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**ECORails –
Energy efficiency and environmental criteria in the awarding of regional rail transport vehicles and services**



**Deliverable 21:
Report on User Platform and Campus
ECORails (Update)**

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Acronym:

ECORailS

Title:

Energy efficiency and environmental criteria in the awarding of regional rail transport vehicles and services

Distribution:

Partic N°	Participant name	Participant short name	Country code
CO	TSB Innovation Agency Berlin GmbH FAV – Transport Technology Systems Network	TSB FAV	DE
CB 2	Senate Department for Urban Development	SenStadt	DE
CB 3	Pro Rail Alliance	ApS	DE
CB 4	KCW GmbH	KCW	DE
CB 5	Berlin University of Technology	TUB	DE
CB 6	Trafikstyrelsen	TSY	DK
CB 7	Transportforskningsgruppen I Borlänge AB	TFK	SE
CB 8	Province administration of Brescia	PoB	IT
CB 9	Università Commerciale “L. Bocconi”	CBO	IT
CB 10	Università di Roma “La Sapienza”	ULS	IT
CB 11	Integral Consulting RD	IRD	RO
CB 12	CFR Timișoara – National Society of Railway Transport	CFR	RO
CB 13	Universitatea POLITEHNICA din Timișoara	PUT	RO
CB 14	Budapest University of Technology and Economics	BME	HU
CB 15	Agenzia della Lombardia Orientale per i Trasporti e la Logistica	ALOT	IT

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1. Introduction

User Platform and Campus ECORailS are important parts of the ECORailS project in order to get widespread acceptance for the application of the project results and to improve the quality of the Guidelines which will be the main output of the project. As stated in Deliverable 18 ("Concept for User Platform and Campus ECORailS", p.5), *"a dialogue process is needed with the aim (1) to get a feedback from the PTAs as main target group of the project for the concept and for intermediate results before finalising the guidelines, (2) to get more detailed information about the needs, requirements and expectations of the PTAs which may be different according to their specific technological, geographical, political, legal and economical situations, and (3) to enable the PTAs to apply the guidelines in an efficient way within their scope of activities."*

Four meetings of the User Platform (including combined and extended meetings of level 1 and level 2; see below) were organised by the ECORailS project. The User Platform proved to be an effective and valuable instrument to get helpful feedback from the users for the elaboration and improvement of the Guidelines. Besides project partners and PTAs also external train operating companies (TOCs) and manufacturers of railway rolling stock participated in User Platform meetings.

The Campus ECORailS is intended to be an online platform for the dialogue process between project partners and other important stakeholders. It shall furthermore provide additional accesses to the information and results of the ECORailS project and also include links to external documents which may be helpful for the application of the ECORailS Guidelines. It was decided by the consortium to focus during the first phase of the project on the elaboration of the Guideline documents, direct discussions with stakeholders and the development of the test applications. The Campus will be developed during the second half of the project, on the basis of the final version of the Guidelines (D 22) and including results of the pilot applications where appropriate.

2. User Platform

The User Platform was organised in two levels and altogether four (1st level) and two (2nd level) workshops were planned. The first level comprised administrations (PTAs) or organisations of PTAs that discussed the draft and final results of the project, proposed amendments to the Guidelines and the testing and working process of ECORailS. Furthermore, in discussions *not open to other stakeholders except for project partners*, potential conflicts with TOC's, the rail supply industry and other stakeholders were identified in the User Platform.

Level 2 consisted of level 1 participants and additional members like train operating companies (TOCs). Also the TOCs' associations and the rail supply industry were invited.

The first meeting of the 1st level took place in Berlin on 10th/11th September 2009. The second meeting was held on 18th/19th February 2010, also in Berlin. The 2nd meeting was originally intended as a combination of a meeting of the 2nd level on the first day and a meeting of the 1st level on the second day. Previous conversations with the interested PTAs showed that a closed shop meeting was not needed at that stage of the project, but that it was preferred to have more time for the intense discussion of the intermediate results. Therefore it was decided to have a two days meeting including both levels.

The third meeting was organised in Milan on 23th/24th November 2010. Like for the second meeting, the stakeholders who were involved in the preparation clearly voted for an extended meeting of level 2 instead of a combination of level 1 and level 2 meetings.

The final User Platform meeting on 22nd June 2011 was also opened to level 2 participants.

User Platform – original concept (4 + 2 meetings):

	1 st day	2 nd day
1 st meeting	Level 1	---
2 nd meeting	Level 2	Level 1
3 rd meeting	Level 2	Level 1
4 th meeting	Level 1	---

User Platform – realisation:

	1 st day	2 nd day
1 st meeting (10./11.09.2009)	Level 1	Level 1
2 nd meeting (18./19.02.2010)	Level 2	Level 2
3 rd meeting (23./24.11.2010)	Level 2	Level 2
4 th meeting (22.06.2011)	Level 2	---

2.1 Participants (level 1, level 2)

Level 1:

	Company/Institution	Country	Status
1	Agenzia della Lombardia Orientale per i Trasporti e la Logistica	IT	Partner (CB 15)
2	Allianz pro Schiene	DE	Partner (CB 3)
3	Berlin University of Technology	DE	Partner (CB 5)
4	BME Department of Transport Economics	HU	Partner (CB 14)
5	Bocconi University	IT	Partner (CB 9)
6	Federmobilita	IT	External
7	Integral Consulting RD	RO	Partner (CB 11)
8	KCW GmbH	DE	Partner (CB 4)
9	Regione Emilia Romagna	IT	External
10	Regione Friule-Veneto	IT	External
11	Regione Lombardia	IT	External
12	RTFC Timisoara (CFR)	RO	Partner (CB 12)
13	Savez za željeznicu	HR	External
14	Senate Department for Urban Development	DE	Partner (CB 2)
15	Trafikforskningsgruppen i Borlänge AB	SE	Partner (CB 7)
16	Trafikstyrelsen	DK	Partner (CB 6)
17	TSB FAV	DE	Partner (CO)
18	Union International des Transports Public (UITP)	BE	External
19	Università die Roma "La Sapienza"	IT	Partner (CB 10)
20	Universitatea POLITEHNICA din Timisoara	RO	Partner (CB 13)

Level 2:

	Company/Institution	Country	Status
1	HŽ- Croatian Railways	HR	External
2	ANRMAP	RO	External
3	AnsaldoBreda	IT	External
4	Arriva	UK	External
5	Bombardier Transportation	DE	External
6	CFR Passengers	RO	External
7	Deutsche Bahn AG, DB Regio AG	DE	External
8	DLR	DE	External
9	Econex verkehrsconsult gmbh	DE	External
10	Ferrovia Udine-Cividale	IT	External
11	Ferrovie Nord	IT	External
12	HŽ – Croatian Railways	HR	External
13	Ministry of Transport	HR	External
14	National Society of Railway Transport	RO	External
15	Polish State Railways	PL	External
16	Regione Emilia-Romagna	IT	External
17	Romanian Railway Industry Association	RO	External
18	RTFC Timisoara	RO	External
19	Senate Department for Health, Environment and Consumer Protection, Berlin	DE	External
20	Siemens AG	DE	External
21	Stadler Rail	CH	External
22	TRENORD	IT	External
23	Verband Deutscher Verkehrsunternehmen (VDV)	DE	External

24	Zagreb University	HR	External
25	ZSSK- Zeleznicna spolocnost slovensko	SK	External

2.2 Results of the 1st User Platform

The conference was scheduled as a two-day meeting in Berlin, starting on Thursday, 10th Sept. 2009, ending on Friday, 11th Sept. (level 1 only – ECORailS partners and PTAs).

The approach of the ECORailS consortium to elaborate Guidelines for the inclusion of energy efficiency and environmental (EE/ENV) criteria in awarding procedures was appreciated by all participants of the meeting. The structure for the first draft of the Guidelines was presented by Allianz pro Schiene (ApS) and agreed upon by all participants. Speakers of Transportforskningsbolaget I Borlänge (TFK) and Università Roma "La Sapienza" (ULS) presented the results of the interviews that had been conducted before and included the legal and economic situations of the PTAs in the respective countries, technical options, good-practice examples for the inclusion of EE/ENV criteria and the general approach of PTAs in terms of awarding policy.

The User Platform meeting comprised two workshop phases where general comments on EE/ENV criteria and information about the awarding policies in the participating countries were selected. The main results were:

- While competitive awarding plays a prevalent role in Denmark and Germany, in-house provision and direct awarding are important types of award procedures in Italy and Poland.
- In several countries, e.g. Italy, Poland and Romania, the procurement of rolling stock by the PTA is a relevant type of action.
- There is a clear tendency to extend the duration of contracts from a minimum of 1-3 years in the past to 4-9 years, in some cases even up to 10-12 years.
- There are different models (or situations) concerning the ownership of the rolling stock.
- There are different situations when it comes to the financing of regional passenger rail services by regional or national public budgets.
- In several cases, the PTAs do not have many experts for rolling stock and railway technology. The involvement of external experts is quite common. This has implications for the target group and the concept of the ECORailS Guidelines. Staying up to date with new developments is in some cases a challenge for PTAs.
- When it comes to the concept of the Guidelines, most PTAs pled for a practical tool which is easy to implement ("clear, practical, simple", "recommended sets of criteria").
- A good tool for LCC calculations was desired by several PTAs.
- It was asked for clear advices how to measure parameters, what parameters to be checked during the life cycle and which could be the preferred intervals.

- The criteria proposed by ECORailS should be very transparent and leave room for different solutions or ways to do it.
- The concept of ECORailS with a testing period and four pilot applications was appreciated by the participants of the User Platform.

As a conclusion it can be said that the participating PTAs expressed their expectations and requirements for energy efficient and environment-friendly awarding and clearly committed themselves to contribute to the project and to use the ECORailS results by including of energy efficiency criteria in their awarding procedures.

2.3 Main results of the 2nd User Platform

The conference was scheduled as a two-day meeting in Berlin, starting on Thursday, 18th Feb. 2009, ending on Friday, 19th Feb. Instead of the originally intended two meetings (one of level 1 and one of level 2), an extended meeting of level 2 was held after respective communication with the stakeholders.

The intermediate results of the ECORailS project were presented, basing on the Deliverables 19 ("1st draft version of guidelines"), 6 ("Technological overview with regard to energy efficiency and environmental performance, ready to be integrated into the guidelines") and 9 ("Legal and economical overview including legal text modules for awarding ready to be integrated into the guidelines") as well as the discussions of the Consortium meeting in Copenhagen (Oct: 2009) and the very intense discussions of the WP 4 Kick-off meeting in Brescia (Dec. 2009).

Several important agreements and statements from the 2nd meeting of the User Platform have influenced the further development of the Guidelines. The main conclusions were:

- The members of the User Platform agreed that the reference model of the phases of awarding represents the typical approach of PTAs.
- The participants welcomed the proposal to structure the Guidelines according to the phases of this model. The proposal to structure the Guidelines' descriptions into three levels (overview over the phases, descriptions of the process, criteria in detail) was appreciated.
- There was a consensus that no major legal obstacles exist for the inclusion of EE/ENV criteria in awarding procedures for regional passenger rail services, as long as some basic principles are respected. In contrast, the main problems derive from the lack of experience, methodological challenges, the availability of reliable solutions on the market and limited resources.
- Several speakers highlighted that, in spite of their methodological implications, the direct indicators like kWh per seat kilometre or kWh per train kilometre should be the leading criteria wherever applicable.
- The explanation and analysis of other criteria, technologies and operational measures was considered as crucial information for the inclusion of EE/ENV in the awarding process. There was, however, a clear plea that the technologies should be described functionally when being used as criterion for awarding. Thus not a specific techno-

logical solution or product should be aimed at but the manufacturers and the bidding TOCs should have space for own ideas and developments.

- The User Platform acknowledged that the criteria, technologies and operational measures which had been chosen by the consortium (Copenhagen, October 2009) should be given highest priority in the further process of elaborating the Guidelines. These criteria were:
 - Direct indicators (“performance values”), e.g. kWh/train km etc.
 - Weight per seat as indirect indicator
 - Eco-Driving
 - Parked trains (stand-by functions)
 - Energy recovery (both diesel and electric)
 - Energy storage.
- It was shown (*see presentation by Arriva*) that problems could arise if a PTA required – willingly or not – to modernise existing rolling stock. The problem is that often small series or even individual solutions are necessary and problems with the authorisation by the National Safety Authorities might occur. Therefore PTAs should analyse the fleet situation. It should be carefully examined whether strict requirements or other instruments (like the definition of preferred solutions or other types of incentives) should be applied. It was stated however, that further harmonisation of authorisation procedures within the EU and widespread cross-acceptance could ease the problem.

2.4 Main results of the 3rd User Platform

The conference was scheduled as a two-day meeting in Milan, starting on Tuesday, 23rd Nov. 2010, ending on Wednesday, 24th Nov. Instead of the originally intended two meetings (one of level 1 and one of level 2), an extended meeting of level 2 was held after respective communication with the stakeholders.

In the first phase (“Workshop 1”) of the meeting speakers of the consortium presented the objectives of the project and the concept of the Guidelines. Afterwards speakers from all countries represented on the UP meeting commented on the following questions:

- a) How is the regional rail transport organised in your country?
- b) Who decides about the quality of the transport service?
- c) What could you do (or imagine to do) in your countries (or for your awarding procedure) in order to reduce the energy consumption?
- d) Do you trust and will you use (how and why/why not) the ECORailS results?

In the second phase (“Workshop 2”) key points from the ECORailS Guidelines were presented:

- Performance values: How to assess the energy consumption of vehicles and operations
- How to define service profiles? How to simulate energy consumption?

- Priority technologies and operational measures highlighted in the Guidelines – relevance and options of integration in awarding procedures
- Examples from the pilot application Lombardy

After each presentation, participants from all represented countries gave statements based on leading questions which had been agreed upon by the consortium in advance.

In the third phase ("Workshop 3") the participants had the opportunity to give a final feedback and draw conclusions by using the following leading questions:

- a) How can the situation be improved (in practice) by the ECORailS Guidelines?
- b) What influence can the Guidelines have in your country?
- c) How could the use of the Guidelines be supported in your country?
- d) What would we need from the EU and what from our national government?

The feedback from the users can be summarised as follows (all three phases):

- Speakers from all represented countries considered the ECORailS approach very useful for the improvement of their own railway system.
- Especially in the MOE, the South Eastern and Southern Europe countries, the energy efficiency criteria seem to be a good argument for establishing improved and clear contract relations between governments and railway companies.
- Bad state of the railway infrastructure and lack of investment funds in some countries are on the one hand an obstacle for the introduction of EE/ENV criteria but on the other hand, energy efficiency considerations are very helpful to convince governments and politicians to provide respective investment funds.
- No severe legal obstacles were identified in any of the participating countries that could impede the application of ECORailS criteria provided that they are described functionally and neutral.
- In several countries national authorities or national organisations of PTAs intend to integrate the ECORailS approach in the standard awarding procedures.
- The approach to use direct performance indicators, mainly kWh per seat km or kWh per train km, for the assessment of rolling stock was welcomed by all delegations.
- In several countries no detailed data exist about the energy consumption of railway operations. Monitoring operations in terms of energy consumption was considered to be essential by many speakers in order to collect data, to set incentives, evaluate results and to identify saving potentials.
- It was agreed that kWh per seat km and kWh per train km are the most important indicators. Although kWh per passenger km was considered very relevant as overall indicator for the success of the railways, it was agreed that the levers for increasing the occupancy and for improving the "technical" energy efficiency of railway operations are different ones. PTAs should deal with these two fields in different ways. It was accepted that ECORailS focuses on the "technical" energy efficiency.

- The ten steps of how to include the evaluation of the energy consumption of rolling stock in awarding procedures were welcomed as a good and feasible, well structured approach.
- Suppliers' representatives highlighted the crucial relevance of clearly defined service profiles and standardised simulations. The presented approach was considered a good guidance for appropriately comparing railway vehicles.
- Several users preferred specific service profiles instead of standard service profiles, but using the standardised methodology.
- The ten steps of how to include the monitoring of energy consumption during the actual operations were appreciated by the users, including representatives from TOCs.
- The priority technologies were considered as the most relevant ones by the users. Energy recovery and storage, parked-train mode, the installations of energy meters and eco-driving are of high relevance for awarding services while the remaining technologies are especially relevant for procuring rolling stock directly.
- The test results in Lombardy and the approach to incorporate the ECORailS criteria step by step into the Public Service Contract was considered as a very good example. PTAs in other countries intend to examine the options to follow a similar approach in their countries or regions.
- Especially the results of test runs with or without applying eco-driving on the Italian and the Romanian test sites were very impressive and motivated participants from other countries and other Italian regions to apply similar measures, including the comprehensive use of energy meters.
- Concerning requirements from the national, regional and European governments it was stated that clear financial relations between governments and TOCs and sufficient durations of Public Service Contracts (PSC) are important in order to facilitate innovative investments. Thus risks for public finances can be substantially reduced.
- Regulations for the authorisation of rolling stock should be simplified and harmonised in Europe. This could facilitate the use of new technologies and especially the modernisation of existing rolling stock.

On the 2nd day the Lombardian partners organised an excursion for the participants to railway installations in Milan and illustrated the strategy for improvements in terms of timetable, passenger comfort and energy efficiency that had been presented in the workshop on the day before.

As a general conclusion of the 3rd User Platform meeting, it can be said that the selection and description of energy efficiency criteria in the ECORailS Guidelines were welcomed by the participants and they were given a high relevance by the users.

2.5 Main results of the 4th User Platform

The fourth meeting took place in Berlin on the day before the Final Conference (22nd June 2011). After the experience of the meetings before it was decided to open it for level 2 participants.

After a short overview of the final Guidelines version, the focus of the 4th User Platform meeting was on

- the results of the test process in the four WP 4 regions
- the validation of the project results and
- achievements and positive consequences in the four test regions.

The approach and the results of the test process and the validation attempts were appreciated by the participants. In some regions there are clear attempts to establish the ECORailS approach in standard awarding procedures. Additionally, it was discussed how a better communication between PTAs, TOCs and suppliers could be achieved.

The following statements and conclusions are of high relevance for the future discussions:

- Priorities of EE/ENV criteria (e.g. energy efficiency vs. noise protection) depends on the geographical situation and sometimes the population density in the area.
- The interaction with Infrastructure Managers is important. It is good that the Guidelines refer to that point in part I.
- The four test sites were selected in a way that allows inhomogeneous situations in Europe.
- It is good that instruments to reduce the number of acceleration/deceleration cycles are well mentioned in the GL (e.g. stops on demand).
- IRD as leader of the validation process stated that many questions and obstacles had been overcome in the test site discussions, for example fear of new bureaucracy.
- The improvements of the Guidelines, based on the test process, were highlighted especially in terms of manageability (improvements from the test version (D 20) to the final version (D 22)).
- Instead of a new Directive for the railways (like 2009/33/EC for other fields of action), first of all attempts should be made to bring the ECORailS Guidelines into practice and collect experiences.
- WP 5 could show that the ECORailS performance indicators of reducing the specific energy consumption by 5 % / 10 % / 15 % can clearly be reached.
- Suppliers are interested in additional platforms and communication interfaces with TOCs and PTAs in order to know what (kind of) solutions are well acknowledged and required by the TOCs or PTAs.
- Willingness to pay for new technologies is important. LCC must be taken into consideration.

- PTAs should apply long-term paths for requirements concerning the development of vehicles.
- PTAs should give guarantees that innovative rolling stock can be re-used in follow-up PSCs.
- Awarding procedures with five months responding time are too short to achieve proper solutions. A process should be installed that is independent from competitive action.
- EE/ENV criteria should be weighed in a sufficient manner. Additional incentives are necessary. The application should be transparent and monitored.
- In all of the test regions attempts are being made to establish ECORailS in standardised procedures or incorporate them in the PSC. These approaches seem to have advanced especially in Lombardy and in Romania.
- Participants would welcome future possibilities to be informed and to discuss about experiences with the application of the Guidelines and further improvements.

2.6 Relevance of additional stakeholder events organised in the ECORailS framework

In order to facilitate more intense discussions and to integrate additional countries and organisations in the discussion process, trainings and dissemination events were organised in Bucharest, Budapest and Zagreb. Thus additional stakeholders were involved, especially from Slovakia, Croatia, Romania, Hungary, Slovenia and Macedonia.

Participants from those countries gave very positive feedback to the intention of reducing the railways' energy consumption, to the ECORailS approach and to the criteria which were presented on the meetings. Especially the presentations of "Best-case examples" in terms of available technologies, operational measures and awarding opened the eyes for possible improvements and were very much asked for (see also the Pilot Catalogue of Technologies and Operational Measures, part of Deliverable 8 and Annex 10 of Deliverable 23).

The concrete arguments and feedback to the Guidelines were in line with the User Platform discussions but gave additional insight in the situations in the respective countries.

2.7 Comments on the concept

The distribution of work for the organisation of the UP meetings, as described in Deliverable 18 ("Concept for User Platform and Campus ECORailS") has proved of value. The agenda of the UP meetings was prepared and confirmed by WP 6 in close cooperation with the Editorial Group (EG) and the Project Management Team (PMT). As far as reasonable the UP members were integrated in the information flows of the project. The role of the project partners:

ApS: Coordinator and chairman of the User Platform coordinates acquisition of participants

TSB FAV: Coordination with other activities of the project
Participation in UP meetings

TFK, IRD, ULS, TUB, KCW: Input to UP meetings (esp. contributions from WP 2, 3, 5)

PoB/ALOT: Input to UP meetings (esp. contributions from WP 4);
Active role in discussions (PTA)

SenStadt, TSY, CFR: Active role in discussions (PTA's, TOC)

All partners: Support in terms of acquisition of participants, esp. from their respective countries

The project meetings and the discussions of the Site Working Groups and the Site Stakeholder Groups provided additional input to the work of the project as well as sufficient space for "closed shop" discussions of PTAs. Therefore, dedicated level 1 meetings could be replaced by extended discussions of level 2.

The reimbursement of travel expenses has proved to be indispensable for the acquisition of participants who are external to the consortium.

2.8 Options of Institutionalisation

The rationale for an institutionalisation would be that all stakeholders of the field of regional passenger rail transport could profit from a common platform for discussing environmental issues with special emphasize to energy efficiency. Thus forces could be bundled and the danger of insulated solutions could be minimised. While there are already environmental platforms or working groups of UIC, CER, and UNIFE, such a group does not yet exist on the side of PTAs.

Several PTAs expressed their interest in further discussions. It should be thought of which is more important for the future: an international environmental platform for PTAs, a common platform of stakeholders in regional rail transport, or a combination of both. It could be organised by a sub-group of UITP and/or in cooperation of national pro-rail-alliances.

3. Training / Campus ECORails

The “Campus ECORails” is considered an additional channel for informing all relevant stakeholders about the project, its strategic objectives and its results. Thus can additional background information be provided which might not be included into the Guidelines but may be helpful for the understanding of the ways to apply environmental criteria in awarding projects. The Campus ECORails shall also be a discussion forum and may become a part of the institutionalisation and sustainability of using the ECORails Guidelines.

The target group for the training elements of the “Campus” are all persons working in the management units of the PTAs who have awarding procedures in the scope of their work as well as those persons (including consultants) working on the side of the TOCs or rolling stock suppliers who will have to respond to the tenders and quote requests of the PTAs.

3.1 Training events / Lectures

WP 6 made several comprehensive contributions to almost all dissemination and internal events of the project. These respectively comprised:

- Presentation of the current state of the Guidelines; detailed discussion of approach and proposed criteria (1-2 hours, including discussion);
- Best-case examples of available technologies, operational measures and practice of awarding (1-2 hours, including discussion);
- Workshop discussions, discussing actual or proposed awarding projects, application of criteria and setting of priorities (at least 2 hours but up to half-day or even longer discussion sessions).

The following events can be considered as trainings:

10th Dec. 2009 (Brescia), combined with kick-off meeting of WP 4

10th June 2010 (Berlin), intense one-day training as part of the Berlin-Brandenburg workshop process, with stakeholders from Berlin-Brandenburg and the German national level

14th/15th Sept. 2010 (Bucharest), independent two days event with stakeholders and partners from RO, SK, HR, IT, DE

20th Jan. 2011 (Budapest), independent event with stakeholders and transport policy researchers from Hungary

19th/20th May 2011 (Zagreb), two days training event with stakeholders and partners from HR, SK, SL, MK, IT and DE.

Please refer to D 23 ("Training module") for concept and content of the trainings.

A considerable number of lectures and presentations on the Guidelines or particular aspects on other project events and on meetings that were organised by national organisations were given. Please refer to the list in D 25 ("Project presentations and background material presented at information and dissemination events including feedback analysis thereof").

The workshop processes (Site Stakeholder Groups) in the test regions were added to WP 4 activities as result of the WP 4 kick-off meeting. They partially replaced (or integrated) the trainings that had been foreseen in WP 6 but were conducted with major involvement of WP 6 partners.

3.2 Bibliotheca

An online bibliotheca has been installed as part of the ECORailS website. It comprises additional information to the Deliverables and Annexes which were regularly published during the project period.

Several partners and stakeholders expressed their appreciation of providing additional channels of access to information that is relevant for the definition and application of EE/ENV criteria. Furthermore, not all of the information that has been developed or presented during the project could be used for the final version of the Guidelines or other Deliverables.

Therefore, twelve main issues were identified and the relevant information and documents are presented according to the following structure as "Campus ECORailS":

- 1st Level: Introductory remarks
 12 Lessons about energy efficiency, pollutants and noise - a not-too-serious questionnaire (see Annex 1)
- 2nd Level: Introductions to each of the 12 lessons ("issues"; see Annex 2)
- 3rd Level: To each of the 12 issues:
- The relevant parts from the Guidelines
 - The relevant parts from the Technical Annex (not for all issues)
 - The relevant parts from Annex M (text modules, not for all issues)
 - A presentation (compilation of slides that have been presented on project meetings by partners, including some interesting slides from external speakers); these presentations are taken from the Training Module, part 3 (see D 23 "Training Module")
 - Links to the relevant terms in the Glossary of the Guidelines
 - Links to relevant Deliverables or external documents (e.g. EU legislation, project websites, UIC/UNIFE TEC REC 100 001)

General information (mainly Glossary of the Guidelines)

The Campus ECORailS website shall be available at least until 31st Dec. 2012. It is intended to regularly update the website and include additional information about positive examples in terms of energy efficiency in railway operations (technologies, operational measures, approaches in awarding and procuring).

Additionally, all ECORailS Deliverables are continuously available on the project website where also overviews are given about the project's aims and approach.

3.3 Newsletters

During the duration of ECORailS project 10 newsletters were published to inform a broader public of users about the project, the work process, local discussions and experiences and progress achieved within the WPs and the local test sites.

- TSB News published in May 2009: EU project ECORailS started: Improving regional railway's environmental performance by the development of European eco criteria for awarding
- TSB News published in July 2009 (in German): Energy efficiency in rail transport: EU project ECORailS has been started
- TSB News published in October 2009: ECORailS Consortium Meeting
- TSB News published in February 2010 (in German): ECORailS – Discussion about the Guidelines with operators
- TSB News published in March 2010 (in German): Kick-Off of the Berlin Test Workshops
- TSB News published in April 2010 (in German): The ECORailS project: More energy efficiency in regional rail passenger transport services
- ApS Newsletter published in June 2010 (in German and English): EU project ECORailS: Energy savings of 15% possible until 2020
- TSB FAV News published in September 2010: Supporting regional railway decision makers to award green railway services: The ECORailS Project
- ApS Newsletter published in June 2011 (in German and English): Final Conference of the EU project- ECORailS
- TSB News published in July 2011 (in German): ECORailS- Energy efficiency by environmentally beneficial awarding procedures

These newsletters are shown in Annex 3.

Annex 1: Twelve lessons about energy efficiency, pollutants and noise

Campus ECORAILS

12 lessons and a training campus for advanced learners:

High Voltage Energy Efficiency:

Who is actually in the driving seat in the railway business?

Do you think you know all the ins and outs of the rail system? And you know that rail's environmental advantages lie somewhere in the Bermuda Triangle between train operating companies, passenger transport authorities and manufacturers? Now you can test your knowledge! If you can easily answer all the questions in our 12 lessons then you do not need our help. But if you want to know more about the parameters that impact energy efficiency then the advanced level of the CAMPUS ECORAILS is just right for you!

Lesson 1

Should PTAs incorporate environmental criteria into the awarding process?



Too good to catch up with?

- a. No. Environmental criteria are superfluous because the railways' environmental lead over cars and planes is unassailably good.
- b. No. PTAs have no influence over this issue. TOCs and manufacturers always do just what they want.
- c. Yes. The idea of incorporating energy efficiency into the awarding process may be in the early stages but PTAs can play a strategically important role when it comes to energy efficiency.

Photo: mediathek.deutschebahn.com/

For advanced learners:

Public Transport Administrations (PTAs) play a key role today when it comes to improving the quality and environmental performance of passenger rail transport. Despite their inherent advantages, the railways have not yet fully exploited their potential for increasing energy efficiency and reducing environmental impact.

Criteria relating to energy efficiency, exhaust pollutants and noise can be used in all major types of awarding process – competitive tendering, direct awarding and in-house provision. European law explicitly encourages the use of environmental criteria in public procurement procedures, providing certain basic principles are respected.

Read more....

Lesson 2

Why should PTAs be concerned about energy efficiency and CO₂ emissions?



Because the customer wants it that way?

- Because these criteria are also becoming more important to environmentally aware passengers. The PTA is laying the foundation for customer satisfaction.
- There is no reason. PTAs do not have to be concerned about energy costs because TOCs have to pay the electricity invoice.
- With foresight, the PTA can act today and influence the costs that will be incurred in the future.

Photo: Fotolia

For advanced learners: *The PTA should think about energy efficiency in order to:*

- a) *anticipate future increases of energy prices*
- b) *identify saving potentials that can be realised through the PTA's influence*
- c) *change the institutional situation if energy consumption is not charged appropriately to the TOCs.*

Lesson 3

Is it necessary to have a strategy for the awarding process?



A strategy helps you achieve your aims?

- a. No. Strategies are for old men. Modern railway transport just has to function properly.
- b. No. The laws of the market place will point the way. The PTA simply has to react to the situation.
- c. Yes. An environmentally aware awarding process will help to trigger the innovation process.

Photo: istockphoto

For advanced learners:

- a) *PTAs need a mid-term oriented general strategy for the environmentally-aware awarding of railway services.*
- b) *TOCs and manufacturers will state that they are not able to offer rolling stock with advanced environmental or energy efficiency standards in usual competitive tendering procedures. What can a PTA do?*

- c) *The PTA will get better results in terms of energy efficiency if it already considers EE/ENV criteria when defining the concrete awarding project.*

Lesson 4

How detailed should the specifications be when asking for tenders?



Leave nothing to chance?

- a. The PTA should not make any specifications so that the TOC can be completely free to develop creative solutions.
- b. The traveller should see the PTA's influence as soon as they enter the train. Nothing should be left to chance.
- c. PTAs should usually take a functional approach and leave the implementation to the TOC.

For advanced learners:

A PTA should usually prefer a functional approach instead of requiring concrete designs or solutions. Environmental criteria can be classified as

- (1) Target specification*
- (2) Performance specification*
- (3) Compliance specification*
- (4) Design provision.*

Photo: Allianz pro Schiene / Pippert

Read more....

Lesson 5

Which indicators are best suited for determining energy consumption?



Perceived energy efficiency?

- In passenger transport, 'kilowatt-hour per seat-kilometre' is the best indicator.
- How passengers perceive energy efficiency is the most important criterion.
- Indicators are relative. The indicator of choice is always the one that delivers the best-looking results.

For advanced learners:

Direct indicators for the energy consumption show the interdependent result of all technologies and measures for improving energy efficiency. In Regional passenger rail services, "kWh per seat km" is usually the most appropriate indicator while "kWh per train km" or "kWh per gross tonne km" can be relevant in certain situations.

Photo: stockphoto

Lesson 6

Targets, maximum values or average values - should reference values be specified in the awarding process?



Reference values unnecessary?

- a. Reference values are generally superfluous and only make sense in mountainous regions with lines on steep inclines.
- b. Reference values for energy consumption are a nice idea, but TOCs simply do not know how much energy they consume.
- c. Reference values are helpful in ascertaining the real energy consumption on actual lines in order to identify the potential for reducing consumption.

For advanced learners:

Infrastructure conditions, ambient conditions, timetable and other operational requirements must be clearly defined when offers of bidding TOCs or manufacturers are to be compared consistently. Specific or standard service profiles should be used for this purpose and described according to a standardised methodology.

By means of service profiles, realistic data on the energy consumption of specific operations can be given. Such reference values help to define an interval of plausible energy consumption values or reduction potentials.

Read more....

Photo: stockphoto

Lesson 7

Should PTAs evaluate the quality of rolling stock?



Everything under control?

- a. In the winter of 2010 it was clear that the TOCs had the maintenance of their rolling stock under perfect control. PTAs do not need to concern themselves with the issue of energy efficiency.
- b. The rolling stock has absolutely nothing to do with the issue of energy efficiency.
- c. Energy efficiency is an important quality criterion for the rolling stock fleet.

Photo: mediathek.deutschebahn.com/

For advanced learners:

The energy efficiency is a major quality feature of railway rolling stock. It should be evaluated according to defined service profiles and a standardised methodology (but independently from the actual operational performance).

Read more....

Lesson 8

Should TOCs be obliged to record their energy consumption?



Internal company data?

- a. No. Information on energy consumption is private company data and is covered by tough data protection requirements.
- b. Yes. Since the nuclear catastrophe in Fukushima, PTAs are obliged to take a tough line on the energy consumption of transport companies.
- c. Yes. With the best available data, PTAs have a solid basis for developing an intelligent incentive system for TOCs.

Photo: istockphoto

For advanced learners:

The operating TOC should be motivated to apply all appropriate measures to save energy. Monitoring the actual consumption is a prerequisite for incentive systems. Furthermore, it could be used to

- (1) identify potentials for improvement;*
- (2) better calculate reference values or standard costs;*
- (3) report to the public about the environmental effects of railways.*
- (4)*

Read more....

Lesson 9

Should energy-aware driving be a part of the awarding specifications?



Passengers' comfort to be the first priority?

- No. Passengers should be the first priority. For the PTA, everything else must be secondary.
- No. An individual driving style is important for a driver's personal development and is actually what makes train travel interesting for passengers.
- Yes. Because eco-driving can substantially reduce energy consumption.

Photo: fotolia

For advanced learners:

It might be reasonable to require or encourage specific technologies or operational measures in the following cases:

- If the effects of the respective technology/operational measure are not covered by the direct indicator (e.g. kWh / seat km);*
- To ensure a certain level of energy efficiency;*
- Because of interdependence with the infrastructure;*
- To boost the innovation process.*

In particular, technologies for recovering and storing braking energy, and energy-efficient driving should be used for rail passenger operations.

Lesson 10

How should the investment costs of rolling stock be calculated?



The cheaper, the better.

- a. The cheapest product on the market is always the best.
- b. The most expensive product on the market is the best because it is the most innovative.
- c. Higher procurement costs can be justified if they result in energy savings during operations.

Photo: istockphoto

For advanced learners:

The costs of a product are not only determined by the initial investment costs (purchasing price) but also by all other costs that occur during the product's lifetime, especially operational and maintenance costs. Energy consumption represents a major factor of the lifecycle costs of railway rolling stock. This means that higher initial investment costs can be justified by reduced energy consumption during the entire lifetime of the vehicle (25-40 years or even longer).

Read more

Lesson 11

Should PTAs be concerned about particulate matter?



Air quality is not a problem.

- a. No. Particulate matter is so small that it has no significance for the public.
- b. No. For TOCs, fitting diesel locomotives with particle filters is voluntary.
- c. New vehicles should be equipped with particle filters and comply with Stage IIIB.

Photo: istockphoto

For advanced learners:

Especially in areas with dense traffic and diesel operations or air quality problems in general, PTAs should address the emission of toxic exhaust pollutants. Newly procured tractive units and replacement engines must comply with Stage IIIB of the European Non Road Machinery Directive (2004/26/EC). If existing rolling stock is to be accepted, certain relevant standards before Stage IIIB could be considered in order to exclude trains with unacceptable emission values.

Read more....

Lesson 12

How important are solutions for addressing railway noise?



People love railway noise

- a. Not important. Studies have shown that people find noise from the railways to be rather pleasant.
- b. People suffer from noise pollution but there is no solution. You cannot make an omelette without breaking eggs.
- c. Noise is one of the railways' major problems, including passenger rail. The European TSI Noise define compulsory noise limits for new rolling stock.

Photo: istockphoto

For advanced learners:

It is not only in urban areas that noise emissions from rail operations can be a problem, even for passenger transport. The European TSI Noise define compulsory limit values for new rolling stock but also provide a useful methodology for the noise-related evaluation of older vehicles.

Read more

Annex 2: Short introductions to the twelve Campus ECO-Rails issues

Campus ECORails

Issue 1:

"EE/ENV criteria in awarding procedures"

- Political relevance
- Options and instruments
- Types of awarding procedures
- Legal questions

Public Transport Administrations (PTAs) play a key role today when it comes to improving the quality and environmental performance of passenger rail transport. The railways are one of the most environment-friendly means of passenger transport. Modal shift towards rail transport can be an appropriate measure for reducing energy consumption, CO₂ emissions, pollutants and noise. The inherent advantages of rail transport are most prominent in terms of energy efficiency. However, the railways have not yet fully exploited their potential for increasing energy efficiency and reducing environmental impact.

Criteria referring to energy efficiency, exhaust pollutants and noise can be used in all major types of awarding procedures – competitive tendering, direct awarding and in-house provision. European law explicitly encourages the use of environmental criteria in public procurement procedures provided that some basic principles are respected. The main instruments are binding requirements, weighting/scoring schemes, and incentives.

Read more...

Campus ECORailS

Issue 2:

"Why should a PTA consider energy efficiency and CO₂ emissions even though energy costs are supposed to be paid by the TOC?"

Although energy costs are usually supposed to be borne by the TOCs themselves, there are several reasons why PTAs should address the energy efficiency of the rail operations within their scope:

- In some networks of the European railway system, the consumption of electric traction energy is not charged according to actual consumption, or the costs are borne directly by the contracting PTA.
- Current energy prices do not sufficiently reflect the urgency of climate protection or risk of future shortages of energy supplies. New railway vehicles will usually last for three or four decades. If their energy consumption is high, this will result in future additional costs.
- Cost calculations of bidding TOCs focus on the first period of operations (usually not more than $\frac{1}{3}$ of the vehicle's lifetime). The energy costs of later decades are neglected and thus provide risks for public finances in the future.
- The energy consumption of railway operations is influenced, to a substantial extent, by the condition of the infrastructure and the timetable concept. The PTA often has decisive influence on these determinants.

Read more...

Campus ECORailS

Issue 3:

"Strategy, mid-term innovation, defining the award project"

Energy efficiency and environmental (short: EE/ENV) specifications should be embedded within a more general strategy for environmentally-aware awarding of rail services. Strategic issues include, among other things:

- environmental targets for the transport policy
- clear financial relations between government and the railway sector
- quality of infrastructure
- timetable issues and
- noise abatement.

Although innovation is necessary in order to achieve the best energy efficiency, it is not likely that major technological improvements will be achieved by simply adding some ambitious specifications to the tender documents. Therefore, complementary instruments to trigger the innovation process should be applied.

Even during the definition phase of an actual award project should consideration be given to EE/ENV issues. The configuration of networks, lots and timetables as well as vehicle concepts and comfort requirements usually have substantial influence on the energetic and environmental performance of the operations. Furthermore, the analysis of the current situation, potentials, and the definition of targets in terms of energy consumption, CO₂-emissions, exhaust pollutants and noise are pre-requisites for the successful application of environmental criteria.

[The text modules from the pilot applications that are presented here do not provide a comprehensive view. Strategic considerations and the definition phase of the ECORailS pilot applications are documented in Deliverable D 14 "Pilot Applications".]

Read more...

Campus ECORailS

Issue 4:

"Main types of specifications"

Environmental criteria (specifications) can be classified according to their degree of quantification. For a PTA, it is usually preferable to choose a functional approach instead of concrete design provisions. In a few cases, however, it is proposed to make provisions for the vehicle design or for modes of operation (*see chapter 5.3*). In those cases, specific quantifiable indicators may be applied which refer only to a specific component of the system. According to UIC Leaflet 345, four degrees of quantification can be distinguished:

- (1) Target specification
- (2) Performance specification
- (3) Compliance specification
- (4) Design provision.

Read more...

Campus ECORails

Issue 5:

"Direct performance indicators"

Direct performance indicators focus directly on the aim of reducing the energy consumption of a traction unit (or operations in general) in relation to a unit of measurement that refers to transport performance or operational performance. They can be used for both evaluating rolling stock and monitoring operations.

The big advantage of using direct indicators in awarding procedures is to leave the decision about which technologies or solutions should be used for reducing energy consumption to the TOC or the vehicle supplier. Such direct indicators show the interdependent result of an ensemble of aggregates, technologies and solutions of the fleet while the positive result of a specific solution could be balanced by a less intelligent combination with other features.

The indicator **"kWh per seat km"** will be the most appropriate one for most applications in the context of awarding rail passenger services or vehicles, since it can be applied to the comparison of different types of trains and operational concepts.

In certain situations, the indicators "kWh per train km" or "kWh per gross tonne km" could be more appropriate or provide relevant additional information. "kWh" can often be replaced by "litres of fuel" when diesel operations are to be analysed.

The responsibilities and the levers for improvements are very different for increasing occupancy on the one hand and improving technological efficiency on the other hand.

Read more...

Campus ECORailS

Issue 6:

"Reference level of consumption and service profiles "

When the PTA can provide a reference level for energy consumption, the integration of energy efficiency in the award process can become more effective than without such a reference. The reference shows realistic data on the energy consumption of specific operations. Depending on its function in the award process or contract, it can take the shape of

- a maximum value;
- a target value; *or*
- an average value.

In other words: Reference values help to define an interval of plausible energy consumption values / reduction potentials.

The energy consumption of specific railway operations depends on the infrastructure conditions, ambient conditions, timetable and other operational requirements. These conditions must be clearly defined if offers of bidding TOCs or manufacturers are to be compared consistently. For this purpose, specific or standard service profiles should be used.

Read more...

Campus ECORailS

Issue 7:

"Evaluating rolling stock"

Vehicle design is one of the most decisive determinants for the energy consumption of passenger railway operations. When procuring rolling stock, the PTA should ask for the vehicles' energy consumption data, which should be understood as a quality feature of the vehicle class.

When the TOC is to provide the rolling stock it is recommended that the PTA asks for data about the energy consumption of the vehicles to be used. These should be evaluated separately from the operational performance, which is also influenced by other factors. The methodology is the same as when procuring rolling stock.

The approach that is presented in the Guidelines includes the definition of maximum and/or reference levels, the definition of service profiles and options for verification.

When procuring loco-hauled carriages, the weight per seat ratio is relevant.

Read more...

Campus ECORailS

Issue 8:

"Evaluating and monitoring operations"

Monitoring the actual consumption is a prerequisite for the application of an incentive system to motivate the TOC to apply all feasible operational measures in order to save energy. In some cases modernisation investments may even be induced.

The intention of including an incentive system is to complement the price signals from the energy market. An appropriate monitoring system provides the necessary data for

- identifying potentials for improvement (joint effort of PTA, TOC and IM);
- better calculations of reference values, including standard costs for energy consumption, for future tenders or contracts;
- reporting about the environmental effects of the railways (including CO₂ emission).

To facilitate the monitoring, the rolling stock should be equipped with energy metering systems. When the introduction of an incentive system is intended, reference levels should be calculated. The main options for a TOC to improve the energy efficiency of its operations are eco-driving, improved parked-train mode, and maintenance (see separate issues¹).

Read more...

¹ Links einfügen!

Campus ECORailS

Issue 9:

"Priority technologies and operational measures"

The analysis of promising technologies and operational measures is relevant for PTAs for the following purposes:

- Estimation of potentials for reducing energy consumption;
- Knowledge about costs, reliability and implementation time;
- Decisions about timetables and infrastructure investments that may be related to the analysed technologies or operational measures;
- Inclusion in award procedures in certain cases.

Despite the prominent relevance of direct performance indicators it might be reasonable to require or encourage specific technologies or operational measures in the following cases:

- If the effects of the respective technology/operational measure are not covered by the direct indicator (e.g. kWh / seat km);
- To ensure a certain level of energy efficiency;
- Because of interdependence with the infrastructure;
- To boost the innovation process.

The ECORailS project identified eleven priority technologies and operational measures for improved energy efficiency. Nine of them are highlighted in the Guidelines while the remaining two technologies (addressing the energy supply infrastructure) are presented in Deliverable 8 ("Final Technological Overview").

In particular, technologies for recovering and storing braking energy, and energy-efficient driving should be used for rail passenger operations.

The ECORailS pilot application in Romania integrated several additional technological features that can be seen in the respective paragraphs (text modules) of Annex M-4.

Read more...

Campus ECORails

Issue 10:

"LCC analysis"

The basic idea of the lifecycle cost (LCC) concept is that the costs of a product, for example a railway vehicle, are not only determined by the initial investment costs (purchasing price) but also by all other costs that occur during the product's lifetime, especially operational and maintenance costs. This means that higher initial investment costs can be justified by reduced operational costs during the entire lifetime of the vehicle. In general, LCC analysis is the calculation of all possible costs of a product during its lifecycle. The LCC concept is especially relevant for railway rolling stock because of the usually long technical and economic lifetime (25-40 years or even longer).

The method of LCC analysis can also be a helpful instrument for introducing more energy-efficient railway rolling stock. Despite the prominent role of energy costs, it should be considered that new or additional equipment for saving energy can cause relevant changes for other operational costs, maintenance costs as well as for recycling and disposal costs. LCC analyses can be applied when procuring rolling stock or, although with reservations, when awarding rail services. In certain cases the PTA may offer a guarantee to re-use the rolling stock after the contract period even if the current TOC does not win the follow-up contract. This lowers the risk for the bidding TOCs, and the PTA can also benefit from lower costs. The following business cases are relevant:

- (1) Procurement of rolling stock by the PTA
- (2) Public Service Contract (PSC) with guaranteed re-use of rolling stock
- (3) PSC without guaranteed re-use
- (4) Economic assessment of components

LCC calculations are based on assumptions about the development of upcoming costs. The more we look into the future, the stronger the responsibility of the PTA or the TOC (compared to the responsibility of the manufacturer) will be and the higher the risk that the operational patterns will have changed. Possibilities for verification and the manufacturer's liability for the actual LCC are therefore limited, but certain options are discussed in the Guidelines.

Read more...

Campus ECORailS

Issue 11:

"Pollutants"

When a PTA is preparing an awarding project that includes non-electrified lines, the relevance of exhaust pollutants (mainly particulate matters and nitrogen oxides (PM and NO_x)), the present situation, and the potentials for improvement should be assessed. Under certain circumstances, pollutants from diesel operations should be given a relatively high weighting in the awarding project

From 1st January 2012 onwards, all newly procured diesel locomotives and DMUs within the EU must fulfil the limit values of Stage IIIB of the Directive 2004/26/EC. The same applies to new motors that are used for re-engining.

If exhaust pollutants are relevant for the PTA, it must find an appropriate balance between requiring very high standards and allowing existing vehicles with lower standards to be used.

Air Quality Planning in accordance with EU Directive 2008/50/EC may require faster progress in terms of PM and NO_x reduction than induced by the regulations for the authorisation of new engines.

Read more...

Campus ECORailS

Issue 12:

"Noise"

Noise emissions are the "Achilles' heel" of rail transport in terms of its environmental effects. Nevertheless, progress has been made by systematically giving consideration to noise issues in vehicle design. The TSI Noise have been in force since 2007, with emission limits applying to new vehicles. However, the difference in terms of noise quality between vehicles complying with TSI and older ones can be substantial even if the non-TSI vehicles were constructed quite recently and have a fairly long remaining lifetime. On the other hand, it is not guaranteed that purely the application of authorisation rules will be sufficient to meet the requirements of strict noise action planning in the future. Therefore, noise is an issue for PTAs.

The actual relevance and definition of noise-related criteria will usually depend on the relevance of noise immissions in the region and on the age and the availability of rolling stock.

Read more...

Annex 3: Newsletters / Press releases

1. TSB News published on May/October 2009

Download-Link:

http://www.trafikstyrelsen.dk/DA/Presse/Nyhedsarkiv/Generelle/2009/05/~/_/media/F730CA9FEAB74E3F875B7A868832533E.ashx

Title: EU-project ECORailS started: Improving regional railway's environmental performance by the development of European eco criteria for awarding

First preliminary results of the EU-project ECORailS presented in the ECORailS project meeting on 5th of October 2009: Checklist for energy-efficient technologies, useable for regional administrations in rail awarding; first structure of the ECORailS guidelines for the inclusion of ecologic criteria into regional awarding. Strong interest gained by railway target groups.

The European regions embody living centres for work, daily life and leisure activities of citizens. Regional rail transport for passengers, establishing almost half of the overall railway transport in Europe, possesses inherent advantages for an efficient energy use and high eco friendliness. However, the last decades showed a decline in these environmental advantages vis-à-vis other transport modes – caused by low information on available advanced technologies, insecurity in the use of legal requirements, and the perception of high investment costs.

The project ECORailS – “Energy efficiency and environmental criteria in the awarding of regional rail transport vehicles and services” – targets at the inclusion of ecological criteria by regional Public Transport Administrations (PTA's). PTA's are normally responsible to set the overall frame for the technologies and services used by railway operators, infrastructure managers and the industry. The focus of ECORailS will be on procurement by awarding, the increasingly used instrument for competitive offers of railway applications.

The ECORailS core product will be guidelines supporting regional decision maker in the awarding process. Among others the guidelines will provide legally secure text modules for environmental awarding, which can be applied Europe-wide. Furthermore, the economical and social benefits of green criteria will be shown and best practice examples presented.

The four regional administrations of ECORailS from Berlin, Øresund (Copenhagen-Malmö-region), Brescia and Timisoara will simulate the guidelines. The project aims at the following results:

- Improvement of energy efficiency: 5% in comparison to current awarding, 10% with regard to the currently used rolling stock, and in the long term system-wide improvement of energy efficiency for regional railway by 15% by 2020.
- Simultaneously to the energy efficiency improvements, ECORailS targets on a reduction of CO₂ emissions by 5% in comparison to current awarding, 10% with regard to the currently used rolling stock, and in the long term a system-wide reduction of CO₂ for regional railway by 15% by 2020.

On 26th of May 2009, all 14 project partners from six European countries (Germany, Denmark, Sweden, Italy, Romania, and Hungary), gathered for the kick-off meeting of the project in Berlin, at the premises of the project coordinator Technology Foundation Berlin (TSB-FAV). The European Commission presented their expectations towards ECORailS, which will have a duration of 26 months (1st of May 2009 – 30th of June 2011) with an overall budget of about 1.4 Million Euro. Based on that, the consortium presented the involvement of further administrative decision-makers, Railway Operators and Infrastructure Manager as external experts. Their involvement will be organised in the ECORailS User Platform, a reference group which will regularly meet during the project to identify expectations and needs, and it shall evaluate the project results, in a user-oriented approach.

Besides the 14 national Public Transport Administrations, Operators, Infrastructure managers and respective associations, represented are the UIC – International Union of Railways, UITP – International Association of Public Transport and the CER – Community of European Railway and Infrastructure Companies.

The ECORailS consortium consists of the following partners:

1. TSB Innovation Agency Berlin GmbH FAV – Transport Technology Systems Network – Germany (coordinator)
2. Senate Department for Urban Development - Germany
3. Pro Rail Alliance - Germany
4. KCW GmbH - Germany
5. Berlin University of Technology - Germany
6. Trafikstyrelsen - Denmark
7. Transportforskningsgruppen I Borlänge AB - Sweden
8. Province administration of Brescia - Italy
9. Università Commerciale "L. Bocconi" - Italy
10. Università di Roma "La Sapienza" - Italy
11. Integral Consulting RD - Romania
12. Universitatea POLITEHNICA din Timisoara - Romania
13. CFR Timisoara – National Society of Railway Transport - Romania
14. Budapest University of Technology and Economics - Hungary

The work plan for the project contains the following Work Packages (WP's):

- WP1 Management
- WP2 Technologies
- WP3 Legal frames and awarding procedures
- WP4 Pilot applications

ECORailS – Energy efficiency and
environmental criteria in the awarding
of regional rail transport vehicles and
services
Contract: IEE/08/690
Dissemination Level: PU

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1600h
Document: Training module for the guidelines
Date: 30.04.2011

- WP5 Evaluation and Validation
- WP6 Communication and Dissemination
- WP7 IEE Dissemination Activities

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2. TSB News published on July 2009

Title: Energy efficiency in rail transport: EU project ECORailS has been started

Download-Link:

<http://www.tsb-berlin.de/de/tsb-gruppe/service/archiv/news/artikel/d/2009/07/02/a/energieeffizienz-im-schienenverkehr-eu-projekt-ecorails-gestartet/>

Energieeffizienz im Schienenverkehr: EU-Projekt ECORailS gestartet

Zum Auftakt-Meeting des EU-Projektes ECORailS am 24. Mai 2009 in Berlin trafen sich die 14 Projektpartner aus sechs europäischen Ländern (Deutschland, Dänemark, Schweden, Italien, Rumänien und Ungarn). Der TSB FAV ist Projekt-Koordinator.

Die europäischen Regionen verkörpern lebendige Räume für Arbeit, tägliches Leben und Freizeitaktivitäten ihrer Bürger. Der regionale Eisenbahn-Passagierverkehr, der etwa die Hälfte des gesamten Bahnpassagiersektors in Europa ausmacht, weist gegenüber dem Auto inhärente Vorteile im Bereich der Energieeffizienz und Umweltfreundlichkeit auf. Allerdings nahm dieser Vorsprung auf Grund von Informationsdefiziten über verfügbare Technologien und Unsicherheiten über ihre Anwendung im Rahmen der gesetzlichen Bestimmungen ab. Hinzu kommt, dass der Straßenverkehr deutliche Fortschritte aufweisen kann – insbesondere in Sachen Luftschadstoffe.

Das Projekt ECORailS „**Energy efficiency and environmental criteria in the awarding of regional rail transport vehicles and services**“ zielt auf die Einbeziehung von Energie- und Umweltkriterien durch öffentliche Aufgabenträger. Diese sind dafür verantwortlich, den Rahmen für Technologien und Services festzulegen, die von den regionalen Eisenbahnbetreibern, Infrastrukturmanagern und der Industrie genutzt werden. Der Fokus von ECORailS wird auf der Beschaffung durch Ausschreibungen liegen, einem zunehmend genutzten Instrument auf dem europäischen Verkehrsmarkt.

Das ECORailS Konsortium wird einen Leitfaden erarbeiten, der regionale Entscheidungsträger im Ausschreibungsprozess unterstützen soll. Diese werden europaweit anwendbare, rechtssichere Textmodule enthalten, mit denen Energie- und Umweltkriterien in die Ausschreibungstexte aufgenommen werden können. Die vier regionalen Administrationen im Projekt aus Berlin, der Region Øresund (Kopenhagen-Malmö), Brescia (Italien) and Timisoara (Rumänien) sollen den Leitfaden anhand konkreter Ausschreibungen simulieren.

Die erwarteten Ergebnisse sind eine Verbesserung sowohl von Energieeffizienz als auch CO2 Emissionen, von 5 Prozent im Vergleich zu gegenwärtigen Ausschreibungen, von 10 Prozent im Vergleich zum aktuell genutzten Fuhrpark, und langfristig die systemweite Verbesserung von 15 Prozent bis 2020.

Bei dem Treffen präsentierten unter anderem der Projekt-Koordinator TSB FAV und die Europäische Kommission ihre Erwartungen an ECORailS, das eine Laufzeit von 26 Monate hat (6. Mai 2009 - 30. Juni 2011). Des Weiteren wurden erste inhaltliche Ergebnisse diskutiert, darunter ein Katalog aller innovativen Technologien und technologischen Anwendungen, die in den Leitfaden aufgenommen werden sollen. Darüber hinaus wurden Themen für einen Interview-Fragebogen präsentiert, mit dem die Anforderungen, Erwartungen und Erfahrungen der öffentlichen Aufgabenträger an den Leitfaden identifiziert werden sollen.

ECORailS – Energy efficiency and
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3. TSB-FAV News published in October 2009

ECORailS Consortium Meeting

Start of the Guidelines pilot tests for green railway awarding on 1st of March 2010 together with over 50 European railway stakeholders

The EU project ECORailS („Energy efficiency and environmental criteria in the awarding of regional rail transport vehicles and services“; duration 2009-2011) aims to the inclusion of environmental criteria by Public Transport Administrations for Regional Rail Passenger Transport. The project elaborates Guidelines as decision support for the involvement of energy efficiency improvements, noise and Green House Gases/exhaust gas reductions into regional awarding. Parts of the Guidelines, developed by a project consortium of 14 partners from six European countries (coordination by TSB-FAV), are among others a catalogue of energy efficient technologies and operational measures, as well as legally secure text modules for the energy efficient and environmentally friendly tendering and procurement of passenger transport.

The Guidelines are tested in four European regions (Berlin-Brandenburg, Øresund, Lombardy, Timisoara), which are exemplary for the different European situations in Regional Rail Passenger Transport. Altogether 50 target group and key actors of the project from Public Transport Administrations, Train Operating Companies, Infrastructure Managers and Suppliers, identify the different requirements, needs and expectations on environmental-related awarding. Among these were different national and regional ministries, and international associations such as UIC – International Union of Railways, UITP – International Association of Public Transport and the CER – Community of European Railway and Infrastructure Companies.

Furthermore, the stakeholders evaluate the project results and the European-wide applicability of the Guidelines. One of the key ECORailS objectives is the achievement of a system-wide reduction of 15 % until 2020 both for energy consumption and CO2 emissions.

On 1st of March 2010, the pilot applications started at the four regional sites. In the first site workshops during March the different expectations on the Guidelines have been formulated. A first result was the identification of common requirements which are needed to be fulfilled for green awarding. In particular the different actors agreed on the main awarding phases on which the Guidelines to be targeted, namely the preparation of the awarding and the related consultation of parties issuing an awarding offer, for the formulation of offers, as well as for the monitoring during the contract duration. All results of the pilot applications will flow into the final Guidelines (provided in April 2011).

The ECORailS consortium consists of the following partners:

1. TSB Innovation Agency Berlin GmbH FAV – Transport Technology Systems Network – Germany (coordinator)
2. Senate Department for Urban Development - Germany
3. Pro Rail Alliance - Germany
4. KCW GmbH - Germany
5. Berlin University of Technology - Germany
6. Trafikstyrelsen - Denmark

7. Transportforskningsgruppen I Borlänge AB - Sweden
8. Province administration of Brescia - Italy
9. Università Commerciale "L. Bocconi" - Italy
10. Università di Roma "La Sapienza" - Italy
11. Integral Consulting RD - Romania
12. Universitatea POLITEHNICA din Timisoara - Romania
13. CFR Timisoara – National Society of Railway Transport - Romania
14. Budapest University of Technology and Economics - Hungary

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4. TSB News published in March 2010 (in German)

Title: Kick-Off of the Berlin Test Workshops

Download-Link:

<http://www.tsb-berlin.de/de/tsb-gruppe/service/archiv/news/artikel/d/2010/03/16/a/nachlese-ecorails-auftaktveranstaltung-zur-berliner-test-workshop-reihe/>

ECORailS – Auftaktveranstaltung zur Berliner Test-Workshop-Reihe

Der Schienenpersonennahverkehr (SPNV) als Rückgrat der urbanen Mobilität büßt angesichts der deutlichen Fortschritte des Straßenverkehrs bei der Emission von Luftschadstoffen und Klimagasen zunehmend seinen Vorsprung in Sachen Umweltfreundlichkeit ein. Als einer der Gründe hierfür sind deutliche Informationsdefizite der öffentlichen Aufgabenträger über verfügbare Technologien und Unsicherheiten über ihre Anwendung im Rahmen der gesetzlichen Bestimmungen zu sehen.

Das Projekt ECORailS „Energy efficiency and environmental criteria in the awarding of regional rail transport vehicles and services“ (Laufzeit 2009 – 2011) zielt auf die Einbeziehung von Energie- und Umweltkriterien durch öffentliche Aufgabenträger in wettbewerblichen Ausschreibungsverfahren für SPNV-Verkehrsleistungen oder zur Beschaffung neuer Regionalverkehrsfahrzeuge. Regionale Projektpartner sind: die Berliner Senatsverwaltung für Stadtentwicklung, Allianz pro Schiene, KCW, die TU Berlin und TSB-FAV als Projektkoordinator.

Das ECORailS-Konsortium mit insgesamt 14 Partnern aus sechs EU-Mitgliedsstaaten erarbeitet und testet einen Leitfaden, der regionale Entscheidungsträger im Ausschreibungsprozess unterstützen soll. Dieser wird europaweit anwendbare, rechtssichere Textmodule enthalten, mit denen Energie- und Umweltkriterien in die Ausschreibungstexte aufgenommen werden können. Vier regionale Administrationen aus Berlin, der Region Øresund (Kopenhagen-Malmö), Brescia (Italien) und Timisoara (Rumänien) testen den Leitfaden anhand konkreter Ausschreibungen.

Im Ergebnis soll nachgewiesen bei Energieeffizienz als auch bei CO₂-Emissionen eine Verbesserung von 5 Prozent im Vergleich zu gegenwärtigen Ausschreibungen, von 10 Prozent im Vergleich zum aktuell genutzten Fuhrpark, und langfristig die systemweite Verbesserung von 15 Prozent bis 2020 erzielt werden.

Auf einer Auftaktveranstaltung der Berliner Akteure, die am 29. Januar 2010 in der Senatsverwaltung für Stadtentwicklung betonte Staatssekretärin Maria Krautzberger die Notwendigkeit, Energie- und Umweltaspekten im SPNV künftig eine höhere Bedeutung beizumessen. Angesichts weiter steigender Energiekosten und dynamischer Umwelanforderungen unterstrich sie die Wichtigkeit des Projektes ECORailS für das Risikomanagement bei allen beteiligten Akteuren.

Dass unterschiedliche Interessenslagen der einzelnen Beteiligten zusammengebracht werden müssen, um zu tragfähigen Testergebnissen zu gelangen, wurde bereits während der Auftaktveranstaltung deutlich. Alle Beteiligten sind hoch motiviert, an den Tests mitzuwirken. Bereits am 12. März findet der erste Test-Workshop statt, der im Zeichen der Erfassung des Status quo, der Definition von Basisgrößen zur Beschreibung von Energieeffizienz- und Umweltkriterien und der Beschaffung entsprechender Basisdaten steht.

ECORailS – Energy efficiency and
environmental criteria in the awarding
of regional rail transport vehicles and
services
Contract: IEE/08/690
Dissemination Level: PU

ECORailS_WP6_D21_update_LuH+MP_110929_
1600h
Document: Training module for the guidelines
Date: 30.04.2011

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5. TSB News published in February 2011 (in German)

Title: ECORailS – Discussion about the Guidelines with operators

Download-Link:

<http://www.tsb-berlin.de/de/tsb-gruppe/service/archiv/news/artikel/d/2011/02/18/a/ecorails-diskussion-des-leifadens-mit-den-anwendern/>

ECORailS – Diskussion des Leifadens mit den Anwendern

Der Schienenpersonennahverkehr (SPNV) als Rückgrat der urbanen Mobilität büßt angesichts der deutlichen Fortschritte des Straßenverkehrs bei der Emission von Luftschadstoffen und Klimagasen zunehmend seinen Vorsprung in Sachen Umweltfreundlichkeit ein. Als einer der Gründe hierfür sind deutliche Informationsdefizite bei den öffentlichen Aufgabenträgern über verfügbare Technologien und Unsicherheiten über ihre Anwendung im Rahmen der gesetzlichen Bestimmungen zu sehen.

Dem entgegenzusteuern, zielt das EU-Projekt ECORailS „Energy efficiency and environmental criteria in the awarding of regional rail transport vehicles and services“ (Laufzeit 2009 – 2011) auf die rechtssichere Einbeziehung von Energie- und Umweltkriterien durch öffentliche Aufgabenträger in wettbewerblichen Ausschreibungsverfahren sowohl von Leistungen des Schienenpersonennahverkehrs als auch zur Beschaffung neuer Schienenfahrzeuge. Regionale Projektpartner sind die Berliner Senatsverwaltung für Stadtentwicklung, Allianz pro Schiene, KCW, die TU Berlin und die TSB Innovationsagentur Berlin GmbH als Projektkoordinator.

Das ECORailS-Konsortium mit insgesamt 15 Partnern aus sechs EU-Mitgliedsstaaten erarbeitet einen Leitfadens, der regionale politische Entscheidungsträger im Ausschreibungsprozess unterstützen soll. Vier regionale Administrationen aus Berlin-Brandenburg und den Regionen Øresund (Dänemark/Schweden), Lombardei (Italien) und Timisoara (Rumänien) testeten in den vergangenen Monaten den Entwurf dieses Leitfadens und die mit den Energie- und Umweltkriterien verbundenen Textmodule anhand konkreter Ausschreibungen.

Strategisches Ziel ist es, durch die rechtssichere Einbindung von Energie- und Umweltkriterien in künftigen Ausschreibungsverfahren Verbesserungen bei Energieeffizienz und CO₂-Emissionen von 5 Prozent im Vergleich zu gegenwärtigen Ausschreibungen, 10 Prozent im Vergleich zum aktuell genutzten Fuhrpark, und langfristig systemweit 15 Prozent bis 2020 zu erreichen. Dieses Ziel wurde in allen vier Testregionen trotz unterschiedlicher Ausgangsvoraussetzungen erreicht werden.

In der Region Berlin-Brandenburg wurde dieser Test als Workshop-Reihe mit externen Akteuren aus der Branche durchgeführt, um einen Resonanzboden hinsichtlich Umfang, Richtigkeit, Verständlichkeit und Vollständigkeit des Leitfadens zu bilden. Unter den Teilnehmern befanden sich Vertreter der in Ausschreibungsverfahren maßgeblich involvierten Interessengruppen: Aufgabenträger (die Länder Berlin und Brandenburg und der VBB), Eisenbahnverkehrsunternehmen (z.B. DB Regio, S-Bahn Berlin) und Fahrzeughersteller (Bombardier, Siemens, Stadler).

Trotz teilweise sehr unterschiedlicher Interessen der einzelnen Beteiligten konnte im Verlauf der einjährigen Workshop-Reihe dank des engagierten Mitwirkens aller Teilnehmer ein gemeinsames Grundverständnis zu den Ausschreibungsbausteinen Energieverbrauch/CO₂-Emissionen einerseits sowie Geräusch- und Abgasemissionen andererseits erzielt werden.

So traf ein vom Projektkonsortium vorgeschlagenes Verfahren zur Vorgabe eines realistischen Energiepreisanteils einerseits und eines aufgrund von Simulationsrechnungen ermittelten Maximalenergieverbrauchs für Schienenfahrzeuge in den Ausschreibungsunterlagen auf breite Zustimmung. Es wurde u. a. auch diskutiert, wie die Aufgabenträger Anreize setzen können, in Betrieb befindliche Fahrzeuge zu modernisieren oder gegen energieeffizientere Fahrzeuge auszutauschen. Es wurde klar, dass die Einführung innovativer energieeffizienter Fahrzeugtechnologien eines längeren zeitlichen Vorlaufs bedarf, als er im Rahmen eines Ausschreibungsverfahrens gegeben ist.

Aktuell steht die Fertigstellung des Leitfadens auf der Basis der in den vier Testregionen gewonnenen Testergebnisse an. Dieser soll bis Ende Mai vorliegen und wird auf der Abschlusskonferenz, die am 23. Juni 2011 in Berlin stattfindet, vorgestellt.

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6. TSB-FAV News published in April 2010 (in German)

Title: The ECORailS project: More energy efficiency in regional rail passenger transport services

Download-Link:

<http://www.tsb-berlin.de/de/tsb-gruppe/service/archiv/news/artikel/d/2010/04/18/a/nachlese-eu-projekt-ecorails-mehr-energieeffizienz-im-schienenpersonennahverkehr/>

Nachlese EU-Projekt ECORailS: Mehr Energieeffizienz im Schienenpersonennahverkehr

Das Ziel des vom TSB FAV koordinierten EU-Projekts ECORailS ist es, Umweltkriterien im regionalen Schienenpersonennahverkehr (SPNV) zu stärken. Im März dieses Jahres fand in Berlin das erste Stakeholdermeeting statt, in dessen Mittelpunkt die Formulierung eines Leitfadens stand, der als Entscheidungshilfe für die Einbindung von Umweltkriterien in Ausschreibungen des SPNV dienen soll.

Das EU-Projekt ECORailS „Energy efficiency and environmental criteria in the awarding of regional rail transport vehicles and services“ (Laufzeit 2009-2011) zielt auf die Einbeziehung von Umweltkriterien in Ausschreibungen und Verkehrsverträge des Schienenpersonennahverkehrs (SPNV).

Das Projekt erarbeitet einen Leitfaden als Entscheidungshilfe für die Einbindung von entsprechenden Anforderungen in SPNV-Ausschreibungen. Das Projektkonsortium (14 Partner aus sechs europäischen Ländern, Koordination durch Forschungs- und Anwendungsverbund Verkehrssystemtechnik - TSB-FAV) entwickelt einen Katalog energieeffizienter Technologien und operativer Maßnahmen. Weiterhin sind Kosten-Nutzen-Analysen der Maßnahmen sowie rechtssichere Textbausteine für die Ausschreibung energieeffizienter und umweltgerechter Verkehre im Fokus des Projektes.

Das Projekt ist in der Region Berlin-Brandenburg entstanden. Von den hiesigen Partnern (Berliner Senat für Stadtentwicklung, Allianz Pro Schiene, KCW, TU Berlin - Fachgebiet Schienenfahrzeuge, TSB FAV) werden die entscheidenden Beiträge zur Umsetzung des Leitfadens geleistet.

Der Leitfaden wird in vier europäischen Regionen (Berlin-Brandenburg, Öresund, Lombardei, Timisoara) getestet, die als Beispiele unterschiedlicher europäischer Anforderungen im SPNV gelten. Zielgruppen des Projektes, wie öffentliche Transportbehörden, Eisenbahnverkehrsunternehmen, Infrastrukturbetreiber und Hersteller auf europäischer und regionaler Ebene, definieren ihre Anforderungen an ECORailS, bewerten die Projektergebnisse und evaluieren die EU-weite Anwendbarkeit des Leitfadens. Wichtige Zielsetzungen sind dabei die Erreichung der selbstgesteckten systemweiten Einsparungsziele von bis zu 15 % bei Energie und CO₂-Emissionen bis 2020.

In Berlin kamen am 12. März 2010 insgesamt 16 Teilnehmer zu einem ersten Stakeholder-Meeting zusammen. Darunter befanden sich mehrere Berliner und Brandenburger Ministerien, die DB Regio AG und das DB Umweltzentrum, die S-Bahn Berlin, die Niederbarnimer Eisenbahn AG, Vertreter der Siemens AG und von Bombardier Transportation, sowie der

Verkehrsverbund Berlin-Brandenburg (VBB). Aus dem Projektkonsortium nahmen die genannten Berliner Partner teil.

In der Veranstaltung wurden die unterschiedlichen Erwartungen an den Leitfaden formuliert. Ein erstes Ergebnis war dabei die Verständigung auf gemeinsame Anforderungen, die für die Ausschreibung energieeffizienter und umweltgerechter Verkehre erfüllt werden müssen, insbesondere im Laufe der Ausschreibungskonsultationen, für die Formulierung von Angeboten, sowie für das Monitoring im Rahmen der Vertragslaufzeit.

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7. ApS Newsletter published in June 2010 (in German)

Title: EU project ECORails: Energy savings of 15% possible until 2020



PRESSEMITTEILUNG

23.06.2010

EU-Projekt ECORails: Energieersparnis von 15 % bis 2020 möglich

„Wir wollen mehr Nahverkehr für jeden Euro“

Berlin. Im europäischen Schienenpersonenverkehr lassen sich enorme Energiemengen einsparen, wenn sich Eisenbahnverkehrsunternehmen, Bahnindustrie und Aufgabenträger europaweit besser miteinander verzahnen und am Markt vorhandene Umweltinnovationen besser nutzen. Nach Einschätzung der Allianz pro Schiene könnte eine umweltorientierte Vergabepaxis dazu führen, den spezifischen Energieverbrauch und den CO₂-Ausstoß bis 2020 im Nahverkehr auf der Schiene um 15 Prozent zu vermindern. Im Rahmen des EU-Projekts ECORails treffen sich am morgigen Donnerstag Akteure aus sechs europäischen Ländern, um einen Leitfaden zu diskutieren, der allen Beteiligten konkrete Anregungen liefert: Neben energiesparenden Technologien und operativen Maßnahmen enthält der Katalog auch rechtssichere Textbausteine für umweltfreundliche Vergaben. „Unser Ziel ist erreicht, wenn Aufgabenträger in allen Regionen Europas diesen Leitfaden als Hilfestellung annehmen“, sagt Allianz pro Schiene-Umweltfachmann Matthias Pippert. „Wir sind überzeugt, dass mit diesem Instrumentarium auf freiwilliger Basis eine Energieersparnis von 15 Prozent zu schaffen ist“, sagte Pippert und betonte, dass damit für jeden Euro mehr Nahverkehr angeboten werden könne. Der ECORails-Leitfaden wird zur Zeit in vier Regionen getestet: Berlin-Brandenburg, Öresund (Dänemark), Lombardei (Italien) und Timisoara (Rumänien) stehen dabei beispielhaft für die sehr unterschiedlichen Startbedingungen in den Ländern der Europäischen Union. An der Brüsseler Konferenz nehmen Mitglieder von Aufgabenträgern, Bahnbetreibern, Infrastrukturbetreibern, Industrie und Verbänden aus ganz Europa teil. Das Brüsseler ECORails-Forum organisieren der Berliner Senat für Stadtentwicklung, der Forschungs- und Anwendungsverbund Verkehrssystemtechnik (TSB-FAV) und die Allianz pro Schiene, die bei dem EU-Projekt für den Leitfaden verantwortlich ist.

Weitere Informationen über das Projekt: www.ecorails.eu

Die Allianz pro Schiene ist das Bündnis in Deutschland zur Förderung des umweltfreundlichen und sicheren Schienenverkehrs. In dem Bündnis haben sich 17 Non-Profit- Verbände zusammengeschlossen: die Umweltverbände BUND, NABU, Deutsche Umwelthilfe und NaturFreunde Deutschlands, die Verbraucherverbände Pro Bahn, DBV und VCD, die Automobilclubs ACE und ACV, die drei Bahngewerkschaften TRANSNET, GDBA und GDL sowie die Eisenbahnverbände BDEF, BF Bahnen, VBB und VDEI. Die Mitgliedsverbände vertreten mehr als 2 Millionen Einzelmitglieder. Unterstützt wird das Schienenbündnis von 100 Unternehmen der Bahnbranche.

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ECORailS – Energy efficiency and
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Dissemination Level: PU

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1600h
Document: Training module for the guidelines
Date: 30.04.2011



PRESSEMITTEILUNG

23.06.2010

EU Project ECORails: Energy savings of 15% by 2020 possible

„We want more regional transport per Euro spent“

More trains per Euro: The EU project will determine the potential for saving energy in regional transport

Berlin. A considerable amount of energy could be saved in the European passenger rail sector if rail transport companies, the rail industry and passenger rail transport authorities (PTAs) were to be better interlinked and to make better use of the environmental innovations currently available. According to the German Pro-Rail Alliance, if the process of awarding contracts took environment factors into account it would lead to a 15 percent reduction in the specific energy consumption and CO2 emissions of regional passenger rail transport by 2020. As part of the EU project ECORails, participants from six European countries will be meeting on Thursday to discuss guidelines that will provide concrete suggestions and ideas to all involved: alongside energy saving technologies and operative measures, the catalogue will also contain proper legal wording that can be used for awarding environmentally friendly contracts. "We will have achieved our objective when PTAs across Europe are using these guidelines to assist them," said the Pro-Rail Alliance's environmental expert Matthias Pippert. "We are convinced that the voluntary use of this instrument will enable energy savings of 15 percent," continued Pippert. He emphasised that this means more regional passenger transport for every Euro spent.

The ECORails Guidelines are currently being tested in four regions: Berlin-Brandenburg (Germany), Øresund (Denmark), Lombardy (Italy) and Timisoara (Rumania) all exemplify the very different starting conditions in the countries of the European Union. At the Brussels' conference, representatives from PTAs, train operators, infrastructure operators, industry and organisations from across Europe are taking part. The ECORails forum in Brussels is being organised by Berlin's senate for urban development, the research and applications alliance Verkehrssystemtechnik (TSB-FAV) and the Pro-Rail Alliance, which has responsibility for the Guidelines within the EU project.

Additional Information:

The project website www.ecorails.eu

Additional project information (in German)

Die Allianz pro Schiene ist das Bündnis in Deutschland zur Förderung des umweltfreundlichen und sicheren Schienenverkehrs. In dem Bündnis haben sich 18 Non-Profit-Organisationen zusammengeschlossen: die Umweltverbände BUND, NABU, Deutsche Umwelthilfe und NaturFreunde

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Deutschlands, die Verbraucherverbände Pro Bahn, DBV und VCD, die Automobilclubs ACE und ACV, die zwei Bahngewerkschaften EVG und GDL, die Konferenz für kirchliche Bahnhofsmision, die Eisenbahnverbände BDEF, BF Bahnen, VBB und VDEI sowie die Technische Hochschule Wildau. Die Mitgliedsverbände vertreten mehr als 2 Millionen Einzelmitglieder. Unterstützt wird das Schienenbündnis von mehr als 100 Unternehmen der Bahnbranche.

8. TSB-FAV News published in September 2010

Supporting regional railway decision makers to award green railway services: The ECORails Project

Download-Link:

http://www.fav.de/News/newsletter_FAV_nr17.pdf

The EU project ECORails („Energy efficiency and environmental criteria in the awarding of regional rail transport vehicles and services“; duration 2009-2011) aims to the inclusion of environmental criteria by Public Transport Administrations for Regional Rail Passenger Transport. The project elaborates Guidelines as decision support for the involvement of energy efficiency improvements, noise and Green House Gases/exhaust gas reductions into regional awarding. Parts of the Guidelines, developed by a project consortium of 15 partners from six European countries (coordination by TSB-FAV), are among others a catalogue of energy efficient technologies and operational measures, as well as legally secure text modules for the energy efficient and environmentally friendly tendering and procurement of passenger transport.

The Guidelines are tested in four European regions (Berlin-Brandenburg, Øresund, Lombardy, Timisoara), which are exemplary for the different European situations in Regional Rail Passenger Transport. Altogether 50 target group and key actors of the project from Public Transport Administrations, Train Operating Companies, Infrastructure Managers and Suppliers, identify the different requirements, needs and expectations on environmental-related awarding. Among these are different national and regional ministries, and international associations such as UIC – International Union of Railways, UITP – International Association of Public Transport and the CER – Community of European Railway and Infrastructure Companies.

Furthermore, the stakeholders evaluate the project results and the European-wide applicability of the Guidelines. One of the key ECORails objectives is the achievement of a system-wide reduction of 15 % until 2020 both for energy consumption and CO2 emissions.

On 1st of March 2010, the pilot applications started at the four regional sites. In several stakeholder workshops the different expectations on the Guidelines are formulated. A first result was the identification of common requirements which are needed to be fulfilled for green awarding. In particular the different actors agreed on the main awarding phases on which the Guidelines to be targeted, namely the preparation of the awarding and the related consultation of parties issuing an awarding offer, for the formulation of offers, as well as for the monitoring during the contract duration. All results of the pilot applications will flow into the final Guidelines version (provided in April 2011).

9. ApS Newsletter published in June 2011 (in German)

Title: Final Conference of the EU project- ECORails



PRESSEMITTEILUNG

23.06.2011

Abschlusskonferenz des EU-Projekts ECORails in Berlin:

Energieeffizienz durch umweltfreundliche Vergabe

Berlin. Im Rahmen des EU-Projektes ECORails treffen am heutigen Donnerstag Akteure aus sechs europäischen Ländern zur Abschlusskonferenz in Berlin zusammen, um ihren Leitfaden zur Reduzierung von Energieverbrauch und Lärmbelastigung im Schienenverkehr vorzustellen. Mit ihm werden öffentliche Einrichtungen in Europa, die Nahverkehrsleistungen vergeben (im Folgenden: Aufgabenträger), erstmals über ein praxisnahes Instrument verfügen, dessen Sofort-Anwendung eine spezifische Energie-Ersparnis von fünf Prozent möglich macht. Der Leitfaden entstand in zweijähriger Projektarbeit unter Federführung des Allianz pro Schiene-Umweltfachmanns Matthias Pippert.

Systematische Verzahnung von Akteuren des Schienenverkehrs

Inhalt des EU-Projekt ECORails war die Entwicklung einer europaweiten Zusammenarbeit von Akteuren des Schienenverkehrs, um die Energieeinsparung systematisch voranzutreiben. Denn im europäischen Schienenpersonennahverkehr ließen sich enorme Energiemengen einsparen, wenn Eisenbahnverkehrsunternehmen, Bahnindustrie und Aufgabenträger besser vernetzt und Vergabeprozesse optimiert wären. Auch Umweltinnovationen am Markt könnten dann effizienter genutzt werden. Der nun vorgestellte Leitfaden bündelt diese Markterkenntnisse und liefert eine detaillierte Expertise. Die Kernaussage des Leitfadens fasst Allianz pro Schiene-Geschäftsführer Dirk Flege zusammen: „Wir können festhalten, dass eine umweltorientierte Vergabepaxis den europaweiten Energieverbrauch und CO²-Ausstoß im Schienenpersonennahverkehr bei Sofort-Anwendung um 5 Prozent und bis 2020 um 15 Prozent vermindern kann.“

Umweltorientierte Vergabepaxis fördert Energieeffizienz

Denn die entscheidende Erkenntnis lautet: Die größten Einsparpotentiale liegen in der energiesparenden Fahrweise und diese lässt sich durch eine optimierte Vergabepaxis beeinflussen. Bei künftigen Vergaben sollen beispielsweise Indikatoren wie kWh pro Sitzplatzkilometer eine größere Rolle spielen. Darüber hinaus stellt der Leitfaden einen Katalog von elf energiesparenden Technologien und operativen Maßnahmen vor oder zeigt rechtssichere Textbausteine für umweltfreundliche Vergaben von Nahverkehrsleistungen auf. Matthias Pippert: „Dieser Leitfaden schafft große Chancen für die Aufgabenträger, denn nun können sie aktiv auf Energieverbrauch und Lärmbelastigung einwirken. Wir wünschen uns natürlich, dass unsere Hilfestellung in Europas Regionen großen Anklang findet und unsere Vorschläge zur energiesparenden Fahrweise umgesetzt werden – inklusive einer Verbesserung der Rahmenbedingungen bei Fahrplan und Infrastruktur.“

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Der Allianz pro Schiene-Förderkreissprecher Klaus Baur begrüßte die Fokussierung des Leitfadens auf den Energieverbrauch. „Der Energieverbrauch sollte bei der Vergabe von Nahverkehrsaufträgen stärker berücksichtigt werden als bislang. Auch eine langfristige und verlässliche Vergabestrategie ist wichtig, damit die Innovationsanstrengungen der Industrie honoriert werden. Und nicht zuletzt müssen die Bewertungskriterien transparent und für alle Beteiligten nachvollziehbar sein“, sagte Baur.

Vorabtest: Einsparpotentiale in Rumänien bei 30 Prozent

Der ECORails-Leitfaden wurde bereits in vier Regionen getestet: Berlin-Brandenburg, die Lombardei (Italien), Kopenhagen/Öresund (Dänemark) und Timisoara (Rumänien) standen beispielhaft für die sehr unterschiedlichen Startbedingungen in den Ländern der Europäischen Union. Und das Ergebnis überzeugte: Aus dem Stand konnten die Auftraggeber rund 5 Prozent der Energiekosten einsparen, Messfahrten ergaben sogar Einsparpotentiale von 16 Prozent (Italien) bis hin zu 30 Prozent in Rumänien – je nach Fahrstil.

Als weitere deutsche ECORails-Projektpartner engagierten sich die Berliner Senatsverwaltung für Stadtentwicklung, der Forschungs- und Anwendungsverbund Verkehrssystemtechnik (TSB-FAV), die Technische Universität Berlin (TU Berlin) sowie die Strategie- und Managementberatung KCW.

Die Allianz pro Schiene ist das Bündnis in Deutschland zur Förderung des umweltfreundlichen und sicheren Schienenverkehrs. In dem Bündnis haben sich 18 Non-Profit-Organisationen zusammengeschlossen: die Umweltverbände BUND, NABU, Deutsche Umwelthilfe und NaturFreunde Deutschlands, die Verbraucherverbände Pro Bahn, DBV und VCD, die Automobilclubs ACE und ACV, die zwei Bahngewerkschaften EVG und GDL, die Konferenz für kirchliche Bahnhofsmission, die Eisenbahnverbände BDEF, BF Bahnen, VBB und VDEI sowie die Technische Hochschule Wildau. Die Mitgliedsverbände vertreten mehr als 2 Millionen Einzelmitglieder. Unterstützt wird das Schienenbündnis von mehr als 100 Unternehmen der Bahnbranche.



PRESSEMITTEILUNG

23.06.2011

EU project ECORails: Concluding conference in Berlin

„Improved energy efficiency using eco-oriented awarding criteria”

EU project identified a 15% energy saving potential in regional passenger transport

As part of the EU project ECORails, participants from six European countries are meeting in Berlin today for their final project conference, where they will present their Guidelines for reducing the energy consumption and noise emissions of rail transport. The Guidelines will, for the first time, give European Public Transport Authorities (PTAs), which are responsible for awarding regional transport contracts, a hands-on instrument that can bring about immediate specific energy savings of five percent when put into practice. The Guidelines are the result of two years of collaboration on the project, which was coordinated by environmental expert Matthias Pippert of the German Pro-Rail Alliance (Allianz pro Schiene).

Systematic integration of all the participants in rail transport

The goal of the EU project ECORails is to instigate Europe-wide cooperation between the various participants in rail transport to systematically enable energy savings to be made. This is due to the fact that massive amounts of energy could be saved in Europe's passenger rail transport system if train operators, the manufacturers and PTAs were better integrated and if the process of awarding contracts could be optimised. Any environmental innovations coming onto the market will also be more efficiently utilized. The Guidelines presented today bring together all these market developments, and provide detailed expertise. In summing up the quintessence of the Guidelines, Dirk Flege, managing director of the Pro-Rail Alliance, said: "We can put on record that an environmentally oriented awarding process can reduce energy consumption and CO2 emissions Europe-wide by five percent with immediate effect and by 15 percent by 2020."

An awarding process oriented towards the environment leads to energy efficiency

This is because there is one decisive factor: the greatest potential for making savings lies in energy efficient driving techniques, and this can be influenced through an optimised awarding process. For example, indicators such as kWh per seat-kilometre should play a role in contracts awarded in the future. Furthermore, the guidelines present a catalogue of eleven energy saving technologies and operative measures, as well as legally compliant text modules that can be used in an environmentally oriented awarding process. Matthias Pippert said: "These Guidelines are a real opportunity for PTAs because they can now actively influence energy consumption and noise pollution. We are of course

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hoping that our Guidelines will meet with the approval of Europe's regions and that our suggestions for energy efficient driving techniques will be implemented, including general, overall improvements to timetables and infrastructure." The spokesman for the Pro-Rail Alliance's supporting members, Klaus Baur, welcomed the fact that the Guidelines focus on energy consumption. "When it comes to awarding contracts for regional transport, energy consumption should be given much more consideration than in the past. A long-term and reliable awarding process strategy is also important so that the rail industry's innovation efforts are properly rewarded. And last but not least, the evaluation criteria must be transparent and easily understood by all participants," said Baur.

Preliminary tests: Potential for savings in Rumania is 30 percent
The ECORails Guidelines have already been tested in four regions. Berlin-Brandenburg (Germany), Lombardy (Italy), Copenhagen - Øresund (Denmark) and Timisoara (Rumania) are exemplary for some of the very different initial conditions that can be found in the European Union. The results were very convincing: from the very start, PTAs were able to make savings of five percent, and trial measurements showed potential for savings from between 16 percent (Italy) and up to 30 percent in Rumania - according to the driving methods employed.

Other German organisations engaged in the ECORails project included Berlin's Senate Department for Urban Development, the transport research and application association TSB-FAV, the Technical University Berlin, and the Strategy and Management Consultants KCW.

Additional Information:

The ECORails Project
ECORails Flyer

<http://www.allianz-pro-schiene.de/eng/eu-projects/ecorails/ecorails-flyer-english.pdf>

<http://www.allianz-pro-schiene.de/projekte/ecorails/ecorails-flyer-deutsch.pdf>

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10. TSB-FAV News published in July 2011 (in German)

Title: ECORailS- Energy efficiency by environmentally beneficial awarding procedures

Download-Link:

<http://www.tsb-berlin.de/de/tsb-gruppe/service/archiv/news/artikel/d/2011/07/18/a/ecorails-energieeffizienz-durch-umweltfreundliche-vergabe/>

Am 23. Juni 2011 fand in Berlin die Abschlusskonferenz des von der Berliner Senatsverwaltung für Stadtentwicklung initiierten und durch den Geschäftsbereich Verkehr und Mobilität der TSB Innovationsagentur Berlin koordinierten EU-Projektes ECORailS statt.

Weitere regionale Partner waren Allianz pro Schiene, KCW, und die TU Berlin. Das ECORailS-Konsortium bestand insgesamt aus 15 Partnern aus sechs EU-Mitgliedsstaaten. ECORailS steht für die Einbindung von Energieeffizienz- und Umweltkriterien in Vergabeverfahren des Schienenpersonennahverkehr (SPNV).

Auf dieser Konferenz stellten die Partner einen im Rahmen des Projektes erarbeiteten Leitfadens vor, der künftig zu einer deutlichen Reduzierung von Energieverbrauch sowie Lärm- und Abgasemissionen im SPNV beitragen soll. Mit ihm werden öffentliche Einrichtungen in Europa – Aufgabenträger, welche SPNV-Leistungen vergeben oder entsprechendes Rollmaterial beschaffen – erstmals über ein praxisnahes Instrument verfügen, dessen Sofortanwendung eine spezifische Energieersparnis und damit eine Reduktion des CO₂-Ausstoßes von fünf Prozent möglich macht. Bezogen auf den Zeithorizont 2020 liegt das Reduktionspotenzial mit etwa 15 % noch höher. Die größten Einsparpotentiale liegen in der energiesparenden Fahrweise und diese lässt sich durch eine optimierte Vergabepaxis beeinflussen.

Bei künftigen Vergaben sollen beispielsweise Indikatoren für die Energieeffizienz, wie z. B. Energieverbrauch je Sitzplatzkilometer, eine größere Rolle spielen. Darüber hinaus stellt der Leitfaden einen Katalog von elf energiesparenden Technologien und operativen Maßnahmen vor und liefert rechtssichere Textbausteine für umweltfreundliche Vergaben von Nahverkehrsleistungen.

Der Leitfaden ist Ergebnis umfangreicher Tests in vier europäischen Regionen: Berlin-Brandenburg, Øresund (Dänemark), Lombardei (Italien) und Timisoara (Rumänien) standen beispielhaft für die sehr unterschiedlichen Startbedingungen in den Ländern der Europäischen Union. Neben Messfahrten im realen Betrieb, in Italien und Rumänien durchgeführt, fanden – wie in der Region Berlin-Brandenburg – Workshops unter Beteiligung der maßgeblichen Stakeholder – Aufgabenträger, Eisenbahnverkehrsunternehmen und Bahnindustrie – statt. In angeregten Diskussionen offenbarten sich hier zum einen Informationsdefizite, z. B. seitens der Aufgabenträger über verfügbare Technologien und Unsicherheiten über deren Anwendung im Rahmen der gesetzlichen Bestimmungen. Zum anderen trugen angeregte Diskussionen dazu bei, bei den Beteiligten ein gegenseitiges Verständnis für die teils unterschiedlichen Interessenlagen zu erzeugen.

Wichtige Erkenntnis dieses Diskussionsprozesses ist die Notwendigkeit eines langfristigen Entwicklungspfades für energie- und umweltseitige Anforderungen an den SPNV, der neben der Laufzeit von Verkehrsverträgen (etwa 10 Jahre) auch die lange Nutzungsdauer der Schienenfahrzeuge (etwa 30 Jahre) berücksichtigt. Eine hierauf aufbauende verlässliche

Vergabestrategie der Aufgabenträger wird als Voraussetzung für die Durchsetzung fahrzeug-technischer Innovationen am Markt gesehen.

Den Beteiligten in der Region Berlin-Brandenburg ist viel an einer Fortsetzung des Dialogs zwischen Aufgabenträgern, Eisenbahnverkehrsunternehmen und Bahnindustrie gelegen. Die Umsetzung des Leitfadens in die Praxis wird hierzu vielfältige Ansatzpunkte bieten.

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