

Annex A

SOUTHERN SECTION

Project	Title	Carbon savings (tCO2e)
B2140000	Use of public transport and car sharing	10
B2140004	Retaining wall vs Viaduct	12.5
B2140005	Essangal Underbridge	6368
B2140004	Reduction of vertical crest curve K value at A924 Pitlochry North Junction	13400
B2140004	Reduction of horizontal crest curve K value at Ch.3100-3300	990
B2140004	Retaining wall vs Viaduct	9859
B2140003	Compensatory flood storage	1147
B2140003	Retaining wall at Guay Farmhouse	119
B2140003	Dowally mainline alignment	39
B2140004	Designing out Cluniemore Retaining Wall	23
B2140005	Public Local Inquiry	2.1
B2140004	Retaining Wall	23
B2140004	Culvert Retention	6700
B2140005	SuDS Feature O	3491
B2140005	Datalogger Equipment	0.29
B2140005	Design Refinements within Killiecrankie Battlefield	3140
B2140002	Tay Bridge Retention	7800
B2140002	Mammal Fencing	21
B2140005	Mammal Fencing	119
B2140005	Pitgowan Bridge Retention	1950
B2140004	Clunie Bridge Retention	3579
B2140005	SuDS pond D specimen design update	310
B2140004	Geo-cellular water storage rather than SUDS in floodplain – P04	45

59147.89

Project(s)	Approximate Location	Sustainability design feature / process / initiative	Carbon Saving (tCO ₂ e)
7	Ch (-)500-300	Reduction of Southern Tie-in Extents (reduced in length by 620m for the northbound carriageway and by 580m for the southbound carriageway)	2,604
7	JF - Dalnaspidal Junction	Selection of Dalnaspidal junction layout options - from full scale diamond GSJ to compact form GSJ with loops	6,560
7		Selection of alignment Option 1b (widening to the east) over Option 1a (widening to the west).	8,490
8	ch. 22200 to 22900	Dalwhinnie Junction design review from Stage 2 to Stage 3, change from diamond layout to GSJ	1,112

8	Scheme Wide	Truim crossing and A889 link road	67% decrease in emissions (compared with option 2) 124% decrease in emissions (compared with option 3)
8	ch. 25400	Cuaich - Left in Left out on each carriageway with underpass connection	643
8		Selection of mainline Option 2A (online widening to the East)	8249
9	ch. 40846 to 44662	Online widening at Newtonmore (selection of alignment Option 2a)	11,400
9		Before and After Landscape Areas - landscape areas around Newtonmore Junction will allow for heath and woodland planting, as well as design of slopes and earthwork re-profiling, thereby improving the local Landscape Character.	2,400

9		New compact Grade Separated Junction (GSJ) at Kingussie	1,550
9		Braes of Nuide Rock Cutting	n/a

Northern Section

No.	Sustainable Development Goal from DMRB GG103	A9 Dualling Programme Sustainability Strategy	Relevant UN SDGs	Sustainability Objective	Performance Metric / Indicator
1.1a	Goal 3 - Serve to support a sustainable economy	Employment - Realising employment opportunities in Scotland associated with the A9 Programme.	SDG 8: Decent Work and Economic Growth	Scheme results in an overall increase in jobs.	Full time equivalent jobs due to the scheme.
1.1b	Goal 3 - Serve to support a sustainable economy	Supporting SMEs - Developing a range of business opportunities for a diverse supply chain.	SDG 8: Decent Work and Economic Growth	Scheme has a benefit on local economy.	Benefits to local economy
1.2	Goal 4 - Represent good 'whole life' value across the design life of road infrastructure	N/A	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities	Scheme uses whole life costing to inform all design decisions.	Use of whole life costing throughout scheme.
2.1	Goal 1 - Improve the health, safety and well-being of those affected by road infrastructure	Safety - Reducing accident severity - Reducing driver stress	SDG 3: Good Health and Well-being	Minimise any adverse effects on health and safety and enhance beneficial effects.	Health and safety of the Scheme.
2.2	Goal 1 - Improve the health, safety and well-being of those affected by road infrastructure	Safety - Reducing accident severity - Reducing driver stress	SDG 3: Good Health and Well-being	Ensure the roads are self-explaining and improve the understandability of the road.	Understandability of the scheme.
2.3a	Goal 5 - Embrace innovation	Education & training - Creating a legacy of skills and learning in Scotland	SDG 4: Quality Education	Improving knowledge and understanding of sustainability within the project (internal) teams.	Atkins: % of project team to have completed at least four Design for Life Modules from resources & resilience / physical environment themes WSP: % of project team to have completed 'Future Ready' eLearning.

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2.3b	Goal 5 - Embrace innovation	Education & training - Creating a legacy of skills and learning in Scotland	SDG 4: Quality Education	Improving knowledge and understanding of sustainability (both internally and externally) through STEM activities and the Academy9.	Number of external STEM events conducted by Academy9
2.3c	Goal 5 - Embrace innovation	Digital Connectivity - Creating the opportunity to improve digital connectivity across the A9	SDG 9: Industry, Innovation and Infrastructure	Scheme facilitates and implements opportunities for innovation (includes digital innovation).	Number of innovative opportunities implemented on the Scheme.
2.4	Goal 5 - Embrace innovation	Environment - Design to meet the needs of, and enhance where possible, the specific qualities of the natural, cultural and historic environment of the A9 corridor	SDG 11: Sustainability Cities and Communities SDG 17: Partnership for the Goals	Scheme has robust processes that create a continual cycle of improvement, with an in-depth understanding of people, place and context	Incorporation of robust improvement processes
2.5	Goal 11 - Protect, and where possible enhance, the surrounding environmental and cultural context	Environment - Design to meet the needs of, and enhance where possible, the specific qualities of the natural, cultural and historic environment of the A9 corridor	SDG 15: Life on Land SDG 11: Sustainability Cities and Communities	Scheme conserves and enhances the character and quality of the built and natural landscape.	Extent to which character and quality of built / natural landscape assets are conserved
2.6	Goal 11 - Protect, and where possible enhance, the surrounding environmental and cultural context	Environment - Design to meet the needs of, and enhance where possible, the specific qualities of the natural, cultural and historic environment of the A9 corridor	SDG 11: Sustainability Cities and Communities	Scheme minimises negative effects on nearby cultural heritage sites and historic assets	Significance of effects on heritage assets
3.1a	Goal 9 - Minimise greenhouse gas emissions	Environment - Design to meet the needs of, and enhance where possible, the specific qualities of the natural, cultural and historic environment of the A9 corridor	SDG 13: Climate Action	Scheme minimises the embodied carbon (greenhouse gas) emissions associated with the design and construction of the project	% reduction in embodied carbon (greenhouse gas) emissions of materials

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3.1b	Goal 9 - Minimise greenhouse gas emissions	Environment - Design to meet the needs of, and enhance where possible, the specific qualities of the natural, cultural and historic environment of the A9 corridor	SDG 13: Climate Action	Scheme minimises greenhouse gas emissions during operation and decommissioning.	% reduction in greenhouse gas emissions during operation and decommissioning
3.1c	Goal 9 - Minimise greenhouse gas emissions	N/A	SDG 7: Affordable and Clean Energy	Scheme minimises construction energy consumption	% reduction in energy consumption during construction.
3.1d	Goal 9 - Minimise greenhouse gas emissions	N/A	SDG 7: Affordable and Clean Energy	Scheme minimises operational energy consumption	% reduction in energy consumption during operation.
3.2	Goal 10 - Be resilient to future climate change	Resilience - Building in resilience to extreme weather	SDG 13: Climate Action	Resilience to current extreme weather and future climatic conditions specific to the local and surrounding area have been identified, assessed and incorporated into the scheme.	Climate resilience incorporated throughout scheme
3.3	Goal 11 - Protect, and where possible enhance, the surrounding environmental and cultural context	Environment - Design to meet the needs of, and enhance where possible, the specific qualities of the natural, cultural and historic environment of the A9 corridor	SDG 15: Life on Land	Scheme ensures there is no net biodiversity loss and encourages gains.	Biodiversity Net Loss/ Net Gain
3.4	Goal 8 - Be resource efficient and reflect a circular approach to the use of materials	N/A	SDG 12: Responsible Consumption and Production	Scheme seeks to maximise landfill diversion (includes non - hazardous construction, demolition and excavation waste)	% Waste diverted from landfill (by weight)
3.5	Goal 2 - Improve land, water and air quality	Environment - Design to meet the needs of, and enhance where possible, the specific qualities of the natural, cultural and historic environment of the A9 corridor	SDG 15: Life on Land SDG 3: Good Health and Well-being SDG 11: Sustainable	Scheme ensures there are no significant adverse effects on air quality and seeks improvement where possible.	Ambient (local) air quality

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			Cities and Communities		
3.6	Goal 2 - Improve land, water and air quality	Environment - Design to meet the needs of, and enhance where possible, the specific qualities of the natural, cultural and historic environment of the A9 corridor	SDG 14: Life Below Water	Scheme ensures there are no significant adverse effects on water environment and seeks improvements where possible.	Water Environment (ground and surface water quality)
3.7	Goal 2 - Improve land, water and air quality	Environment - Design to meet the needs of, and enhance where possible, the specific qualities of the natural, cultural and historic environment of the A9 corridor	SDG 15: Life on Land	Scheme ensures there are no significant adverse effects on land and soil quality and seeks improvement where possible (includes agricultural land).	Land and soil quality
3.8	Goal 11 - Protect, and where possible enhance, the surrounding environmental and cultural context	Sustainability Objective: Impact to local businesses - Mitigating the construction impacts to local businesses	SDG 11: Sustainable Cities and Communities	Scheme seeks to limit the impact of light pollution resulting from the road network and improve where possible.	Light Pollution
4.1	Goal 1 - Improve the health, safety and wellbeing of those affected by road infrastructure	Journey time - Reducing journey times - Improving journey time reliability Safety - Reducing driver stress The A9 Experience - Supporting and improving tourist experiences on the A9	SDG 3: Good Health and Well-being SDG 11: Sustainable Cities and Communities	Scheme seeks to improve the well-being of road users and communities affected by the network.	Improvement in well-being of road users and communities affected by the network
4.2	Goal 1 - Improve the health, safety and wellbeing of those affected by road infrastructure	Impact to local businesses - Mitigating the construction impacts to local businesses	SDG 11: Sustainable Cities and Communities	Scheme ensures there are no significant adverse noise effects and seeks improvement where possible.	Ambient noise levels (locally)

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4.3a	Goal 12 - Be shaped by the opinions of communities and road users	Impact to local businesses - Mitigating the construction impacts to local businesses	SDG 11: Sustainable Cities and Communities	Scheme seeks to involve a diverse range of local stakeholders and maximises opportunities for stakeholder engagement at each design stage.	% of key stakeholders engaged throughout the scheme
4.3b	Goal 12 - Be shaped by the opinions of communities and road users	Impact to local businesses - Mitigating the construction impacts to local businesses	SDG 11: Sustainable Cities and Communities	Scheme ensures that members of the public have reliable access to up-to-date information	Quality and frequency of information provided to the public.
4.4	Goal 6 - Reduce inequalities and ensure access to all	Sustainable travel - Facilitate active travel within the corridor	SDG 10: Reduced Inequalities SDG 3: Good Health and Well-being	Scheme incorporates the accessibility needs and ensures social inclusion of all road users and stakeholders.	Accessibility needs of all road users and stakeholders are met
5.1a	Goal 8 - Be resource efficient and reflect a circular approach to the use of materials	Resource use/Project costs - Optimising resource efficiency across the life of the A9 Dualling Programme, with particular regard to geographical scale and project alignment	SDG 12: Responsible Consumption and Production	Scheme seeks to minimise resource-use during construction, operation (non-user) and maintenance.	% reduction in resource use (Mass in kg)
5.1b	Goal 8 - Be resource efficient and reflect a circular approach to the use of materials	N/A	SDG 12: Responsible Consumption and Production	Scheme seeks to minimise waste generation during construction, operation (non-user) and maintenance.	% reduction in waste generation (Mass in kg)
5.2	Goal 7 - Use responsibly sourced materials that minimise adverse impacts on people and their environment	Resource use/Project costs - Optimising resource efficiency across the life of the A9 Dualling Programme, with particular regard to geographical scale and project alignment	SDG 12: Responsible Consumption and Production	Scheme maximises use of responsibly sourced materials that minimise adverse impacts on people and their environment	% mass of materials responsibly sourced

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5.3	Goal 8 - Be resource efficient and reflect a circular approach to the use of materials	Resource use/Project costs - Optimising resource efficiency across the life of the A9 Dualling Programme, with particular regard to geographical scale and project alignment	SDG 12: Responsible Consumption and Production	High risk materials due to security of supply are identified and the information is used within optioneering	Extent of use and incorporation of identified lower risk materials in relation to security of supply