TRAining programmes to INcrease Energy-efficiency by Railways

TRAINER

TRAINER ([www.iee-trainer.eu](http://www.iee-trainer.eu)) aimed to improve energy efficiency of the railways in at least 5 EU-countries: the Netherlands, Slovenia, Slovakia, Italy, Greece. Training programmes and facilities were developed and implemented to initiate and optimise measures of improving energy efficiency by railway operators. The training programmes were aimed at train drivers, station personnel and the management of railway companies. TRAINER resulted in an annual 0.15 Mton CO2 emission avoidance through the training of 19,500 train drivers and further dissemination. From 2010 onwards, when all the 21,450 train drivers of the 5 participating railway companies will have been trained, the result may amount to 0.20 Mton/year. The potential for all 150,000 EU25 train drivers is an annual CO2 emission avoidance of 2.4 Mton. TRAINER focused on energy efficient driving (ecodriving) but went beyond, addressing additional energy saving possibilities concerning technology (rolling stock and infrastructure) and organisation. TRAINER closely collaborated with the FP6 project Railenergy ([www.railenergy.org](http://www.railenergy.org)) and the Association of European Railways UIC.

Results

- Wide and solid international networks. TRAINER has actively collaborate with other relevant EU railway initiatives, in particular the FP6 project Railenergy ([www.railenergy.org](http://www.railenergy.org)) and the association of European Railways UIC.
- 2 Demo tours along good practices in Europe were conducted. Training programmes for train drivers, station personnel, rail company management in the Netherlands, Greece, Slovenia, Slovakia and Italy were conducted. An instruction film for train drivers and the railway management and a universal manual for establishing energy efficiency training programmes were created.
- 19,500 Train drivers have undertaken 'train-the-trainer' activities. Further dissemination has been achieved through an instruction film and a universal manual. This has resulted in an annual CO2 emission avoidance of 0.15 Mton. From 2010 on, when all the 21,450 train drivers of the 5 participating railway companies will have been trained, the result may mount up to 0.20 Mton/year. Additionally several hundred station personnel were trained in energy efficiency measures.
- An intensification of the training of train drivers may result in a doubling of the CO2 emission avoidance (0.40 Mton/year). Through an intense training of all the EU train drivers and/or massive implementation of a sophisticated driver advisory system like the Gekko (used by the Danish railways (DSB)), the CO2 emission avoidance might reach to 2.4 Mton/year.
- TRAINER has been a large undertaking that is still ongoing and continues far beyond the running period and geographical limits of the TRAINER project. The "Train to Copenhagen" of NS, the Dutch railways, applied energy efficient driving when travelling from Amsterdam to the Copenhagen summit in December 2009.
Lesson learned

- The railways are a surprisingly motivated sector when it comes to measures for improving energy efficiency. Technical innovations in the railway sector run ahead of other transport sectors. The ‘problem’ however is that railway companies are using the same rolling stock for several decades. This slows down the penetration of innovative, more sustainable rolling stock and technologies.
- It was difficult to initiate energy-efficiency LTA’s in EU countries. The Netherlands have a successful LTA running including the NS, the Dutch government and NL Agency. The Dutch LTA concept can however not simply be copied to other countries. The relations between government and railway companies and the necessary negotiation process seem to be culturally bound. In Slovakia TRAINER’s activities resulted in negotiations between Ministry of transport, Ministry of Economy and ZSSK CARGO.
- Collecting accurate and solid monitoring data turned out to be difficult. Unlike for road vehicles it is a hard job to get a clear picture of the energy consumption of a single train or train set. In countries with more than one railway company, the energy bills are mostly split on the basis of calculations based on assumptions. Energy efficiency improvements made are not necessarily translated into a cost reduction for a particular railway company.

Partners and coordinator

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<tr>
<td>NL Agency</td>
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<td>ENEA, Ente per le Nuove Tecnologie, L'energia e l'Ambiente</td>
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Budget
Overall budget: 1.410.468,00 € (EU contribution: 50,00 %)

Key documents
- Results Oriented Report [12]
  PDF 3.48 MB
- TRAINER Final Report [13]
  PDF 3.48 MB

In brief
Sector: Energy-efficient transport

Duration: 01/12/2006 to 30/11/2009

Contract number: EISAS/EIE/06/113/2006

Website: http://www.iee-trainer.eu

Tags:
transport
driving

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