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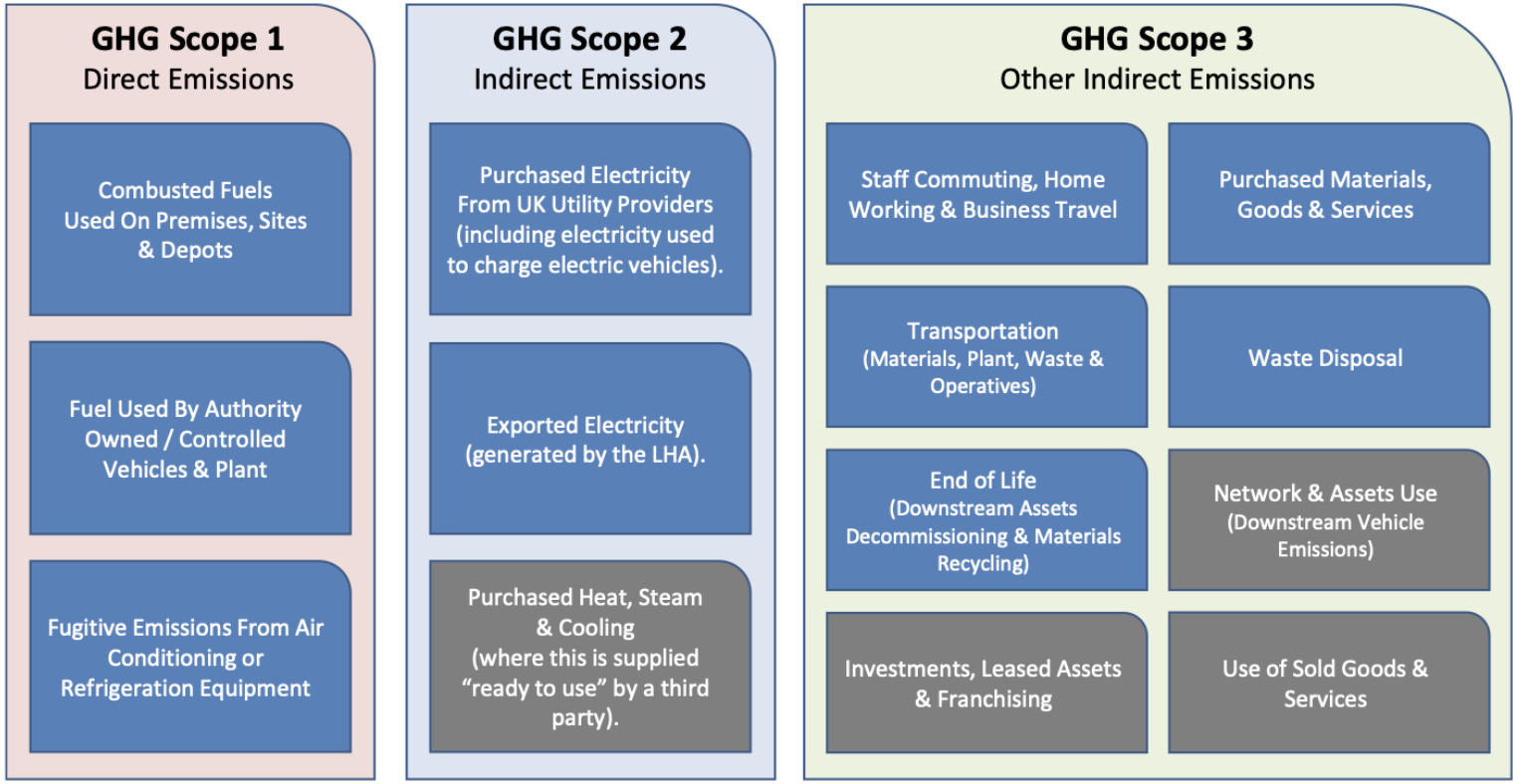
ADEPT LIVELABS2
Decarbonising Local Roads

Giles Perkins FCILT, Programme Director
Carbon Measurement
November 2026

Department for Transport

Measuring carbon

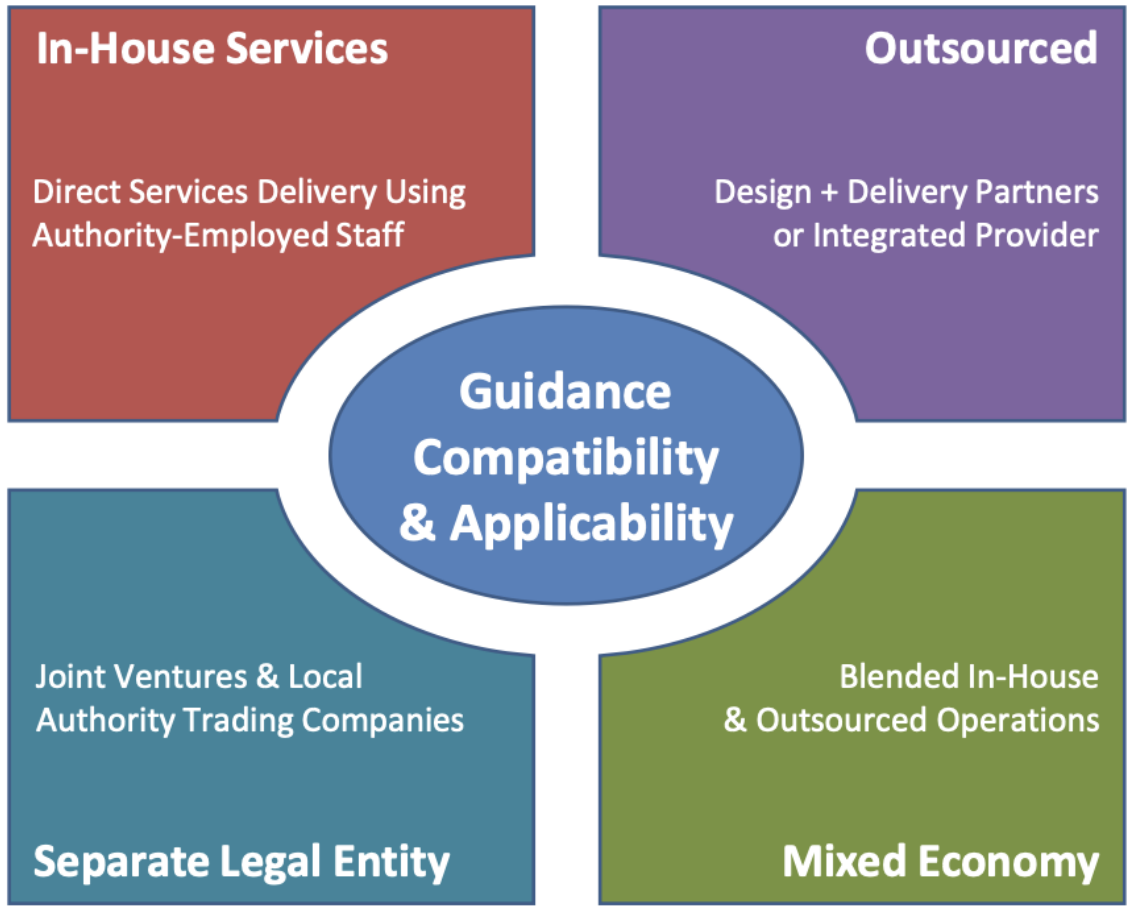
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Service types

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Life cycle stages

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Life Cycle Stages	Product Stage				Construction Stage		Use Stage							End Of Life			
							Asset Maintenance					Operations					
Modules (EN15978 & PAS2080)	A0	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4
	Studies & Consultations	Raw Materials Supply	Transport	Manufacturing	Transport	Construction	Use	Maintenance	Repair	Replacement	Refurbishment	Operational Energy Use	Operational Water Use	Demolition	Transport	Waste Processing	Disposal

Benefits & Loads Beyond The System Boundary
D
Reuse, Recovery & Recycling

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Carbon allocations…

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Categories & Subcategories		Scope 1	Scope 2	Scope 3
Premises & Sites	Office & Depot Based Activities	✓	✓	✓
Vehicles & Plant	Vehicle Use	✓	✓	✓
	In-Use Energy of Plant	✓		✓
	Transport of Plant & Equipment	✓	✓	✓
Staff & Contractors	Business Travel During Work	✓	✓	✓
	Commuting			✓
	Home Working			✓
Purchased Products, Services, Transport & Waste	Purchased Materials & Products			✓
	Purchased Services			✓
	Transport of Materials	✓	✓	✓
	Transport of Waste	✓		✓
	Waste Disposal	✓		✓

v4.1

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...carbon allocations

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Categories & Subcategories		Local Authority	Supply Chain	Wider Supply Chains	Staff Emissions
Premises & Sites	Office & Depot Based Activities	✓	✓		
Vehicles & Plant	Vehicle Use	✓	✓	✓	✓
	In-Use Energy of Plant	✓	✓	✓	
	Transport of Plant & Equipment	✓	✓	✓	
Staff & Contractors	Business Travel During Work	✓	✓	✓	✓
	Commuting		✓		✓
	Home Working		✓		✓
Purchased Products, Services, Transport & Waste	Purchased Materials & Products	✓	✓	✓	
	Purchased Services	✓	✓	✓	
	Transport of Materials	✓	✓	✓	
	Transport of Waste	✓	✓	✓	
	Waste Disposal	✓	✓	✓	

v2.7

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Sample calculation

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Items In Reporting Year	Data Source	Quantity	No. Of Deliveries	Unit Of Measure	Carbon Factor	Total kgCO2e
Total "Asphalt 5% Binder Content" Purchases						
Asphalt 5% Binder Content (100mm depth)	NH	84		tonnes	54.22774	4,555.13
Transport, HGV Rigid, 50% Laden, Inbound (Inc WTT)†	BEIS	315	3	km	1.03710	1,960.12
Total "Bitumen Emulsion" Purchases						
Bitumen Emulsion, Avg	NH	215		kg	0.32629	70.15
Transport, HGV Rigid, 50% Laden, Avg, Inbound (Inc WTT)†	BEIS	42	1	km	1.03710	87.12
Total "Concrete GEN 3 With CEM 1" Purchases						
Concrete GEN 3 With CEM 1	NH	60		m^3	248.75413	14,925.25
Transport, HGV Artic, 50% Laden, Avg, Inbound (Inc WTT)†	BEIS	54	9	km	1.03710	1,008.06
Total Waste Disposal Purchases						
Asphalt, Landfill, Waste, Avg	BEIS	56		tonnes	1.23401	69.10
Transport, HGV Rigid, 50% Laden, Avg, Inbound (Inc WTT)†	BEIS	62	2	km	1.03710	257.20
					Total kgCO2e (Reporting Year)	**22,932.13**

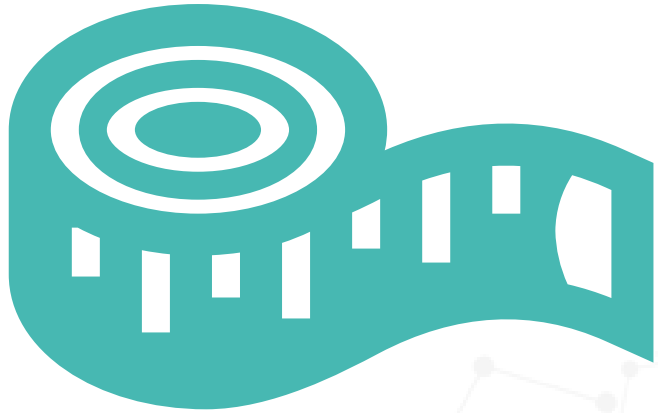
†Assumes overall 50% laden to account for the inbound (100% laden) and return (0% laden) journeys. Each HGV full load is 33 tonnes.

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Carbon Challenges

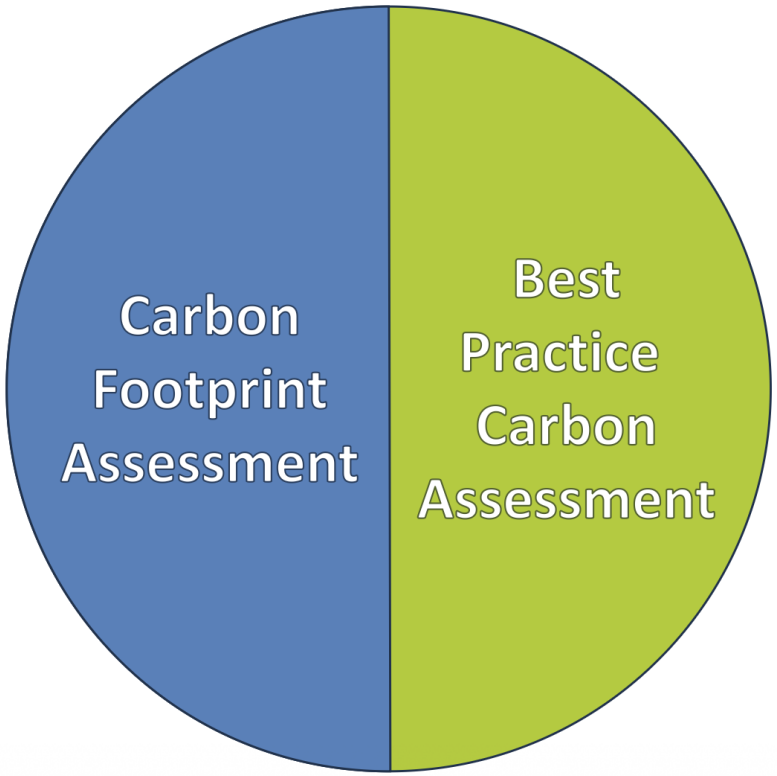
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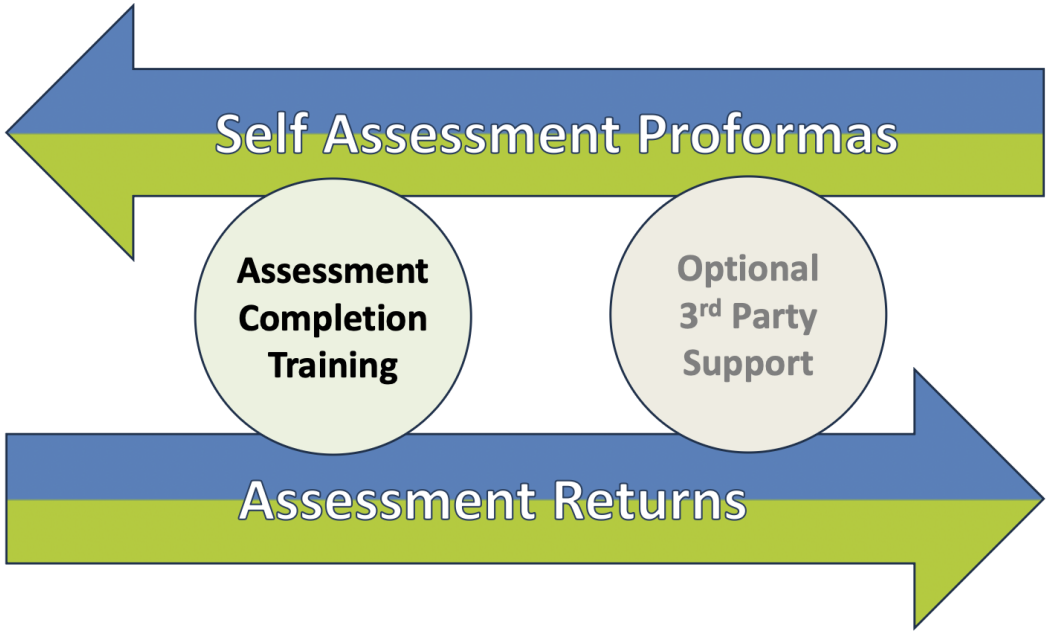
- Analogue vs. Digital data
- Quality and EPDs
- Greenwashing
- Resources
- Time
- Repetition & duplication



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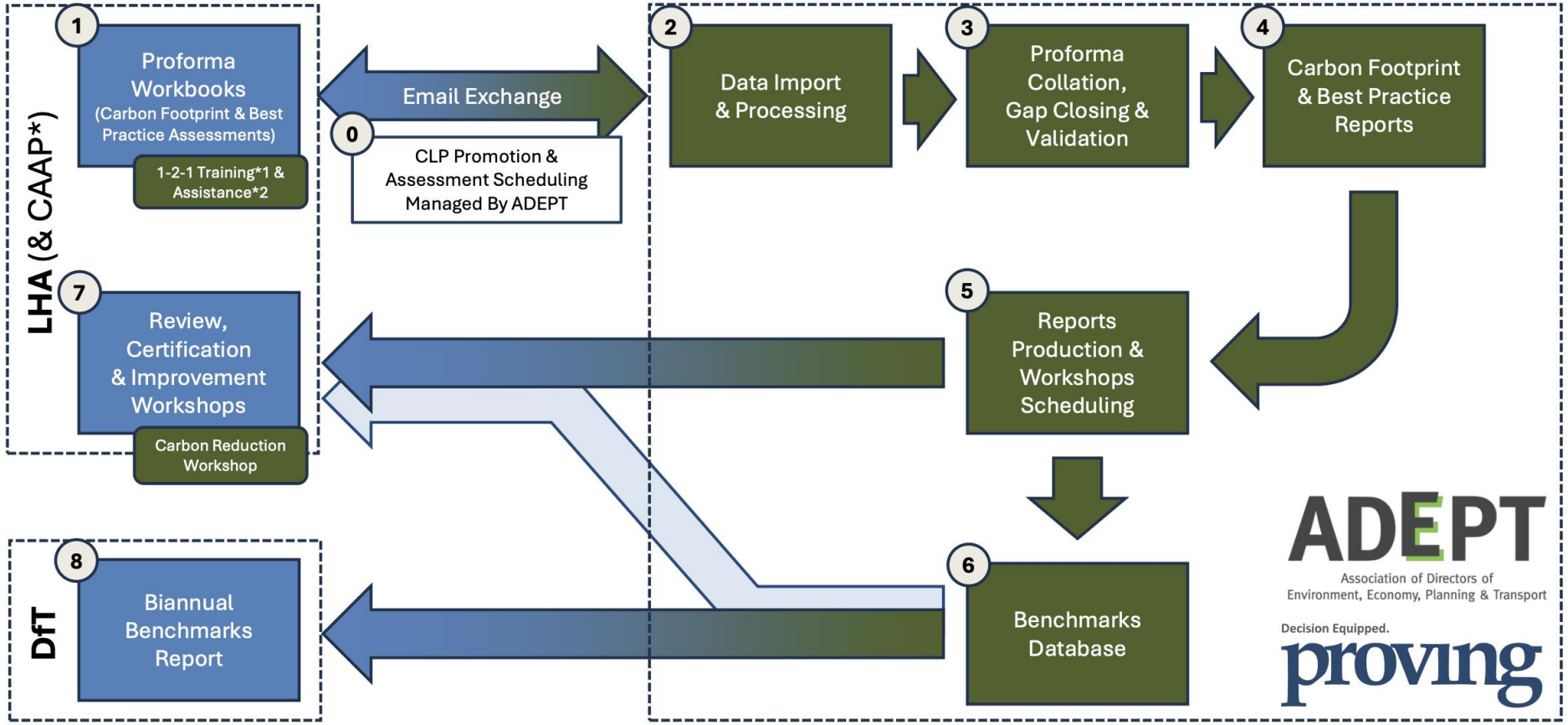
ADEPT Carbon Leadership Programme





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ADEPT Carbon Leadership Programme



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Decision Equipped.
proving

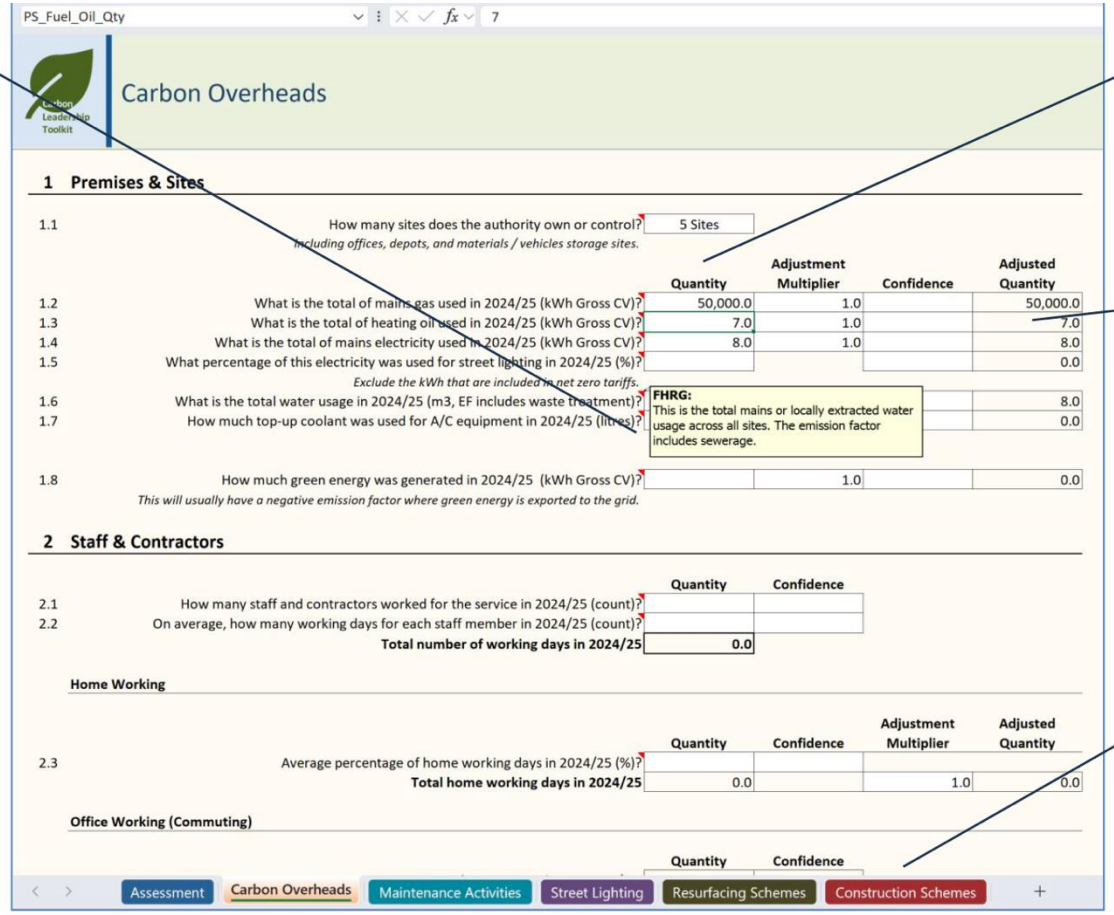
*: Carbon Assessment Assistance Partner, *1: LHA specific briefing, orientation and training, *2: LHA specific support and guidance (proforma completion).

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Pop-up help on all questions.

Simple Excel workbook (no automation).



Simple quantity and confidence for each factor.

Emissions factors are not required.

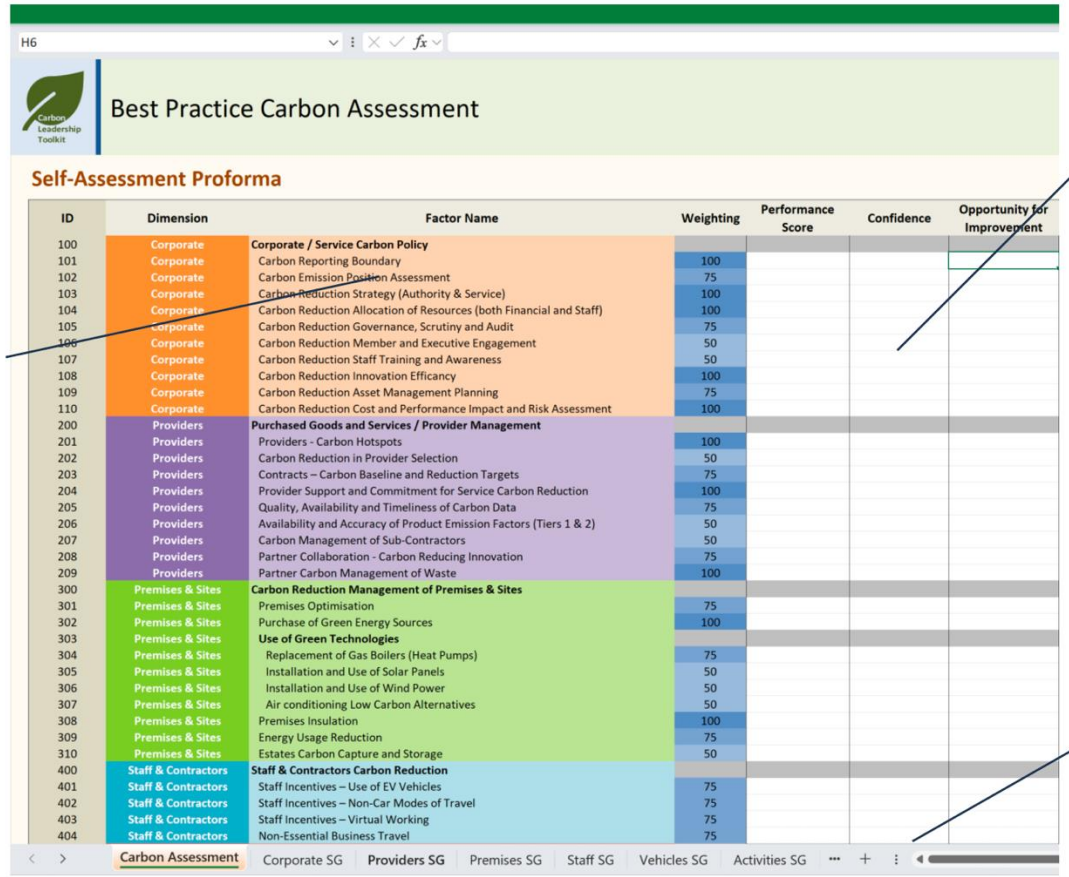
Five sections to complete.

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Dimensions and weighted factors.

Simple Excel workbook (no automation).



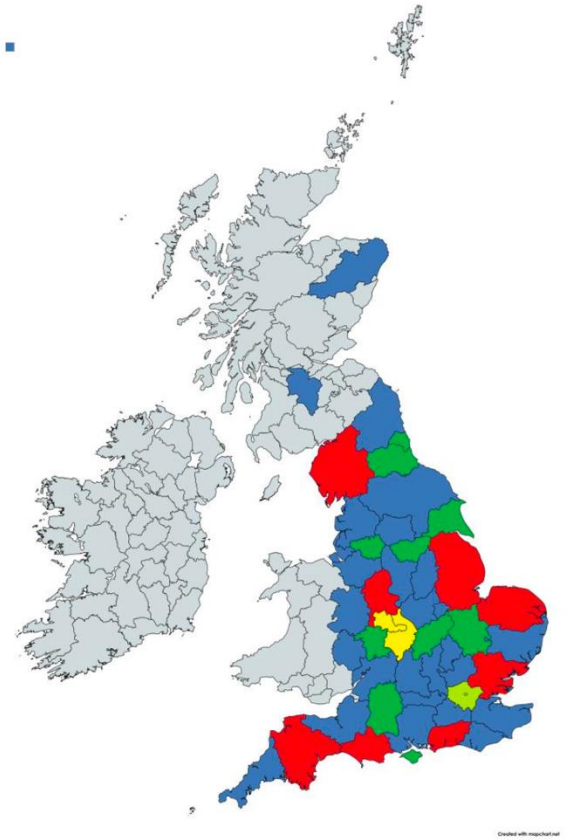
ID	Dimension	Factor Name	Weighting	Performance Score	Confidence	Opportunity for Improvement
100	Corporate	**Corporate / Service Carbon Policy**				
101	Corporate	Carbon Reporting Boundary	100			
102	Corporate	Carbon Emission Position Assessment	75			
103	Corporate	Carbon Reduction Strategy (Authority & Service)	100			
104	Corporate	Carbon Reduction Allocation of Resources (both Financial and Staff)	100			
105	Corporate	Carbon Reduction Governance, Scrutiny and Audit	75			
106	Corporate	Carbon Reduction Member and Executive Engagement	50			
107	Corporate	Carbon Reduction Staff Training and Awareness	50			
108	Corporate	Carbon Reduction Innovation Efficancy	100			
109	Corporate	Carbon Reduction Asset Management Planning	75			
110	Corporate	Carbon Reduction Cost and Performance Impact and Risk Assessment	100			
200	Providers	**Purchased Goods and Services / Provider Management**				
201	Providers	Providers - Carbon Hotspots	100			
202	Providers	Carbon Reduction in Provider Selection	50			
203	Providers	Contracts – Carbon Baseline and Reduction Targets	75			
204	Providers	Provider Support and Commitment for Service Carbon Reduction	100			
205	Providers	Quality, Availability and Timeliness of Carbon Data	75			
206	Providers	Availability and Accuracy of Product Emission Factors (Tiers 1 & 2)	50			
207	Providers	Carbon Management of Sub-Contractors	50			
208	Providers	Partner Collaboration - Carbon Reducing Innovation	75			
209	Providers	Partner Carbon Management of Waste	100			
300	Premises & Sites	**Carbon Reduction Management of Premises & Sites**				
301	Premises & Sites	Premises Optimisation	75			
302	Premises & Sites	Purchase of Green Energy Sources	100			
303	Premises & Sites	**Use of Green Technologies**				
304	Premises & Sites	Replacement of Gas Boilers (Heat Pumps)	75			
305	Premises & Sites	Installation and Use of Solar Panels	50			
306	Premises & Sites	Installation and Use of Wind Power	50			
307	Premises & Sites	Air conditioning Low Carbon Alternatives	50			
308	Premises & Sites	Premises Insulation	100			
309	Premises & Sites	Energy Usage Reduction	75			
310	Premises & Sites	Estates Carbon Capture and Storage	50			
400	Staff & Contractors	**Staff & Contractors Carbon Reduction**				
401	Staff & Contractors	Staff Incentives – Use of EV Vehicles	75			
402	Staff & Contractors	Staff Incentives – Non-Car Modes of Travel	75			
403	Staff & Contractors	Staff Incentives – Virtual Working	75			
404	Staff & Contractors	Non-Essential Business Travel	75			

Simple score, confidence and opportunity for improvement.

Comprehensive scoring guidance.

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ADEPT Carbon Leadership Programme



- **FHRG Members** (■, Approx 83% of Local Roads*)
- **ADEPT Members** (■, Approx 93% of Local Roads)
- **Extended Trial Group** (■)
  - TfWM (7 Authorities)
- **Phase I (Q2/Q3, 2025)** (■, Approx 19% of Local Roads*)
- **Feedback, Reflections & Assessment Updates**
  - Phase I: Analysis & Reports
- **Phase II (Q4 2025, Q1-Q3, 2026)** (Remaining FHRG members)
- **Feedback, Reflections & Assessment Updates**
  - Phase II: Analysis & Reports
- **Phase III (Q4, 2026, Q1-Q3, 2027)** (Remaining ADEPT members)
- **Feedback, Reflections & Assessment Updates**
  - Phase III: Closeout Analysis & Reports

*Outside of the metropolitan areas. Includes temporary Live Labs II members.

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ADEPT LIVELABS2 Decarbonising Local Roads

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