Development Name: **Specification ID:**

Checklist Man 3 - Construction Site Impacts

a. Commitment to monitor, report and set targets for CO_2 production of energy use arising from site activities

Criteria	Evidence Demonstrating How Criteria Will Be Met	Reference	Tick
1. Confirmation is required that monthly measurements of energy use will be recorded and displayed on site.			
2. Appropriate target levels* of energy consumption must be set and displayed (targets could be annual, monthly, or project targets).			
3. As a minimum, monitoring must include checking the meters and displaying some form of graphical analysis in the site office to show consumption over the project duration and how actual consumption compares to the targets set.			
4. The design/site management team is to nominate an individual who will be responsible for the monitoring and collection of data.			

* Targets for energy consumption during the construction process should be set using DTI's Environmental KPI benchmarks. These documents do not specify targets but facilitate projects in setting appropriate targets (see references section of main credit for further details).

Note: The Code does not require targets to be met but is encouraging the process of setting, monitoring and reporting against targets.

b. Commitment to monitor and report CO_2 or energy arising from commercial transport to and from the site

Criteria	Evidence Demonstrating How Criteria Will Be Met	Reference	Tick
1. Confirmation is required that a site monitoring system will be in place to monitor and record deliveries*. This system will need to record: • The number of deliveries • The mode of transport • The kilometres/miles travelled for all deliveries • Where the delivery is specifically for the site, a figure of total distance travelled should be used, i.e. a round trip (from the point of origin, to the site and back to the point of origin). • Where the delivery to the site is part of a multiple delivery route, the recorded figure for distance travelled should be the distance travelled to the site (from the previous delivery), plus the distance to the next delivery or return.			

This information can then be used to estimate a total figure for kg of CO2 for the project. The Code does not require this information to be converted to CO2 but the information must be made available to the senior project and site management staff/suppliers to establish benchmarks and aid future decision-making towards improving site and transport efficiency. If the project team wishes to convert this information into CO2 emissions, there are tables provided at the end of this checklist, which can be used.			
2. If the design team or contractor confirms that the project is aiming to achieve the "Construction Site Transport" 'measures for traffic movements and distances' (published April 2003, see references) then this aspect has been achieved automatically. The information obtained for this item can also be used to satisfy the DTI's Environmental KPI on transport.			
3. The design/site management team is to nominate an individual who will be responsible for the monitoring and collection of data.			
***** Please see *Tables 1-4* below on monitoring site transport CO_2			

c. Commitment to monitor, report and set targets for water consumption arising from site activities

Criteria	Evidence Demonstrating How Criteria Will Be Met	Reference	Tick
1. Compliance is demonstrated by the design/site management team confirming, in writing, that monthly measurements of water consumption will be recorded and displayed on site.			
2. Appropriate target* levels of water consumption must be set and displayed (targets could be annual, monthly or project targets).			
3. As a minimum, monitoring must include checking the meters and displaying some form of graphical analysis in the site office to show consumption over the project duration and how actual consumption compares to targets set.			
4. The design/site management team is to nominate an individual who will be responsible for the monitoring and collection of data.			

***** Targets for water consumption during the construction process should be set using DTI's Environmental KPI benchmarks. These documents do not specify targets but facilitate projects in setting appropriate targets (see *References and Further Information* for details).

Note: The Code does not require targets to be met but is encouraging the process of setting, monitoring and reporting targets.

d. Commitment to adopt best practice policies in respect of air (dust) pollution arising from site activities

Criteria	Evidence Demonstrating How Criteria Will Be Met	Reference	Tick

1. Confirmation is required of the site's procedures to minimise air/dust pollution. This can include: • 'dust sheets' • regular proposals to damp down the site in dry weather • covers to skips etc.			
2. The site team must indicate how this information is disseminated to site operatives.			
Note: Further information can be obtained from DTI/BRE publications 'Control of Dust from Construction and Demolition Activities' and Pollution Control Guide Parts 1-5 provide good practice guidelines on construction related pollution (see *References and Further Information* for details).			

e. Commitment to adopt best practice policies in respect of water (ground and surface) pollution occurring on the site

Criteria	Evidence Demonstrating How Criteria Will Be Met	Reference	Tick
1. Confirmation is required of the site's procedures to minimise water pollution following best practice guidelines outlined in the following documents. • PPG 1 - General guide to the prevention of pollution. Environment Agency • PPG 5 - Works in, near or liable to affect watercourses. Environment Agency • PPG 6 - Working at demolition and construction sites. Environment Agency 2. The site team must also indicate how this information is disseminated to site operatives			

f. 80% of site timber is reclaimed, re-used or responsibly sourced

Criteria	Evidence Demonstrating How Criteria Will Be Met	Reference	Tick
1. 80% of timber used during construction, including formwork, site hoardings and other temporary site timber used for the purpose of facilitating construction, is to be procured from sustainably managed sources, independently certified by one of the top two levels as set out in the Responsible Sourcing of Materials Issues (Mat 2 and Mat 3) in the Materials section of this document. Re-used timber from off site can be counted as equivalent but re-usable formwork only complies if it meets the above criteria. This credit can be awarded where all the timber used is reclaimed timber.			

Tables Cat 8.1 – 4: Assessment of Site Transport CO_2

Table Cat 8.1: Standard road transport fuel conversion factors					
Fuel used	**Total units used**	**Units**	**x**	**kg CO_2 per unit**	**Total kg CO_2**
Petrol		Litres	×	2.315	
Diesel (inc. low sulphur)		Litres	×	2.630	
Compressed Natural Gas		Kg	×	2.728	
Liquid Petroleum Gas		Litres	×	1.495	

Source: *UK Greenhouse Gas Inventory for 2006 (produced for Defra by AEA Energy & Environment), Digest of UK Energy Statistics (DTI) and Carbon factors for fuels (UKPIA, 2004)*

Table Cat 8.2: Standard road transport fuel conversion factors					
Size of car	**Total units travelled**	**Units**	**x**	**kg CO_2 per unit**	**Total kg CO_2**
Small Petrol Car up to 1.4 litre engine.		Miles	×	0.291	
		Km	×	0.181	
Medium Petrol Car from 1.4 -2.0 litre engine.		Miles	×	0.344	
		Km	×	0.214	
Large petrol car above 2.1 litres		Miles	×	0.476	
		Km	×	0.296	
Average Petrol Car		Miles	×	0.333	
		Km	×	0.207	

Source: *Revised factors developed by AEA Energy & Environment and agreed with Department for Transport (2008)*

Table Cat 8.3: Standard road transport fuel conversion factors					
Size of car	**Total units travelled**	**Units**	**x**	**kg CO_2 per unit**	**Total kg CO_2**
Small Diesel Car up to 1.7 litres or		Miles	×	0.244	
		Km	×	0.151	
Medium diesel car, from 1.7 to 2.0		Miles	×	0.303	
		Km	×	0.188	
Large diesel car, over 2.0 litre		Miles	×	0.415	
		Km	×	0.258	
Average diesel car		Miles	×	0.319	

		Km	×	0.198	

Source:. *Revised factors developed by AEA Energy & Environment and agreed with Department for Transport (2008)*

Table Cat 8.4: Van/Light Commercial Vehicle Road Freight Mileage Conversion Factors						
Size of van	**Gross Vehicle Weight (tonnes)**	**Units**	**Total units travelled**	**×**	**kg CO_2 per unit**	**Total kg CO_2**
Petrol	Up to 1.25t	Miles		x	0.360	
		Km		x	0.224	
Diesel	Up to 3.5t	Miles		x	0.438	
		Km		x	0.272	
LPG or CNG	Up to 3.5t	Miles		x	0.438	
		Km		x	0.272	

Source: *Factors developed by AEA Energy & Environment and agreed with Department for Transport (2008)*

Table Cat 8.4: Van/Light Commercial Vehicle Road Freight Mileage Conversion Factors						
Type of Lorry	**Gross Vehicle Weight (tonnes)**	**Units**	**Total units travelled**	**×**	**kg CO_2 per unit**	**Total kg CO_2**
Rigid	>3.5-7.5t	Miles		x	0.906	
		Km		x	0.563	
Rigid	>7.5-17t	Miles		x	1.202	
		Km		x	0.747	
Rigid	>17t	Miles		x	1.559	
		Km		x	0.969	
Articulated	>3.5-33t	Miles		x	1.315	
		Km		x	0.817	
Articulated	>33t	Miles		x	1.495	
		Km		x	0.929	

Source: *Revised factors developed by AEA Energy & Environment and agreed with Department for Transport (2008)*