Helicopter emissions: a comparison with other transport modes

From the business traveller's perspective

In September 2006 Dutch Environment Secretary Van Geel was called on by the Socialist Party to answer parliamentary questions on the inter-urban helicopter service that Helinet and Connexxion wish to operate. Question no. 3 concerned the environmental performance of helicopter transport compared with more conventional modes. CE Delft was called on by the environment ministry to assist in answering the question: How do emissions from helicopter transport compare with those of other forms of transport like car, train and aircraft on a trip from Amsterdam to Brussels? The question was addressed from the perspective of a business traveller going from Amsterdam to Brussels, i.e. considering the means of transport currently available to such travellers.

For each of these, ranges were estimated for CO2 and NOx emissions. These depend on the following factors:

- fuel conversion efficiency;
- detour factor;
• upstream and downstream transport links.

The conclusions were as follows:
• Helicopter emissions exceed those of other modes of transport.
• Compared with the journey by diesel car, emissions are about a factor 3 to 5 higher. There is less difference compared with air travel, but more compared with rail.
• Occupancy levels are a significant factor, particularly when it comes to smaller vehicles like cars and helicopters.


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