



## More environmental: railway or truck?

*We used to regard it as being general knowledge: goods traffic by rail is safer and more environmentally friendly than by road. This is also the most important reason for the repeated demands to shift traffic to rail transport. The VDA<sup>1</sup> has now commissioned a study which has made headlines in the 'silly season': "The railway doesn't always win", it says, or "Transporting goods by rail is not in itself more climate friendly than using trucks." What does this mean, do we have to rethink, have we been mistaken up to now? The association of combined transport companies, UIRR, has had a look at the study.*

"Our aim is to now make the discussion an objective one", Eckehart Rotter from VDA is quoted as saying in the DVZ<sup>2</sup>. "There is a growing need for quantitative information about CO<sub>2</sub>/GHG<sup>3</sup> emissions"... "Present sources are normally influenced by the rail companies or the environment authorities". On the other hand, the German Automotive Industry Association and the consultants instructed by it, i.e. "PE International", now claim to be providing objective information and are also having this certified by way of an expert report from DEKRA.

So what are the key statements contained in the study entitled "Comparison of energy demand and emissions from road, rail and waterway transport in long-distance freight transport"? The declared "aim of the study is to examine the hypothesis: "In long-distance freight transport rail is always a better environmental solution than road." This starting point is in itself rather far-fetched. UIRR is not aware of any study where it is claimed as a sweeping statement that rail transport is always better than truck transport under all circumstances. It is clear to everyone that a locomotive pulling just a few wagons cannot be more energy-saving and environmentally friendly than a truck. However, it is also a generally known fact that the railways stopped using private sidings years ago for reasons of economy if only a few wagons have to be transported.

True to the method of "putting up an imaginary target and then shooting it down", three individual cases are chosen in the study without any regard for their representative nature: a train with only 6 wagons, a train with 15 wagons and, as the maximum case, a train with 20 wagons. Selected as the consumption values for trucks are, in addition, the particularly low manufacturers' data from test cycles of 30 litres per 100 kilometres and one then arrives at what appears to the following balanced conclusions:

- The railway tends to be better for the transportation of heavy bulk goods and container transport with more than 20 or 25 wagons
- Road and rail transport are approximately on a par when trains in the magnitude of the average national combined transport are used
- Road transport tends to be better when short trains with less than 10 wagons are used for heavy-goods or with a length of up to 15 wagons in combined transport.

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<sup>1</sup> Verband der deutschen Automobilindustrie, Association of the German Automotive Industry

<sup>2</sup> Deutsche Verkehrs-Zeitung, No. 83, 13/07/2010

<sup>3</sup> Greenhouse Gas



How the claim can be arrived at that an “average train of the Kombiverkehr corporation comprises 16 wagons” is incomprehensible.<sup>4</sup>

The fact is that the German UIRR member company Kombiverkehr, reports a completely different picture, with its shortest train already having the capacity of 20 wagon places assumed for the maximum case in the study and the longest trains having 39 wagons, averaging out at 28 – 30 wagon places<sup>5</sup>. The maximum train length is 700 metres, with the average at 500 m. As Kombiverkehr, like most other UIRR companies in Europe, purchases complete train loads from the railway companies, they have to achieve high load capacity utilisation averaging 70 - 80% in order not to register losses.

To summarise, the following applies to the UIRR companies, which represent half the combined transport conveyed in Europe: the average train capacities and capacity utilisation figures are far above those for the best case category mentioned in the study. Nobody can afford trains with only 15 wagons. Even in the railway companies' individual wagon traffic, you have to look very hard to find exceptions of trains with 6 wagons.

The fact remains that shifting freight traffic from the road to combined transport is one of the most effective measures for lowering energy consumption and greenhouse gas emission in long-haul traffic. A study conducted a few years ago by UIRR with actual train length and train capacity utilisation values showed average energy savings of 29%. On account of the fact that only part of the power for electrified rail transport is produced from fossil energy sources, 60% savings resulted for each ton-kilometre moved from truck to rail transport with regard to greenhouse gas emissions<sup>6</sup>. Electrified rail transport has now improved these values through the increased use of regenerative energy sources, with the hope of achieving the potential of “zero emissions” in the medium term.

Nobody disputes that truck transport does, in economic and environmental terms, have a legitimate place in local and mid-distance traffic as well as for all transportation in areas where demand does not easily allow to form quantities to make up complete train-loads. Where the individual limits lie above which the truck alone or multimodal transport in cooperation with truck-rail or the railway alone is better should be decided by competition insofar as it is possible to establish fair basic conditions between the carriers. This includes the internalisation of external costs (especially for greenhouse and toxic gases, noise and accidents) according to “the polluter pays” principle, as does an interoperable and free European rail market. The sooner we achieve both these goals, the more we will arrive at a sustainable and resource-saving transport system in which each carrier takes its proper place.

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<sup>4</sup> It remains open whether UIRR as Association or its German member, Kombiverkehr, is meant.

<sup>5</sup> “Wagon places”, because articulated double wagons are also used with the capacity of two normal multimodal wagons.

<sup>6</sup> These values apply to multimodal transport with swap bodies, semitrailers and containers. See the study entitled “CO<sub>2</sub> reduction through Multimodal Transport”, 2003, published at <http://www.uirr.com>. Conventional and loose bulk material transport by rail where fewer “dead loads” are conveyed display far better values on average.