel Reinforced) 900mm diameter pipe	Reduces need for concrete pipe bedding	Kier (Civils)
9	Material	Concrete	Trials	LCC By-product breakwater armour unit manufacture, 98% by-product use	Pending	Kier (Civils)
10	Construction Plant	Working Platforms	Innovation	Use of soil conditioning agent (MuDD-Dry) to reduce wet slurry material	Make it suitable for reuse on site	Kier (Utilities)
11	Material	Concrete	Innovation	Use of soil additive to turn waste material into reusable backfill material	Reducing concrete use in chamber designs	Kier (Utilities)
12	Material	Aggregate	Innovation	Use of a CL:AIRE MMP and U1 to enable use of local materials	Delivered carbon (21 t) and cost savings (£23,000)	Kier (Civils)
13	Material	Bitumen	Trials	Foam mix asphalt	Provided a 21% emissions reduction vs normal product. Awaiting report.	Kier (Highway)
14	Material	Bitumen	Trials	Use of 20mm bitumen surface dressing for temporary roads	Deep pavement makeup (£49/m2) such as 20mm bitumen surface dressing (£6/m2)	Kier (HS2)
15	Material	Concrete	Suggestions	Consider supporting a BS Flex Standard or PAS for new/innovative materials in order to speed up development, testing and adoption		Bill Hewlett Associates Ltd
16	Material	Concrete	Suggestions	Shale based foam concrete	Current university project	MGF (Steve Hesketh)
17	Site Establishment	Welfare Facility	Suggestions	Encourage cabin suppliers to provide re-usable footings		Kier (Sam Hurst)
18	Excavations	Proprietary Excavation Solutions	Innovation	Comparative life cycle assessment of the embodied greenhouse gas emissions of two excavation support solutions	Proprietary better	MGF (Steve Hesketh)
19	Excavations	Stockpiles / Embankments	Innovation	Tensar Tech system	Reducing concrete required	A14
20	Policy	Policy	Suggestions	Are there materials that we can re-use in small quantity but not enough for PW. (The recycled market may not be able to supply the whole of a large project.) Councils are scared (quite rightly) to test recycled rubber but could TW be the testing ground? TW Concrete mixes and recycled aggregates.		TWf (Sam Hurst)
21	Policy	Policy	Suggestions	The role of fiscal incentives (e.g. reduced VAT, etc.) in making leasing and buy/take back models the norm		TWf (Sam Hurst)
22	Policy	Policy	Suggestions	Short studies to understand the feasibility of different re-use options for temporary works items including economic, social and environmental impacts		TWf (Sam Hurst)
23	Material	Concrete	Innovation	Concretene is graphene-enriched concrete	Graphene acts as a mechanical support, increasing strength by around 30%, and offers an extra catalyst surface for the chemical reactions that produce concrete. It improves bonding at the microscopic scale. The increased strength allows much less material to be used, reducing carbon footprint (8% of 2021 carbon emissions) and energy costs, although material costs are some 5% higher, producing a net 20% cost reduction.	Nationwide Engineering