

Future Highways Research Group

Autumn Innovation Conference: Decarbonising Highways

ADEPT / Proving Research Partnership



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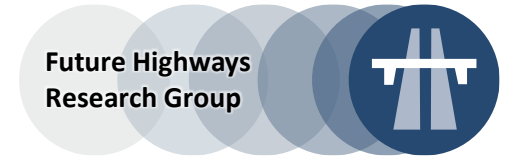
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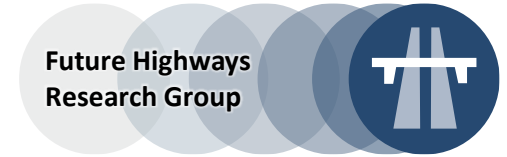
Agenda



- **Welcome, Introductions and FHRG News (Andy Perrin, FHRG)**
- **Sector News (Dominic Browne, Editor, Highways Magazine)**
- **Proposed & Current Research Partnerships (Simon Wilson)**
 - LGTAG, CECA, National Highways & RIF Partners
- **FHRG Members' Updates (Open Discussion)**
 - Individual Members' News & Announcements
 - Issues & Challenges for Highways Authorities In 2022
- **Political Engagement Roundtable (Karen Farquharson)**
 - Event Summary & Learning
- **Social Value: A Practitioners Approach**
 - Tom Gifford & Jonathan Evans, Lincolnshire County Council
- **“Buying Roads Better”**
 - Prof. Martin Perks, National Highways, Commercial Programme Director
- **Material Circularity & Carbon: Possibility & Responsibility**
 - Dr Miles Watkins, Cai & Watkins Consulting

Agenda

Continued...



- **NY Highways: Rationale & Experiences**
 - Barrie Mason, North Yorkshire
- **Human Capital Research Programme: Stage 1: Census (Karen Farquharson)**
 - Stage 1: Census: Scope & Objectives
- **GHG Scope 1 and 2 Guidance: Document Release (Simon Wilson)**
 - FHRG Members Only (February), All ADEPT Members (March)
 - Support Toolkit (Overview)
- **GHG Scope 3: Standards & Guidance (Simon Wilson)**
 - Research Scope & Objectives
 - Collaboration Partners (Colas, Atkins, Ringway, DfT and Breedon)
 - Practitioner Partner (Devon CC), Research Partner (Exeter University)
 - FHRG Member Participation
- **Committing to Net Zero: Highways Decarbonisation in Lancashire**
 - John Turpin (Atkins) & Paul Binks (Lancashire)



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Sector News

Dominic Browne, Highways Magazine



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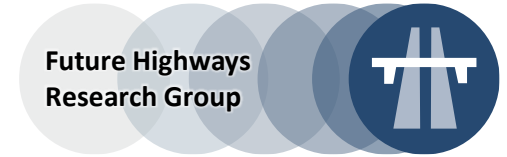
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Proposed Research Partnerships

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Proposed & Current Research Collaborations

Research & Innovation Framework (RIF)



• **Public Sector & Independent Institutions**

- DfT
 - Scope 3: Standards & Guidance
- National Highways
 - Future Procurement & Contracting
 - Human Capital Management
- PIARC
 - Scope 3: International Best Practice
- LGTAG
 - Scope 3: Standards & Guidance
- CECA
 - Human Capital
 - Scope 3: Standards & Guidance
- CITB
 - Human Capital Management

• **Private Sector Organisations**

- Atkins
 - Scope 1 & 2: Guidance
 - Scope 3: Standards & Guidance
- Ringway
 - Scope 1 & 2: Guidance
 - Scope 3: Standards & Guidance
- Amey
 - Human Capital Management
- Colas
 - Scope 3: International Best Practice
- Breedon
 - Scope 3: Standards & Guidance



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Member Updates: Open Discussion

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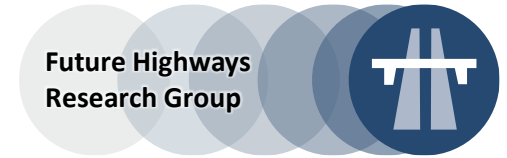
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Member Engagement Roundtable: Session Feedback

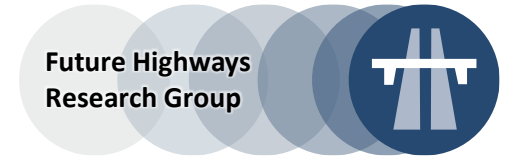
Karen Farquharson, Research Leader

Member Engagement Roundtable



- **24 FHRG members participated.**
- **An interesting and inclusive discussion.**
 - Many useful suggestions, advice and guidance offered.
- **Propose to run more roundtable discussions.**
 - Human Capital Management
 - Client Commissioning Functions
 - Future Service Delivery Models
 - Other suggestions?

Member Engagement Key Messages



Session details in the feedback report circulated to members.

- 1. Successful member engagement requires a suite of approaches that can be tailored to reflect the differing needs and expectations of members.**
 - a. Some members will 'never' use portals or CRM systems.
- 2. Develop and fund a dedicated customer-focused, community team with the correct skills and aptitude.**
 - a. Requires strong communication and customer service skills that reflect the knowledge and information requirements of the member.
 - b. Allocate sufficient budget to adequately resource this function, ensuring members recognise its importance.



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Social Value: A Practitioners Approach

Tom Gifford & Jonathan Evans, Lincolnshire County Council

Social Value in Lincolnshire Highways

- Overview of existing arrangements
- What works:
 - Contractual Quality commitments, X12 collaboration incentive, locality of spend, fair payment charter, apprentice numbers on contract / waste reduction targets, pockets of excellence.
- What didn't work:
 - Alignment, duplication across contracts, unclear strategies, requirement and prioritisation.

Strategic Engagement

- Executive Director has re-energised delivery
- Strategic engagement between LCC and our delivery partners (TSC & Majors)
- Enhance sector wide approach to delivering effective services / projects for the residents of Lincolnshire
- Added value of collaboration beyond our contractual commitments
- Post Covid world of work
- Created specific groups
- Clear, direct target

Strategic Groups

- Collaboration - Charter created and briefed to all organisations working within Lincolnshire. Concept of putting Lincolnshire first.
- Recycling and Materials – Benchmarking Scope 3, Investment in LCC recycling sites, Specification adjustments, training and bid opportunities for funding.
- Carbon Net Zero – Information sharing, EV strategy, Air quality targets, Active travel and modal shift.
- Skills and Education – Covered in more detail on next slides
- Community Benefit - Covered in more detail on next slides

Skills and Education

- Pilot Project with Adult Education & Highways
- Aim to maximise the value related to 'Skills' development within hard-to-reach groups.
- Maximise opportunities for wider funding
- Sector based work academy approach

Skills and Education - Outcomes

- Increased awareness of 'Skills' required to work in the Construction Sector at a local level to inform curriculum planning and choosing of options (schools, Further Education, local communities)
- Awareness of employment opportunities arising out of a specific Council contract
- Links into 'Lincolnshire' initiatives through LEP newsletters / networks
- Guaranteed work / job interview experience for 6 unemployed residents
- Long term benefit for learners on pre-employment training course -7 qualifications, CSCS card, work experience to help with future job seeking
- 5 successful job outcomes as well as job placements via Kickstart scheme and work experience via Traineeship programme
- A case study and a framework to support further
- Social Value work within the Council

Councillor Volunteer Schemes

- Pooled resource following tender quality submission within TSC bids
- Engagement with other key partners
- Supply chain engagement
- Offered to every Councillor
- Nominations Investigated and prioritised based on community benefit.
- Parish uptake has been high. Material and Equipment to be covered by community.





Councillor Volunteer Schemes

- Lessons Learnt
 - Complete range of schemes
 - Time taken for planning
 - Resource requirements from Client
 - Part of programme
 - Firm buy in from Senior Councillors
 - Strategies to deal with the difficult suggestions; planning, expense, testing, liabilities, guarantees.

Next Steps

- Merge strategic groups and continue combined approach.
- Develop engagement with wider LCC Services. To date focus has been for Highway service only.
- Develop and complete higher complexity Councillor nominated schemes.
- Refine offer to Councillors for next round.
- Ensure value capture

Thank You.

Any Questions?

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“Buying Roads Better”

Prof, Martin Perks, National Highways

The Strategic Road Network (SRN)

Connects the nation

Motorways **1,865** miles
Trunk A-roads **2,571** miles



4,300 miles of SRN

33% of all traffic



66% of all freight

Locally managed roads = SRN

4 times as many vehicles per day, per mile than local roads

Supports the wider transport network



Complementing local networks and connecting nationally



Delivering smooth access to ports



Enabling active travel options



Supporting access to rail and the development of HS2



Enhancing access to airports

Drives the economy



11.6 billion miles



8.8 billion miles



Usage of SRN continues to grow



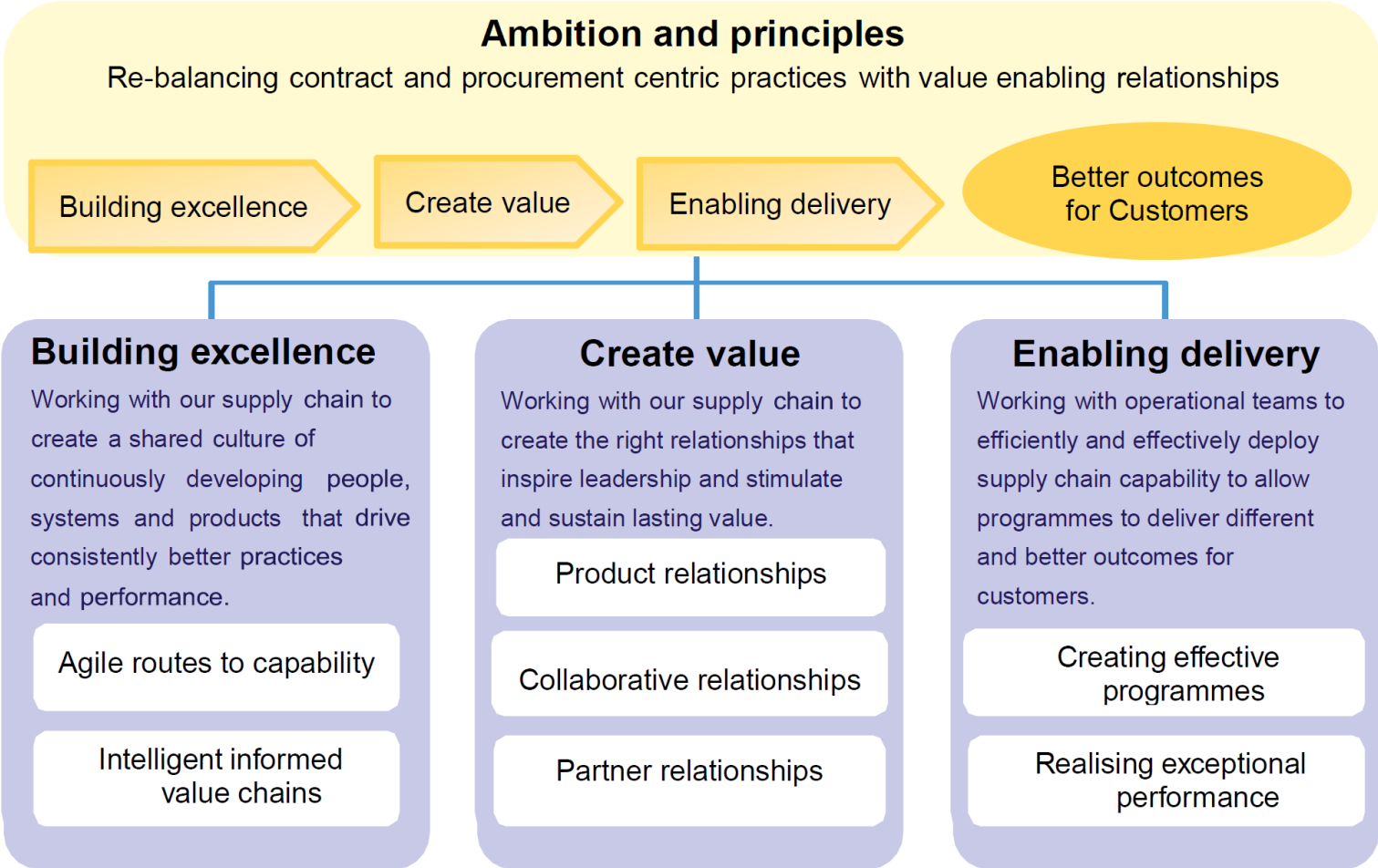
9 in 10 people recognise the importance of SRN to the economy



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Objectives

Supply chain strategy

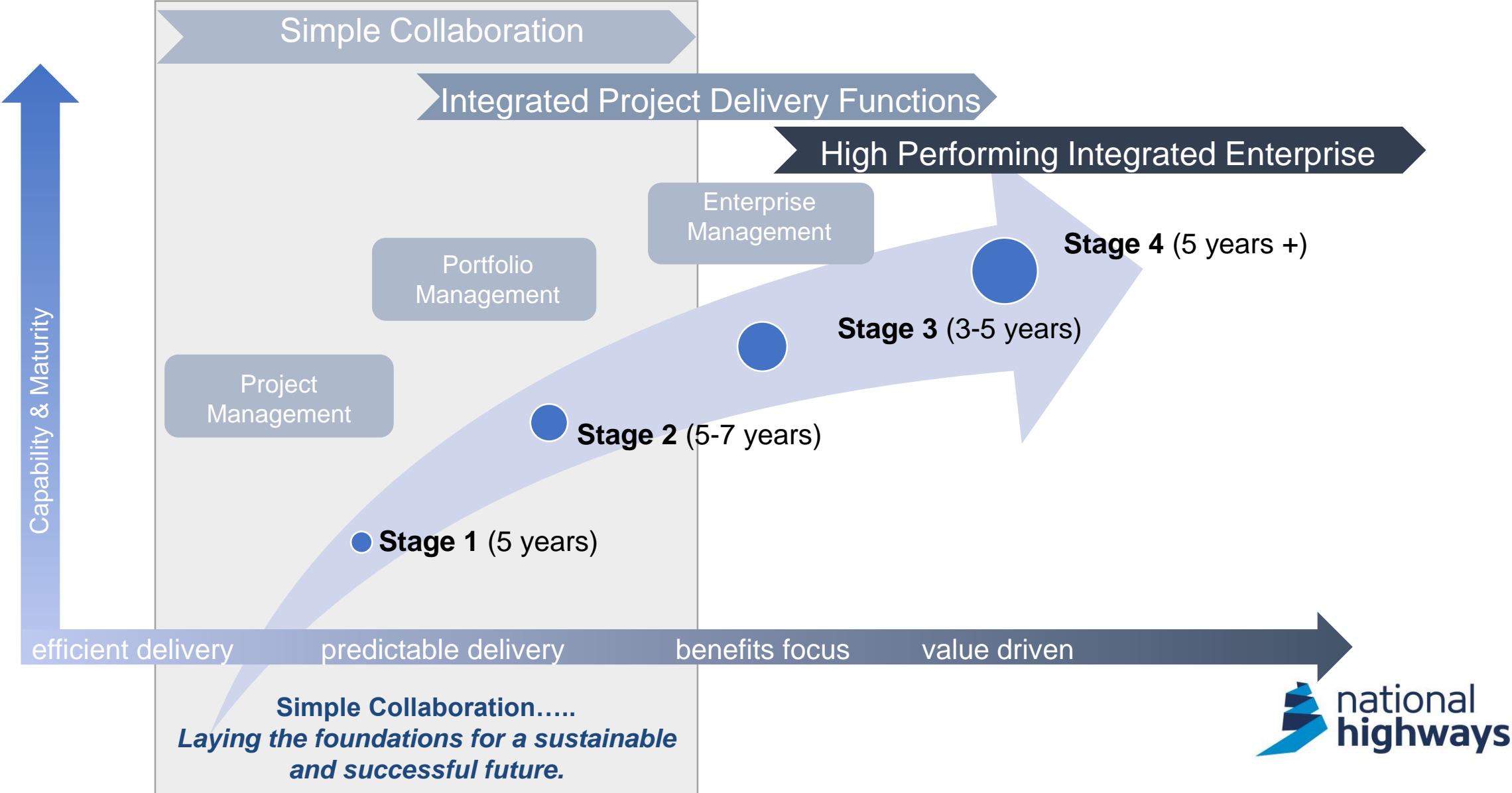


Key Factors

- Familiar forms
 - NEC ECC4 is industry standard
 - FIDIC for international contracting
 - JCT and PPC2000 also work
- Incentivisation
 - Customer (user value) focused
 - Flexible, promoting collaboration
- Skills & Diversity
 - Meritocracy
 - Driving behaviours
 - lasting impact
- Transparency
 - Removing barriers to innovation
 - Open and fair
- Creating value chains
 - Increasing capacity and capability
- Performance driven
 - Reward excellence
 - Align to strategic outcomes
- Whole life value
 - Value based decision making
 - Maintenance standards
- Insurance & Liability
 - Proportional liability
 - Project based insurance
 - Appropriate allocation of risk
- Fair Payment
 - Throughout the supply chain
 - Adoption of project bank accounts

Maturing to integrated Delivery

A systematic and structured approach to managing the future.



Building Procurement around Integrated Delivery Key Drivers

Continuity of work

Enabling the market to improve productivity and value from investment



Contextual centres of excellence

Partners, integrators, Technical advisors & Asset Owner driving efficiencies and improvements by open-source sharing, part of performance.

Agile pricing and linked Dynamic Price Book

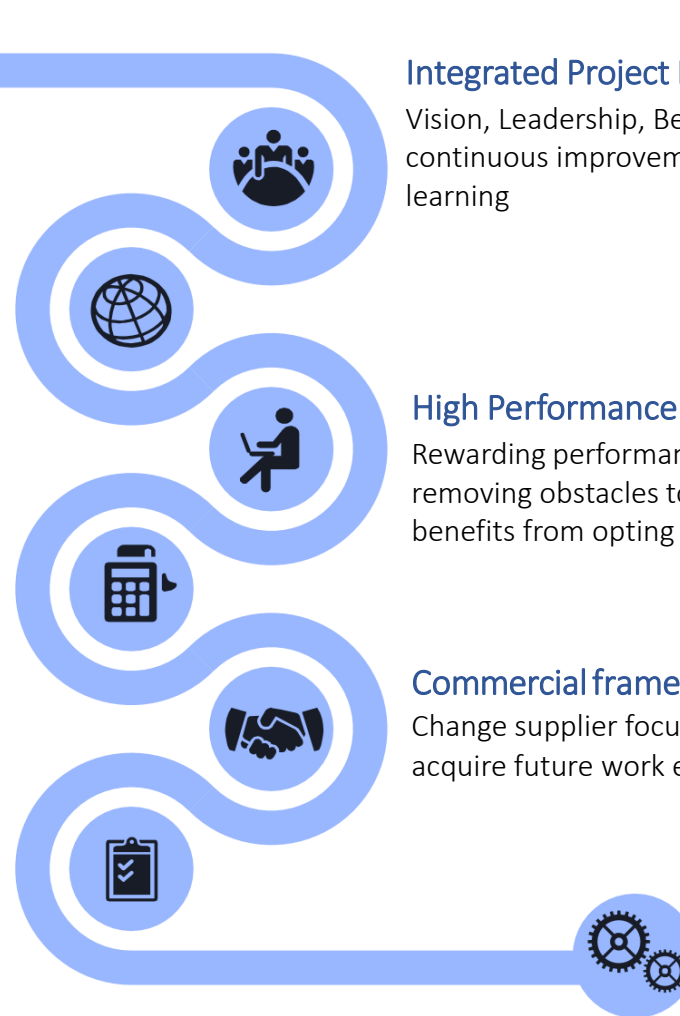
Focused Supplier specific schedules reflecting known efficiencies and cost management

Balanced scorecard

KPIs aligned to Client's imperatives and performance outcomes, linked to pipeline.

Built in resilience for the Client

The framework is a contingency mechanism, protecting the client from supplier failure and extended supplier replacement.



Integrated Project Delivery - 7 golden rules of IPTs.

Vision, Leadership, Behaviours, organisation and structure, Lean continuous improvement, systems and data, education and learning

High Performance enterprise model

Rewarding performance, changing from secondary competition, removing obstacles to change, incentivising based diminishing benefits from opting out.

Commercial framework using on performance as access

Change supplier focus from bidding to performance improvement to acquire future work embracing collaborative procurement.

Streamlined Procurement

Simplified ways of working: enhance productivity, reduce waste in time, cost & talent, become more predictable.

Integrated Delivery: Learning Lessons

Feedback highlighted challenge areas and key barrier that reinforce transactional relationships so need change to allow integration. Effective productivity focused procurement creates the opportunity to shift this paradigm.

Challenges

- Design responsibility
- Secondary competition
- Performance management
- Scheme focus
- Knowledge sharing
- Duplicated responsibility
- Asset information
- Cost escalation
- Customer value
- Transactional
- Win – lose
- Master – slave
- Undelivered promises

Responses

- Shift to best decision maker
- Move to performance allocation
- Measure performance from scheme data
- Move to programme thinking
- Incentivise continuous improvement
- Adopt lean management practices
- Code for whole life value
- Incentivise whole budget
- Incentivise social, environmental, Customer, economic value
- Set the right culture, decision options, processes and outcomes
- Nudge; remove "mole hills" avoid mountains
- Encourage identity, relationships, information
- Convert 3 promises into commitments.

Seven 'Golden Rules' for successful Integrated Project Delivery

IPD Vision /Strategy

Develop your own **guiding star** that links into the overall client vision and helps to give purpose and direction, achieve greater integration and get **enterprise ready**.

Leadership

Take responsibility; demonstrate behaviours, and integrity underpinning integration. **Constructively challenge** poor behaviours, processes and approaches. "**Don't walk on by**".

Behaviours

Drive greater engagement across the Integrated Project Team. Involving people likely to be affected if something needs changing or improving, will get better results. **Create a safe and sustainable working environment for all**.

Organisation & Structure

Create integrated teams that **aren't defined by company boundaries**. Everyone is part of the team but some are further away from the core and may have a different perspective. **Make effort to reach the places we don't normally touch**.

Lean, continuous improvement

Take full advantage of **earlier engagement** in schemes to drive fundamental improvements in delivery and performance – **productively and proactively use Lean, continuous improvement, and Value Engineering**.

Data & Systems

Create systems that everyone in the integrated team can access, sharing **one version of the truth**. Question any system/platform that does not allow full access for all IPT stakeholders.

Education & Learning

Commit time and resource to ongoing education and learning in Integrated Project Delivery as a new way of working. Be proactive in engaging, sharing and learning as a wider community. **This creates a new world, and everyone needs time to learn how to live and thrive in it.**

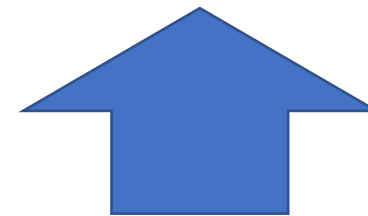
Re-defining "success" - Built on relationships

- ambitious objectives set to modernise, maintain and operate assets.
- To attract and partner a continuously improving supply chain – upskilling a market.
- So, what are the opportunities for suppliers and what are we doing to attract the best people into this industry?

**SUSTAINABLE DEVELOPMENT
CAPABLE OWNER**



*'meeting or exceeding Investor expectation,
improving value : reducing costs'*



**SUPPLY CHAIN PARTNERS AS
TRUSTED DELIVERERS**

Evaluation Strategy: Bidding Overview

Bidders are required to submit documents across 3 key areas:

50-80% QUALITY SUBMISSION

Intelligent challenging questions, demonstrating how to use experience to improve outcomes – promises converted to commitments:

- Strategically Aligned (30%)
- Efficient delivery (35%)
- Local empowerment (40%)

20-50% COMMERCIAL SUBMISSION

Agile pricing and linked Dynamic Price Book:

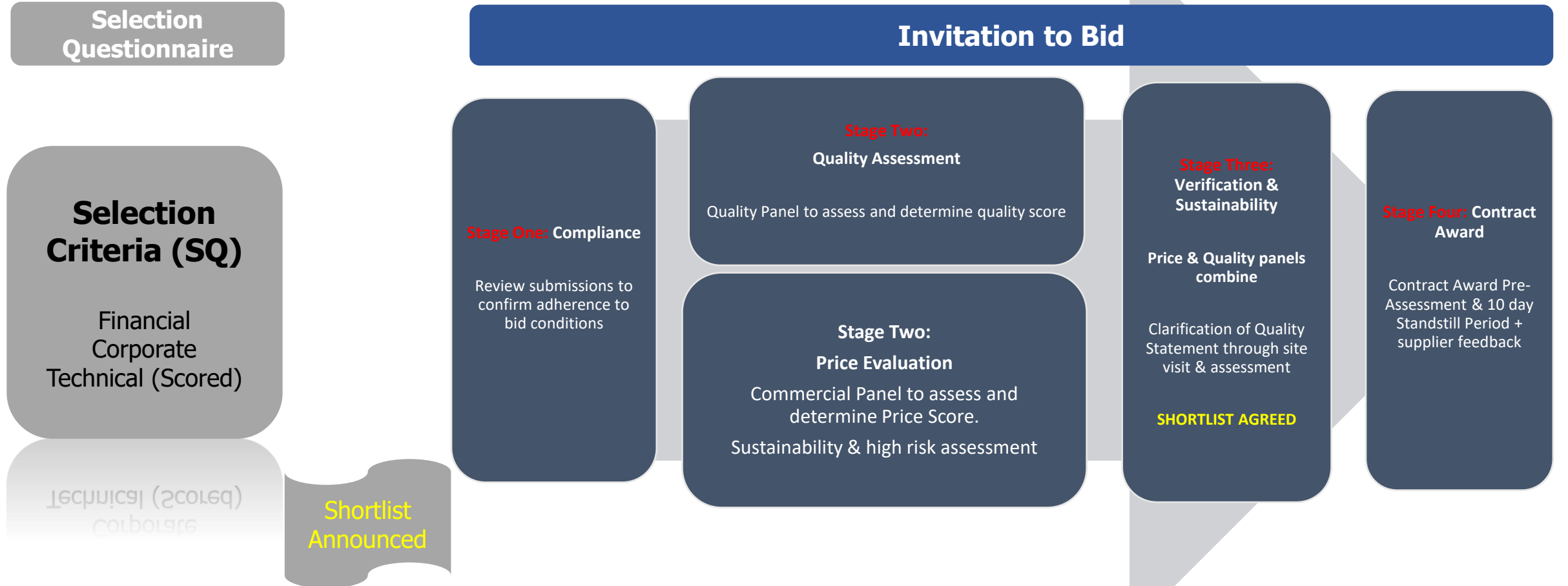
- Project initiation (5%)
- Development Phase price (15%)
- Overhead & Profit (20%)
- Basket of Goods (40%)
- Preliminaries and construction management (20%)

Pass / Fail Selection Questionnaire

Meeting the condition precedent:

- Financial stability
- Quality management
- Insurance
- SME commitment
- Anti-Collusion
- Data Protection
- Fair Payments
- Anti-bribery

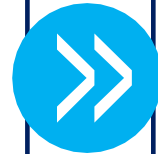
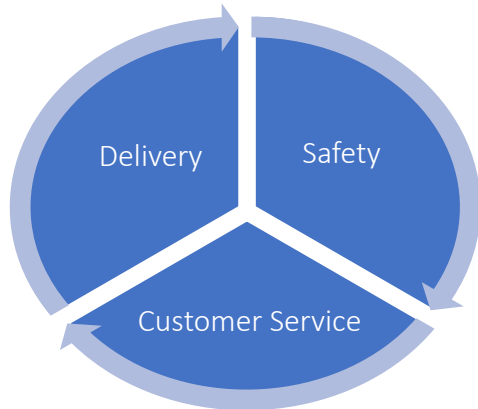
Evaluation Procedure



Regional Delivery Partnerships : A ground-breaking new model signalling transformation in road delivery.



Supporting the imperatives- meeting or exceeding investor expectations



Centred around collaboration and allocating future work based on performance



Sustainable development balancing - social, economic, environmental, human and manufactured outcomes





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Thank You

Questions?

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Comfort Break

10 Minutes



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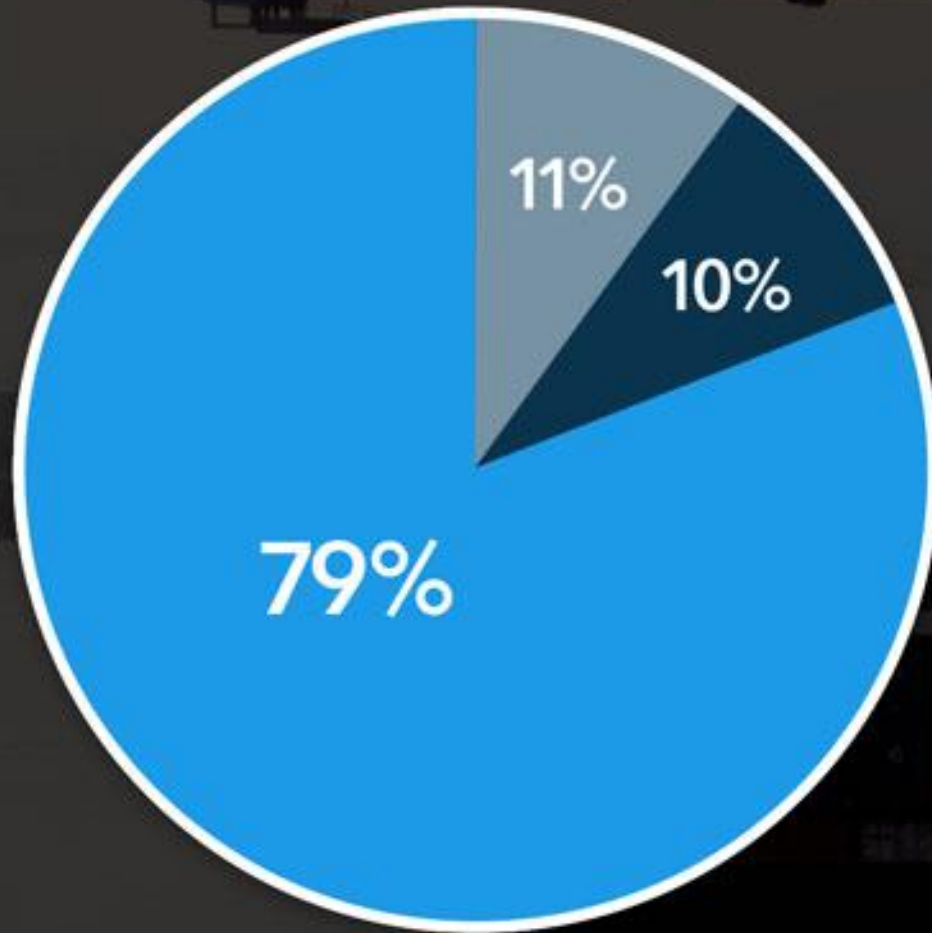
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Material Circularity & Carbon: Possibility & Responsibility

Miles Watkins, Cai & Watkins Consulting

Average Breakdown of Scopes 1, 2, & 3

Source: GHG Protocol



Scope 1 Scope 2 Scope 3

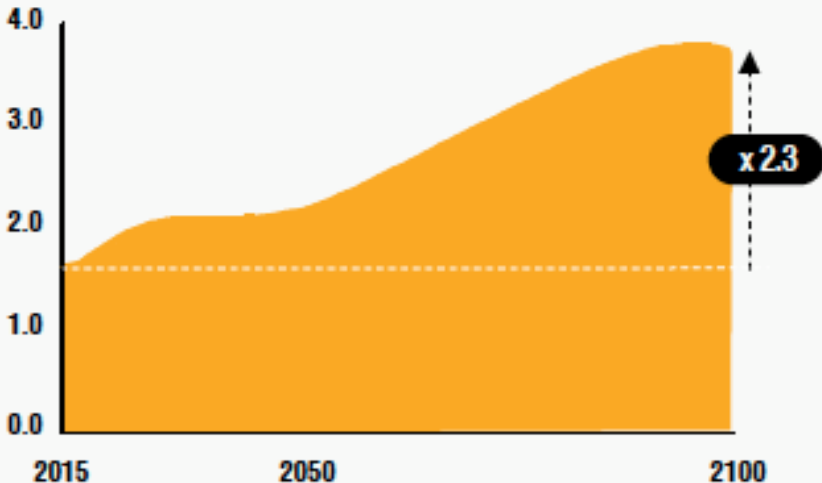
Source: GHG Protocol

Scope 3 Challenge

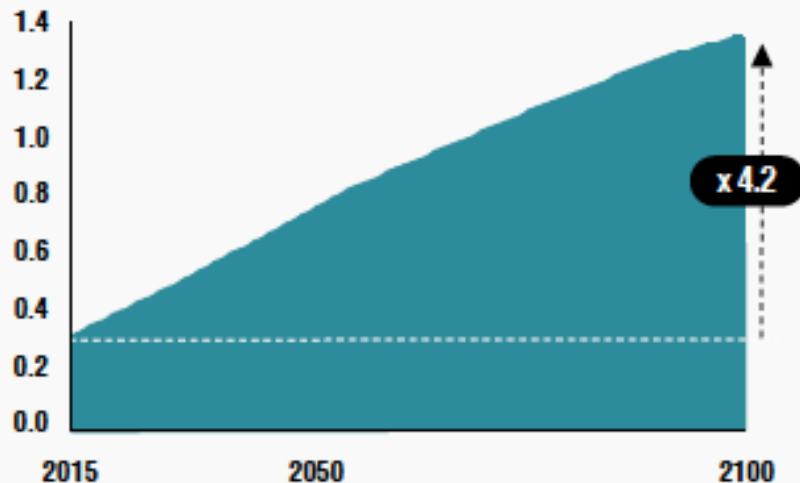
Difficult to assess, because it is not under the company's direct control

Difficult to quantify due to a lack of reliable industry-based data.

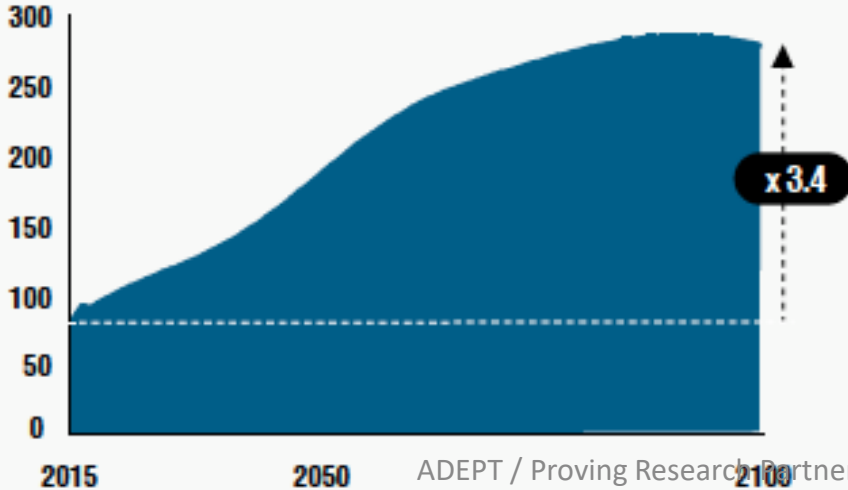
STEEL
Gt STEEL PER YEAR



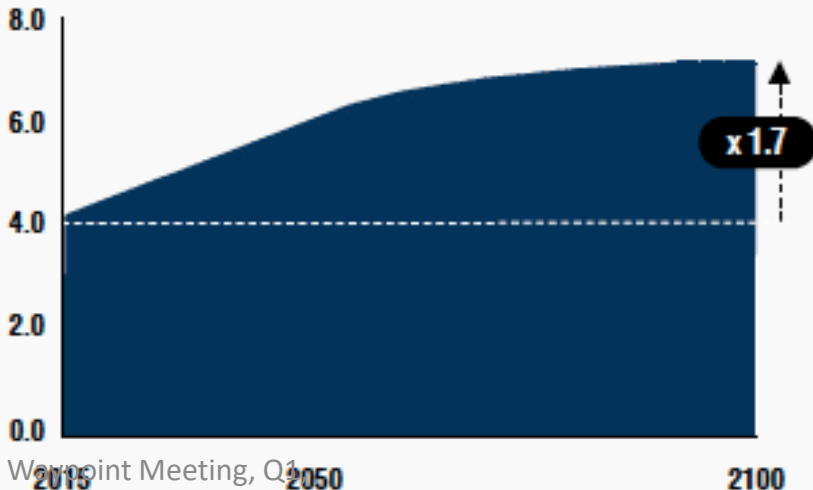
PLASTICS
Gt PLASTICS PER YEAR



ALUMINIUM
Mt ALUMINIUM PER YEAR



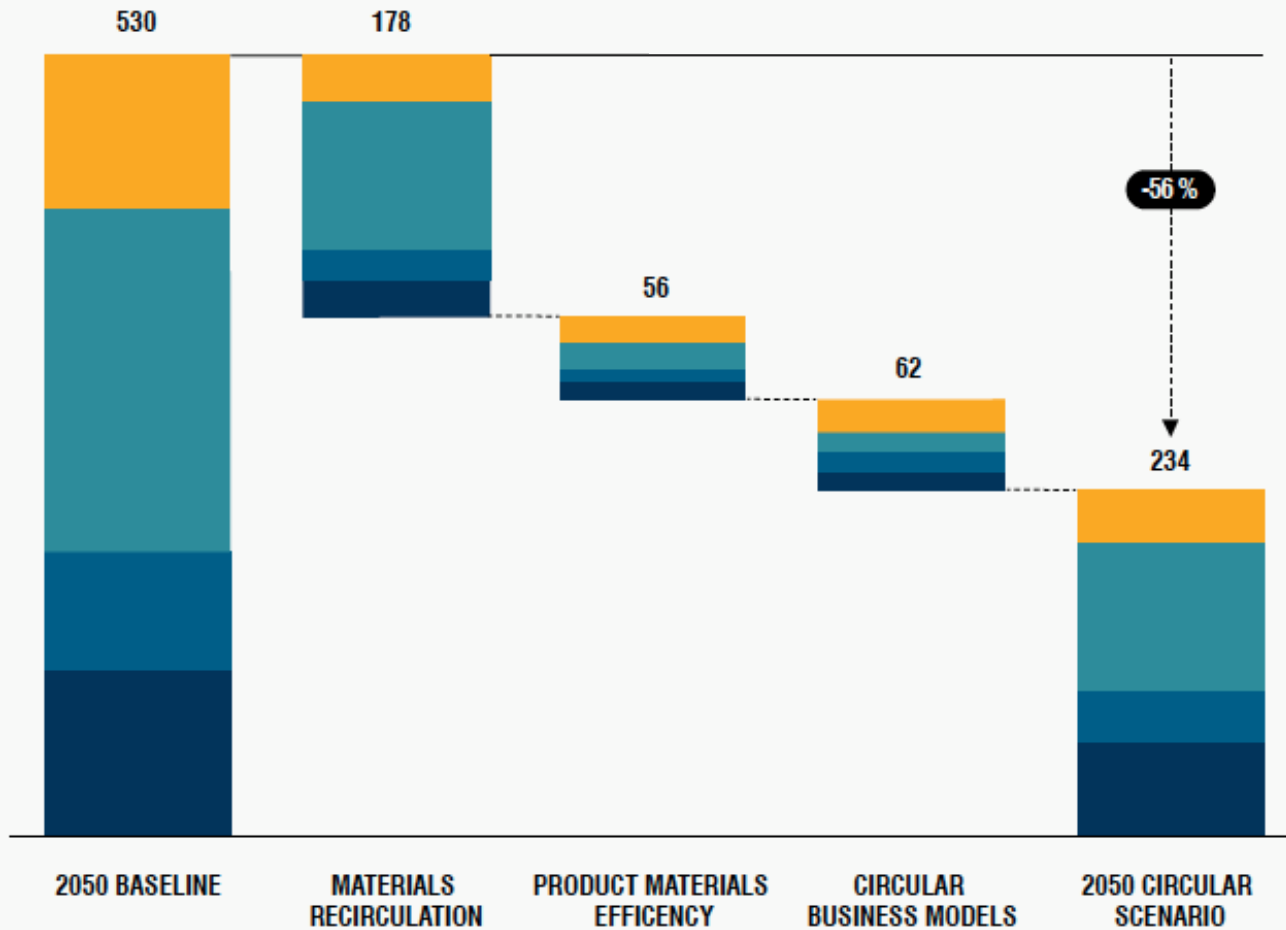
CEMENT
Gt CEMENT PER YEAR



EU EMISSIONS REDUCTIONS POTENTIAL FROM A MORE CIRCULAR ECONOMY, 2050
Mt OF CARBON DIOXIDE PER YEAR

STEEL PLASTICS ALUMINIUM CEMENT

A MORE CIRCULAR ECONOMY CAN CUT
EMISSIONS FROM HEAVY INDUSTRY BY 56% BY 2050





The future:
Design for perpetuality



Sins of the past:
What's in my inventory?



17th February 2022

BOUND MATERIALS

FOAMBASE™ & HBM

Foambase™

- Foambase™ is our cold-lay permanent base and binder course replacement
- Manufactured to SHW cl.948
- Used to replace base and binder course in traditional road designs
- High recycled content
- Uses 5% of the energy of hot asphalt during the manufacture stage
- Laid with the same resource as traditional asphalt
- Site batching gives excellent advantages on cost and program and allows self supply
- Approved for the reuse of tarbound arisings

HBM

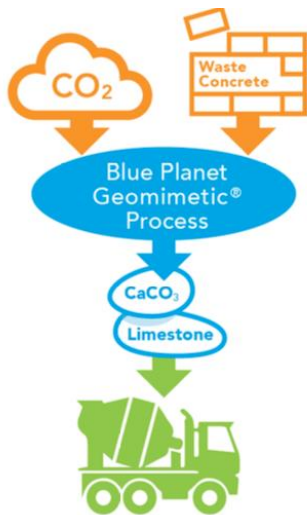
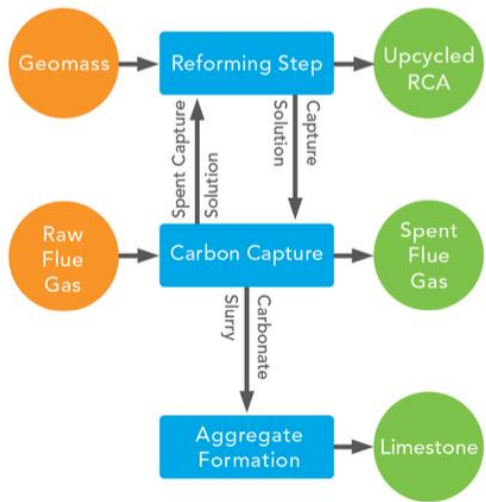
- We manufacture all grades of HBM, known most often as cement bound granular material (CBGM) in the UK surfacing market
- CBGM is manufactured to BSEN 14227-1, the European specification
- CBGM can replace the foundation, subbase, lower base and upper base in uk composite pavement designs
- Allows savings by using more cost effective materials and thinner designs to achieve the same results as the original asphalt designs

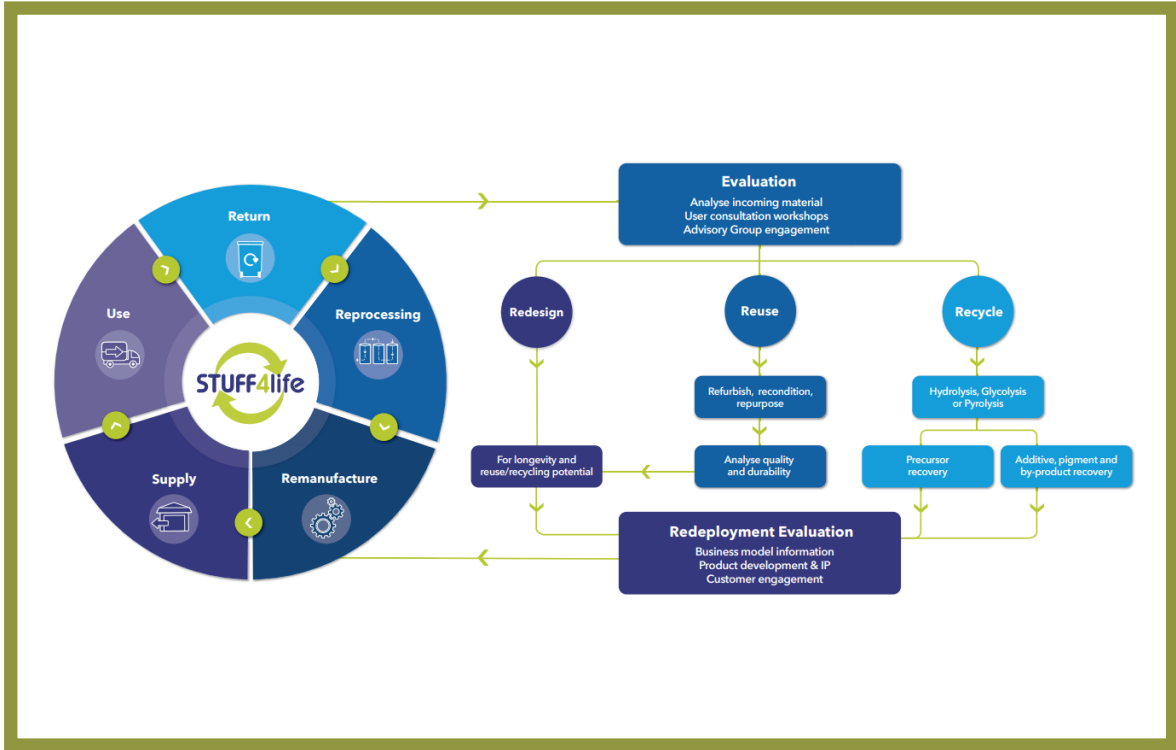
OCL materials are used on Highways England Schemes nationwide.

Did you know...

*Foambase™ and HBM use up to **94%** recycled constituents.*







- Look at re-defining assets – not just by their form but also their constituents
- Understand what you have and what you need – timing, design, material neutrality
- If it's possible to use recycled materials – then why not?





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NY Highways: Rationale & Experiences

Barrie Mason, North Yorkshire Highways

NY Highways - Decision

- Existing contract was due to expire at end of March 2021
- Options Appraisal carried out 2018/19
- Teckal company preferred option
 - Contractual restraints will be removed
 - Greater control & flexibility to meet local demands
 - Enhanced ability to adapt the service to changing local government landscape
- Executive approval to implement the Teckal company – April 2019



NY Highways – Five Year Plan

- Year 1: (19/20) Preparation
 - Year 2: (20/21) Preparation to mobilisation
 - Year 3: (21/22) Delivery – service continuity is key aim (current state)
 - Year 4: (22/23) Review – consider whole system
 - Year 5 onwards – continuous, collaborative improvement
-
- Year 3 success – customers do not notice a difference
 - Long term success – customers do notice
 - External trading – additional profit

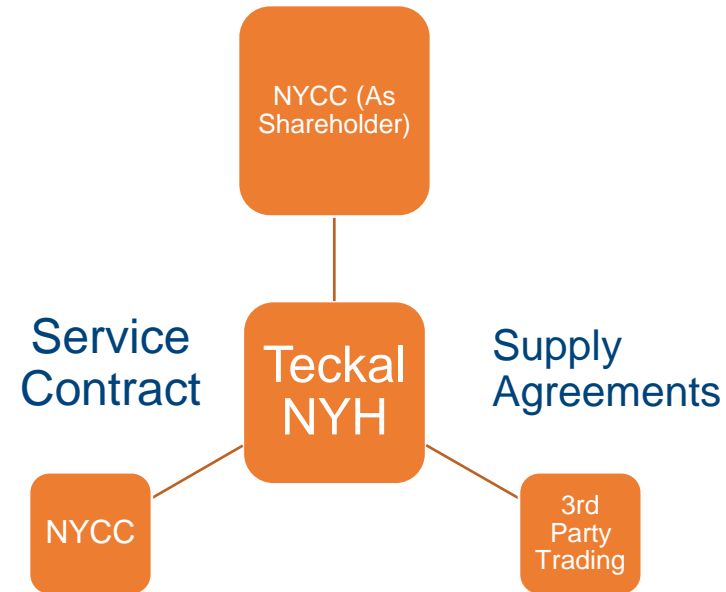


NY Highways – delivered services



Setting up the Teckal

- Business Case
- Governance
- Setting up the Business as Ltd
- Company run by Directors not the Shareholder, so not a DLO
- Appointees to the Board
- Articles of Associations
- Reserved Matters
- Procedures – e.g. Procurement
- Schemes of Delegation
- Board Meeting Processes
- Business Plan



Articles Of Association

The document which lists the regulations which govern the running of a company, setting out the rights and duties of directors and shareholders, individually and in meeting.

Key Elements of the Project



Mobilisation – Resourcing to Implementing

Questions came from every angle.....



Getting Underway....



MOTOR VEHICLE SERVICE APPRENTICE
HIGHWAYS MAINTENANCE APPRENTICE



**KEEP OUR
COMMUNITIES
AND RESIDENTS
CONNECTED**
APPLY TODAY



OFFICIAL



Successes First Three Months.....

- **Achievement of Day 1 Success Criteria.**
- **First works completed by NYH Staff directly on day 4.**
- **First months of the capital programme agreed and commenced.**
- **Apprenticeship programme commenced.**
- **First employees recruited on to new NYH terms and conditions.**
- **Winter Driver recruitment commenced.**
- **Circa £2million of works completed.**
- **Signs, Lines and Vines successes.**
- **First Staff Survey completed.**
- **Draft Carbon Plan Completed**
- **Funding Award Received from LCRIG for Carbon Calculator**
- **First external works (street lighting) completed**
- **First Section 278 works for Brierley Homes programmed.**

Lessons Learned

Underestimation of:

- Size
- Scope
- Complexity
- Overall Drag on NYCC Staff Resources
- Budget
- Procurement
- HR and TUPE Complexities
- Compliance
- Systems Development
- Specialised Resource Requirements



2022 and beyond.....

- **2022-23**
 - Restructure
 - Feasibility results of sub-divisions
 - Achieve NYCC costs savings of £350k
- **2023-24**
 - Two new subsidiaries commence trading
 - First works won outside of North Yorkshire
 - Achieve NYCC cost savings of £400k
- **2024-25**
 - Commerciality and trading become BAU
 - Carbon targets met and exceeded
 - Achieve NYCC cost savings of £250k
- **2025-26**
 - 33% tender success ratio
 - Review of 5 year plan
 - Achieve NYCC cost savings of £200k





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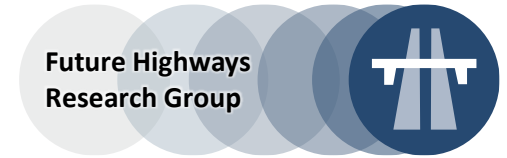
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Human Capital Management: Sector Census

Karen Farquharson, Future Highways Research Group

Human Capital Management Research Questions



1. What is the true scale of the problem?

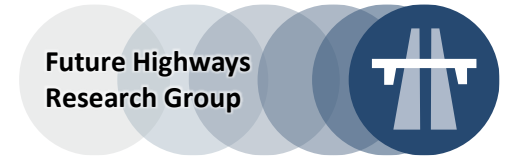
- a. What is the current level of vacancies (capacity audit)?
- b. What is the skills gap, by category of role (capability audit)?

2. What are the key factors and drivers leading to the current human capital position?

- a. Past and current level of funding.
 - i. Salaries & incentives.
- b. Profile of the sector.
 - i. Age, gender, background, qualifications.
- c. Attractiveness of the sector. **(Highways Sector Council Survey)**
 - i. Career expectation and progression.
 - ii. Perceived and actual culture, diversity, behaviour, and attitudes.
- d. Competition for resources.
 - i. Attractiveness and impact of the adjacent sectors and activities.

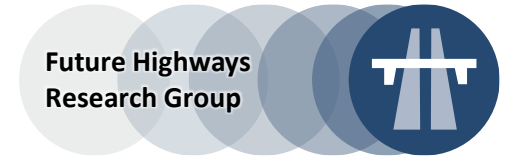
3. What are the key drivers that will influence the future requirements for human capital?

Human Capital Management Research Questions (cont..)



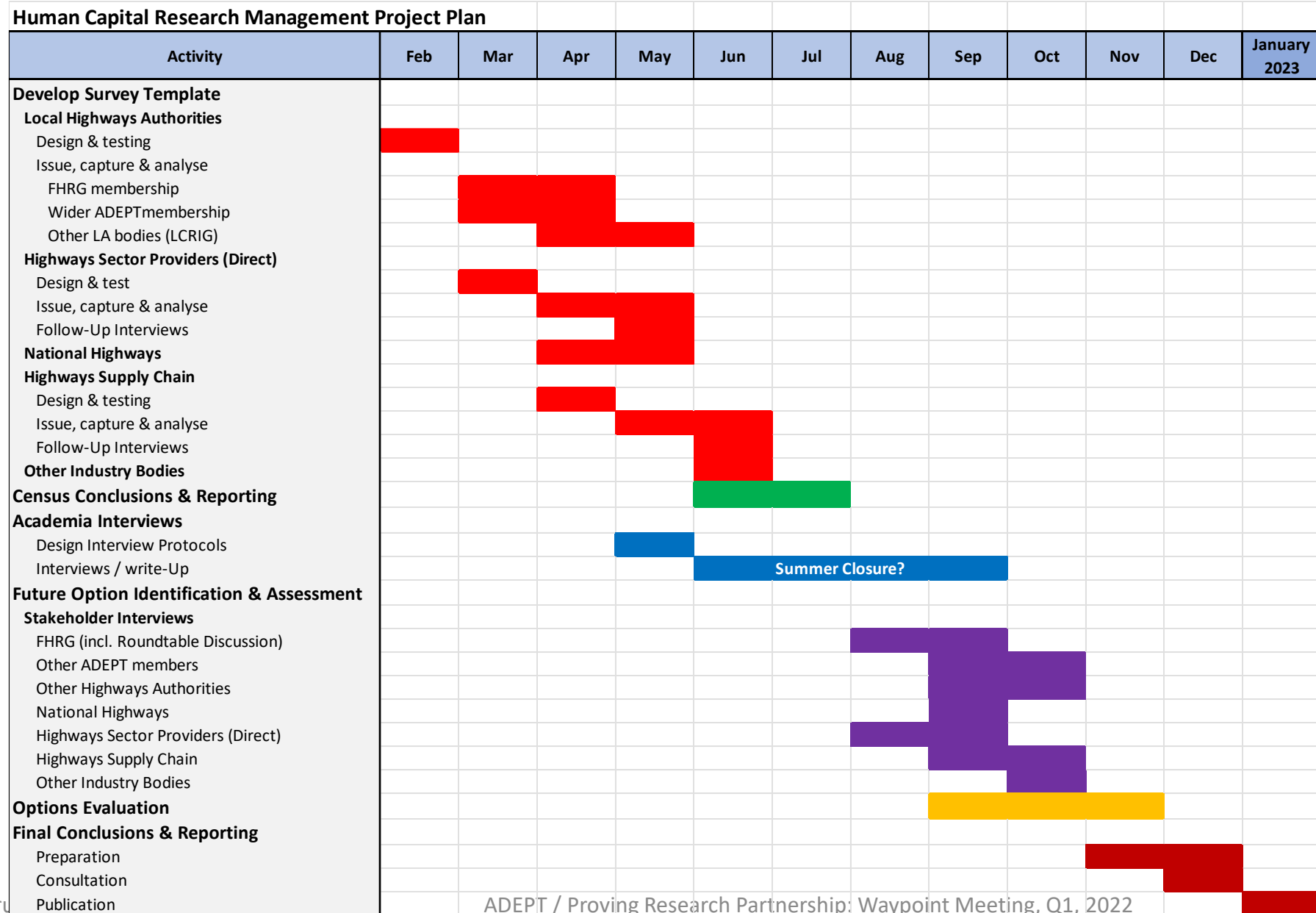
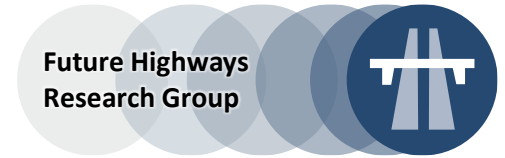
- 4. What are the key drivers that will influence the future requirements for human capital?**
 - a. Environmental and carbon reduction agenda.
 - b. New methods and technologies.
 - c. Future service delivery models.
 - d. The scale and source of future funding for the sector.
- 5. What are the implications for the sector if the human capital challenges are not addressed?**
- 6. What are the changes and what solution options are available to address the identified challenges?**
 - a. Additional sources of funding and investment.
 - b. Sector entrants and retention.
 - i. Encourage fresh talent and new skills (from a diverse background).
 - ii. Career progression.
 - iii. Education and training.
 - c. Sector collaboration opportunities.
 - d. Sector structural changes.
 - i. Optimisation of current skills and capacity.
- 7. Moving forward, how does the sector monitor and report on the future human capital position and the impact of funding, policy decisions, structural and operational changes?**

HCM Research Programme Partners (current)

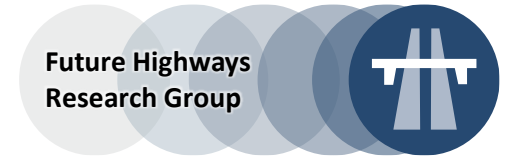


- 1. FHRG / ADEPT**
- 2. Amey**
- 3. National Highways**
- 4. CECA**
- 5. Institute of Quarrying**
- 6. Highways Sector Council**

HCM Project Plan



HCM Census (Local Authorities)



Highways Authority Details	
Authority Name	<i>text</i>
Political Profile	<i>checklist</i>
Size of Highways Road Network (km)	<i>number (km)</i>
Service Delivery Model	<i>checklist</i>
Annual Maintenance Budget £M (2022/23)	<i>number £M</i>
Annual Capital Spend £M (2022/23)	<i>number £M</i>

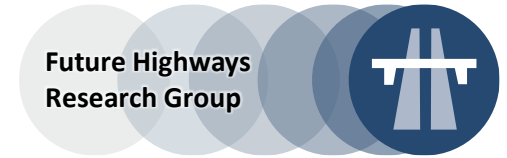
Name of person completing survey

That the LA is responsible for.

DLO/ Outsourced / Mixed / Tekal

Resource Profile by Role	Current Staff Numbers	Number Agency Temps (paid PAYE)	Number of Agency Temps/ Consultants (outside IR35)	Skills / Educational Profile e.g. Engineering	Age (Number under 30)	Age (Number over 50)	Minimim Staffing Requirement (Number)	Optimal Staffing Requirement (Number)	Number of Vacancies
Appenticeships (non-grad)	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Checklist</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Graduate Trainees									
Engineer / Technician									
Senior / Specialist Engineer or Techncian									
Services Commissioner / Asset Manager / Planner									
Services / Function Management									
Head/ Director of Service									
Professional / Contract Support / Project Managers									
Customer Services / Community Engagement / Communications									

HCM Census (Local Authorities)



Additional Information	
Gender profile of staff.	<i>list / approx. %</i>
Ethnicity profile of staff.	<i>list / approx. %</i>
Employee average length of service.	<i>years</i>
Average length of Agency contract	<i>years, months</i>
Do you have any Kickstart placements? If so, how many?	<i>text</i>

Recruitment Policy	
Preferred channel for recruitment	<i>checklist</i>
Average length of time to offer position	<i>number (months)</i>
What are the reasons for any difficulty in recruiting?	<i>checklist</i>
What initiatives have you undertaken, or are considering, to address any challenges in recruitment?	<i>text</i>

e.g. Framework, advertising (local, industry publications, agency, other)

e.g. Pay & conditions, location, career progression, attractiveness of role, competing opportunities)

e.g. Social mobility initiatives

Future Skills	
In addition to the traditional skills required by a highways authority, what future capabilities do you anticipate will be needed?	<i>checklist / text</i>
How do you plan to access these skills (e.g. recruitment, through provider, other)?	<i>checklist / text</i>

(e.g. Design, (repurposing highways), digital, environmental, bio-diversity, automation, energy, carbon reduction, new materials, behaviours



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Thank You

Any Questions?

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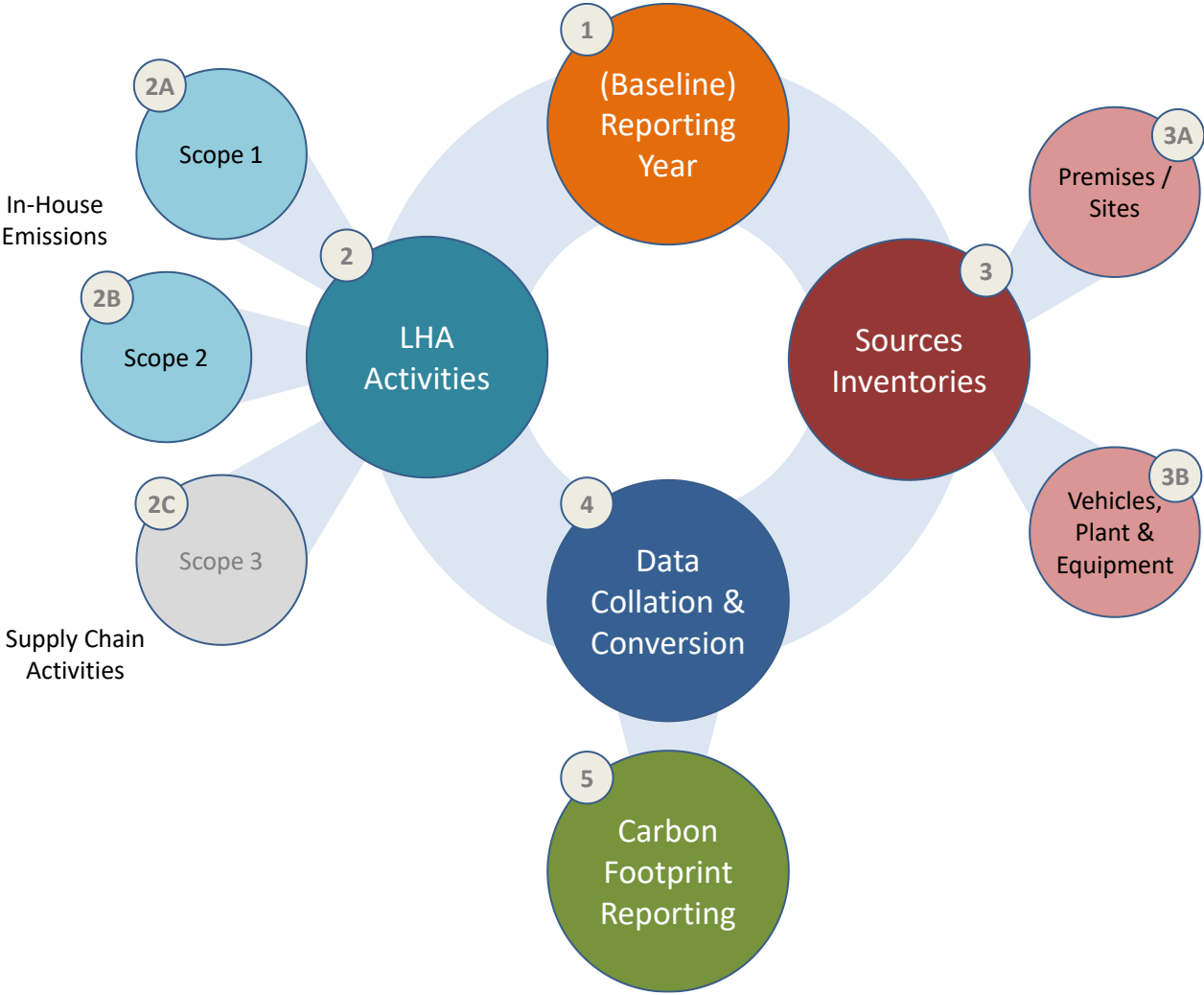
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Scope 1 & 2: LHA Guidance

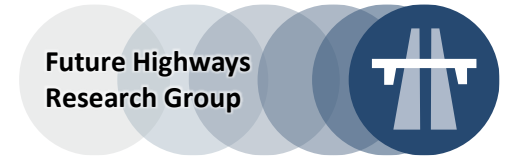
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Scope 1 & 2 Guidance

Key Elements



Document Review



- The document is available to FHRG members today.
- The guidance will be refreshed periodically to reflect GHG protocol changes.
- Brief document tour...

Supporting Tools



- **Automated Excel Application**
- **Desktop Application (MS Access + On-Line Azure Database)**

- **Brief toolset tour...**



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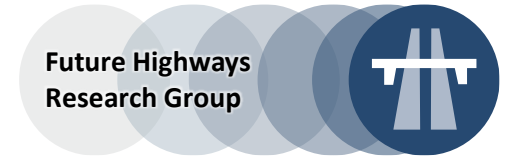
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Scope 3: Standards & Guidance

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Scope 3: Highways Authority Guidance



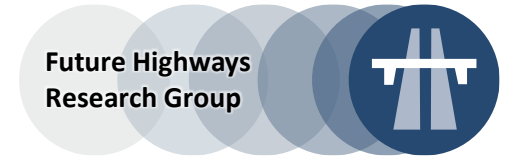
- **Commence immediately on completion of the Scope 3: Sector Review.**
 - Critical, as most authorities outsource and all have complex supply chains.
 - Informed and shaped by the Scope 3: Sector Review.
- **Create pragmatic, readily deployable, LHA specific guidance.**
 - Simple, thoughtful and consistent step-by-step guides.
 - Published by ADEPT to all members and the wider sector.
 - Reduce the costs, timescales and risks of Scope 3 implementation.
- **Will inform future carbon accounting and management practices.**
 - Both client-side and provider-side.
- **Provide a foundation for compliance assessments and benchmarking.**
 - Based on common frameworks, measures, boundaries, calculations and assumptions.
- **Scope 1, 2 & 3 Guidance documents will be reviewed and updated annually.**
 - As living documents.

Scope 3: Standards & Guidance



Research Project Element	FHRG & Partner Funded	Live Labs II Funded
Scope 3 Standards		
Core Standards	✓	✓
Comprehensive Standards		✓
Scope 3 Standards Compliance Assessment (Core Standards)	✓	✓
Scope 3 Standards Compliance Assessment (Comprehensive Standards)		✓
Scope 3 Guidance		
Guidance for LHAs	✓	✓
Guidance for LHAs & Supply Chain Partners		✓
Carbon Calculators		
Core Specification (Devon / Exeter Baseline)	✓	✓
Comprehensive Standards		✓
Market Review (Assessment of Available Products)		✓
On-Line Library of Carbon Reduction Initiatives		
Free to Access / Use Initiatives Repository	✓	
Curated, Independently Assessed Initiatives Library		✓

Scope 3: Work Packages



- **Scope 3: Carbon Calculator Review & Specification Development**
 - Exeter University / Devon model (used as the benchmark).
- **Scope 3: Local Highways Authorities Analysis**
 - Sector readiness assessments and impact of scope 3 accounting on services and supply chains.
 - Future carbon reduction strategies (collating initiatives being considered / implemented across the FHRG membership).
- **Scope 3: Partners & Supply Chain Analysis**
 - Private sector engagement and readiness assessments (collecting sector practices and learning).
 - Supply chain reporting requirements (cascading scope 1 and 2 carbon accounting principles).
 - International picture and lessons learned.
 - Analysis of future procurement considerations (as this is a particularly hot topic).
- **Carbon Calculator Standards Authoring**
 - Available to LHAs to test the suitability of carbon calculators for their service.
- **Scope 3 Sector Guidance Authoring**
 - Developed from (2) and (3) above.
- **Compliance Assessment Toolkit**
 - Initially available to FHRG members (to be extended to all ADEPT members).



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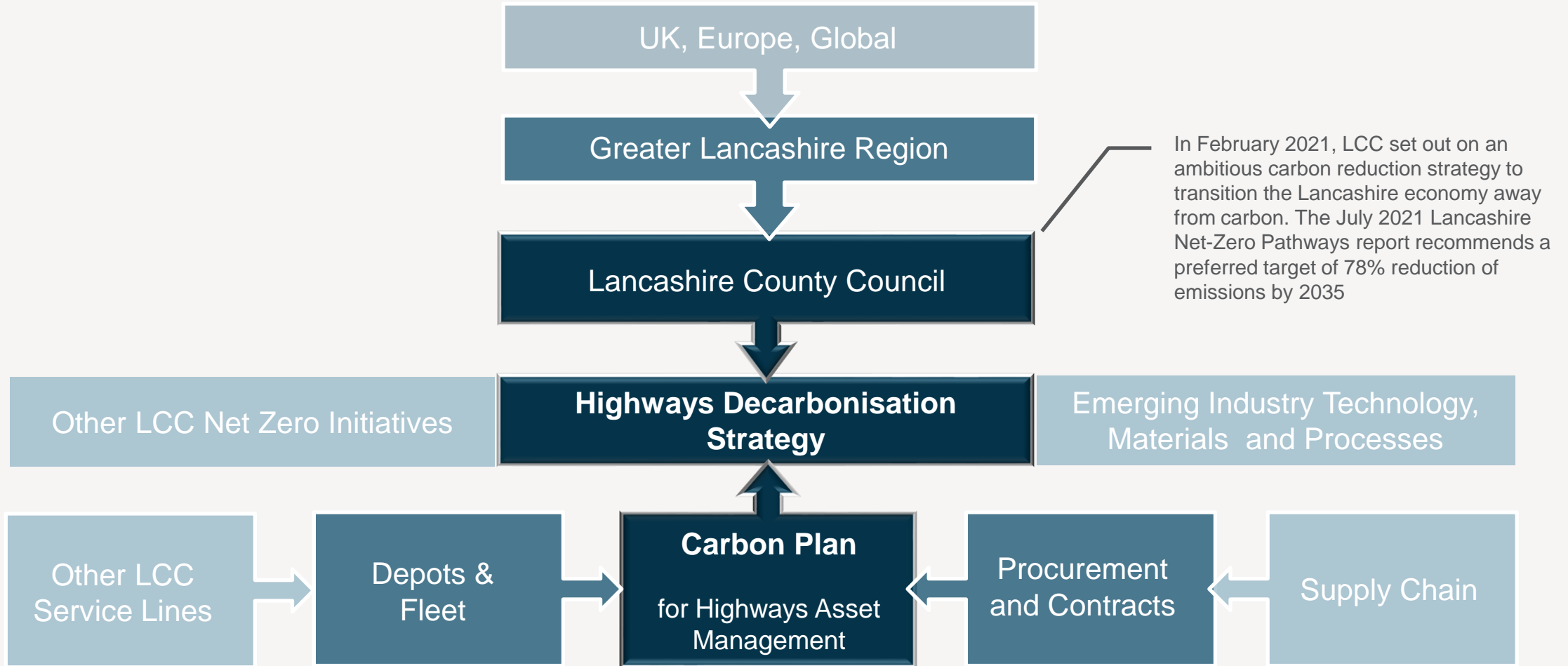
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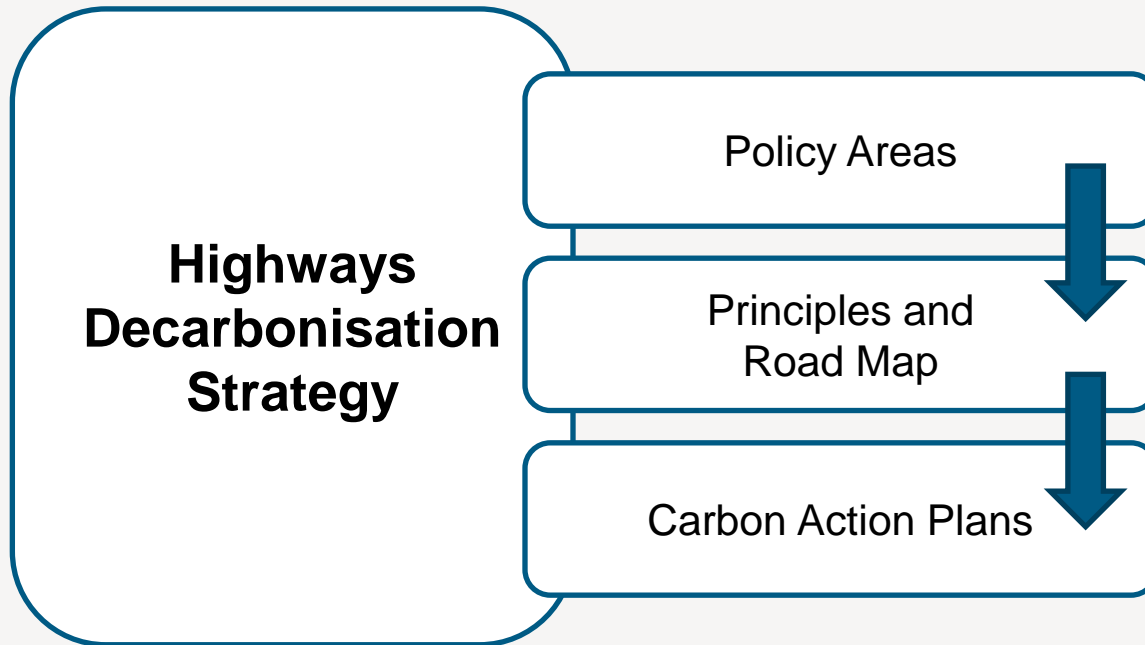
Committing to Net Zero: Highways Decarbonisation in Lancashire

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Context – areas of control and influence



Highways Decarbonisation Strategy

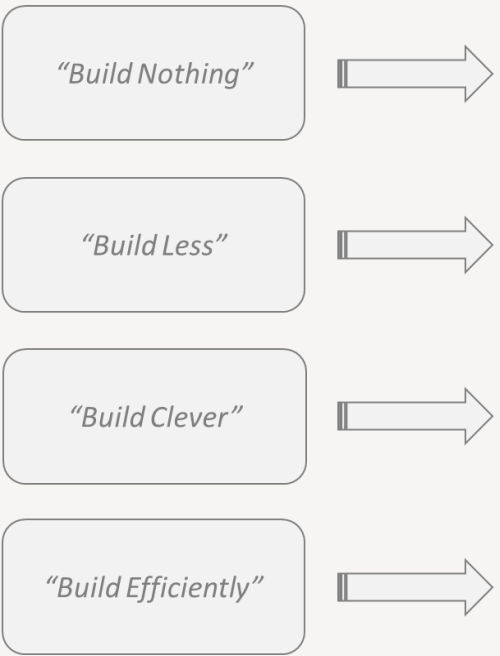


- Feeds into LCC's Corporate Priorities:
- Delivering better services
 - Caring for the vulnerable
 - Protecting our environment
 - Supporting economic growth

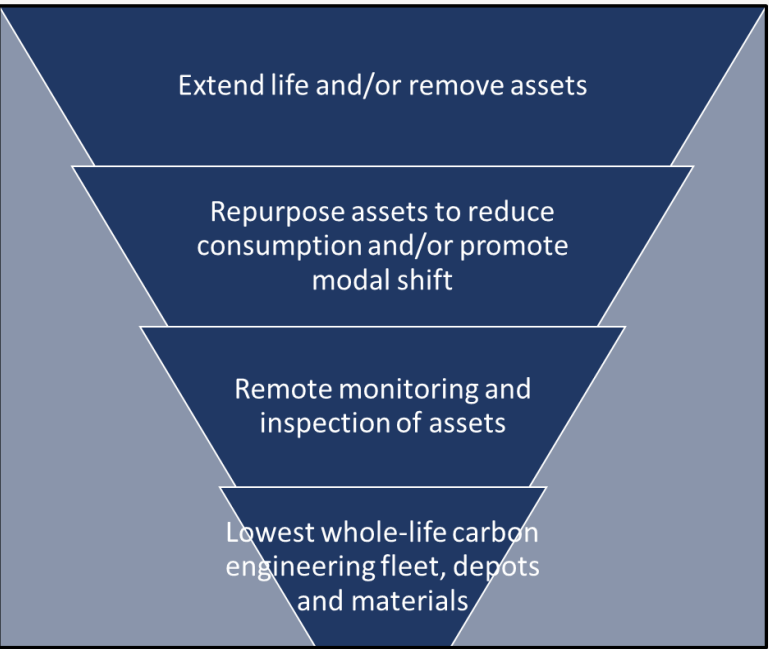


Carbon Hierarchy

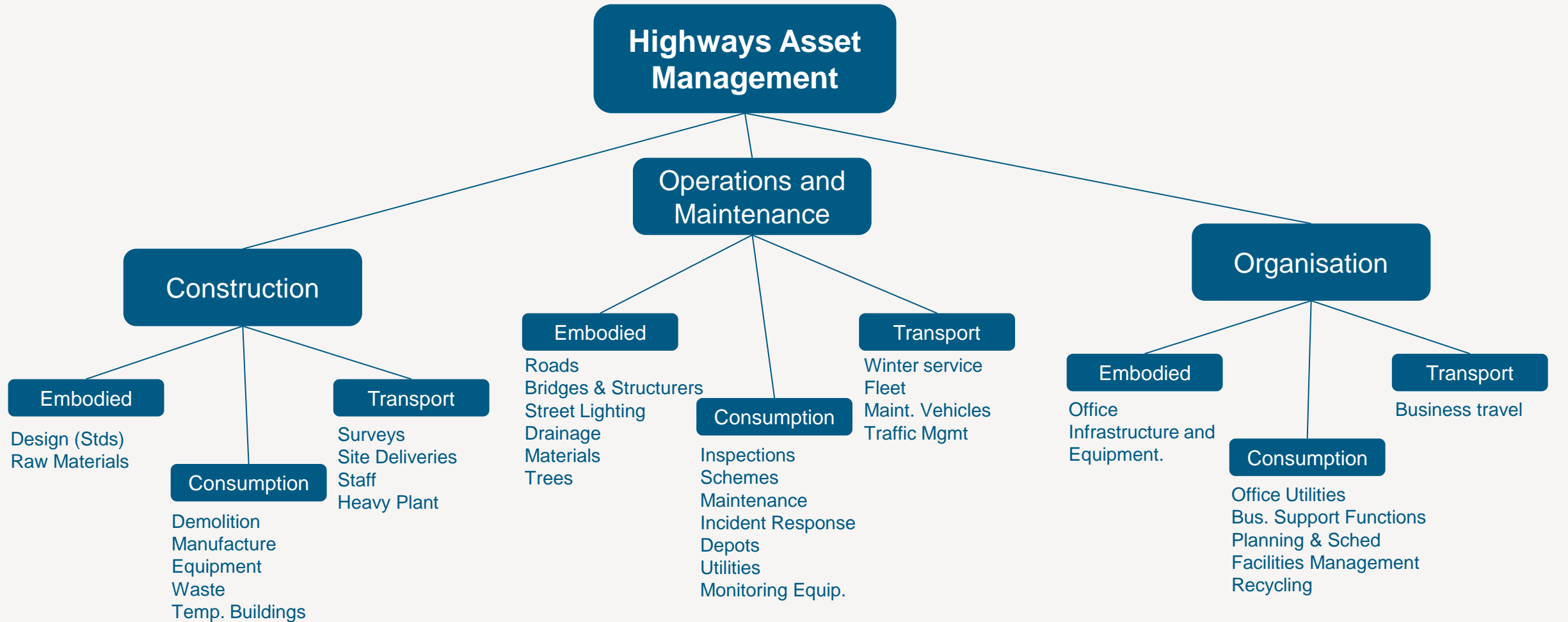
PAS 2080:2016 Carbon emissions reduction hierarchy








Application to of Carbon Hierarchy to Highways Asset Management








Mind Mapping: Carbon Sources



Guiding Policy Areas

	Promoting low carbon approach in procurement of goods and services; Stimulate innovation from our supply chain, by communicating our ambition and leveraging commercial incentives to take action.
	Measure the carbon impact of all highway maintenance activities and publish carbon baseline and impact assessments; so we can prioritise initiatives and continuously improve.
	Aim for lowest carbon impact across the lifecycle of the asset; by considering the impact of carbon in lifecycle modelling as part of the decision-making process.
	Ensure the carbon impact of ongoing revenue maintenance activities are considered as well as replacement carbon costs; achieving sustainability through durability.
	Purchase of green energy [OM1]; buy 100% of our electricity via a certified renewables tariff.

	Replace energy intensive services with low energy products and processes; futureproof for evolving highways infrastructure and technology associated with a low carbon society.
	Consider carbon off-setting as option of last resort; Minimise dependency on offsetting and remain transparent on scope 3 emissions throughout the value chain.
	Work towards Net Zero across all depots and fleet operations; working collaboratively with other service lines.
	Work with other stakeholders to consider innovation and develop low carbon initiatives across highway maintenance activities; embed a decarbonisation culture with the necessary behaviours, roles and skill sets.
	Consider the planting of trees within the highway boundary and measures to increase net biodiversity; wherever appropriate.



Benefits of the Highways Decarbonisation Strategy

Structured and quantifiable **route map** for minimising Scope 1, 2 and 3 carbon emissions

Detailed and resourced **action plan**

Considering existing maintenance backlog and utilise outputs from **lifecycle modelling analysis**

Analysis of carbon impacts which informs business case and funding applications

Innovative thinking – trying new products and approaches

Encouraging **cultural change** where everyone takes account of decarbonisation

Procurement guidance and measures to incentivise **supply chain** fairly

Attracting additional funding by implementing the Highways Decarbonisation Strategy





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Next Meeting: Agree Date & Location

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End of Document

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