

**THE SELLINDGE-EVEGATE PROPOSAL,
JUNCTION 10B, M20**

**Solving Operation Stack,
Reducing Carbon Emissions**

Monserat Properties Ltd

Prepared by:

Mark Rayers
Director
BSP Consulting
12 Oxford Street
Nottingham
NG1 5BG
Fax: 0115 8402227

Commissioned by:

Dr Rehan ul-Haq
Chief Executive
Monserat Properties Limited
Second Floor
3 Brindleyplace
Birmingham
B1 2JB
Tel: 0121 698 8602
Fax: 0121 698 8600

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Ashford Gateway: Good for Britain – Good for Europe



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Introduction

- 1 This carbon emissions mitigation report has been completed by Monserat Properties Ltd, proponent of an M20 Junction 10b Lorry Park, commercial vehicle stop for general use and to mitigate Operation Stack, and a Park & Ride site, to consider the impact on carbon emissions if their solution is implemented.

Carbon Emissions

- 2 BSP Consulting have considered the issue of carbon emissions in this situation. A vehicle which is in a queue and starts/stops, uses more fuel and hence emits more CO₂ than the same vehicle which is travelling at a reasonable speed over the same distance.
- 3 A Lorry Park will reduce carbon emissions, by allowing lorries to leave the M20 during Operation Stack. Lorries will then be able to park up and turn off their engines, using the on-site facilities instead of having to keep their engines running in order to keep warm, or to carry out stop/start movements, as they presently have to on the M20 under current Operation Stack procedures. Electricity would also be provided for refrigerated trucks, so that they too can turn off their engines.
- 4 As a result of taking lorries off the M20, this would allow the M20 to remain open to other road users, who currently have to use local roads when Operation Stack is implemented and the M20 is closed to through traffic. This use of local roads under Operation Stack increases congestion and pollution with obvious dis-benefits to the environment.

- 5 In an earlier Transport Statement (Revision C) report prepared by Monserat Properties Ltd/BSP Consulting for the South East Plan EiP, traffic growth to 2031 at junctions 9 and 10 of the M20 is between 70% and 80%, based on the Ashford Highway and Traffic Study completed on behalf of the Highways Agency. It is assumed that the Monserat Properties Ltd Lorry Park proposals at Jn 10b Sellindge-Evegate could be in place subject to local planning considerations (i.e. on liaison with Ashford Borough Council, the Highways Agency etc) within around 5 years.

Carbon Savings

- 6 On this basis, we have calculated the likely savings. As there is no established methodology for this, we have made certain assumptions, however by showing these calculations in Appendix A, others such as the Carbon Trust may want to look at these preliminary figures in more detail.
- 7 Our finding is that the carbon emission savings of implementing the Monserat Operation Stack solution at M20 Junction 10B Sellindge-Evegate would save around 140,000T CO₂ up to the year 2026. This equates to a saving of over 12,000T CO₂ per year at 2026, or an equivalent volume of CO₂ as 68,000 double decker buses.

**Appendix A
Operation Stack
Calculation of Carbon Emissions**

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Calculation of Carbon Emissions Created During
Operation Stack Events

1.0 Lorry Emissions:

Emissions per Operation Stack event:

Average Operation Stack event is 21.5 hours (for Phase 1) based on 2006 data.

1,000 lorries in Phase 1, and 3,000 in Phase 2; Phase 2 invoked on average every 3rd event. Therefore average number of lorries per event = $1,000 + 3,000/3$
= 2,000

Emissions per lorry per event say 0.3T CO₂ (as limit to amount of fuel in tank; assume uses 300 litres of fuel in stop/start/rolling forward; data taken from carbon trust - see www.carbontrust.co.uk)

Emissions per event = $0.3T \times 2,000$ lorries = 600T CO₂/event

Emissions per year due to Operation Stack:

Assume on average 10 times per year (based on 3 years 2004-2006 inclusive),

Emissions per year = $10 \times 600 = 6,000T$ CO₂ per year.

Emissions over lifetime of South East Plan:

100% rise in lorry traffic anticipated more or less by end of plan period (see Dover Harbour Board and Tunnel figures),

19 years x 6,000T/year x 1.5 (average growth over 19 years) = 171,000T CO2 up to 2026 as a result of lorries on the M20 during Operation Stack

2.0 Car Emissions:

Assume cars diverted away from closed M20 will use additional 10 litres of fuel in resulting congestion.

Car (petrol medium) emits 0.002T CO2 for 10 litres fuel.

Assume 10,000 cars per event diverted away from M20 = 10,000 x 0.002 = 20T CO2 per event (note there are around 50,000-60,000 vehicles per day travelling along the M20).

Car emissions per year due to Operation Stack:

Assume on average 10 times per year (based on 3 years 2004-2006 inclusive),
Emissions per year = 10 x 20T = 200T CO2 per year.

Car emissions over lifetime of South East Plan:

2007 to 2026 = 19 years, with NRTF central traffic growth figure of 27%
19 years x 200T/year x 1.135 (average growth over 19 years) = 4,313T CO2 up to 2026.

Total Emissions

Total lorry + car emissions = 171,000 + 4,313 = 175,313T CO2 between 2007 and 2026 as a result of Operation Stack.

Sellindge-Evegate Proposal

The Sellindge-Evegate proposal would effectively reduce the CO2 emissions which arise as a result of the current Operation Stack, as cars would be able to use the M20, lorries would be able to park up and switch off their engines until they can proceed to the docks/tunnel (refrigerated trucks could also park up and switch off as electric points could be provided).

If the Sellindge-Evegate proposal is operational in say 5 years, the CO2 savings would be in the order of 140,000T CO2.