

EcoPassenger



The screenshot shows the EcoPassenger website interface. At the top, there is a navigation bar with the 'eco passenger' logo and three circular icons. Below the navigation bar, there are three icons representing a train, a car, and an airplane. The main content area features a heading 'Compare the energy consumption, the CO2 emissions and other environmental impacts for planes, cars and trains in passenger transport'. Below this, there is a form titled 'CHOOSE YOUR ROUTE' with 'From' and 'To' input fields. Underneath is another section 'CHOOSE YOUR DATE AND TIME' with a date selector set to 'Fri, 06.11.15', a 'Calendar' button, a time selector set to '12:00', and a 'Departure' dropdown menu. A green 'START REQUEST' button is positioned below the form. On the right side, there is a quote: 'EcoPassenger raises awareness and knowledge about the environmental impacts of traveler behavior, by implementing a transparent, comprehensive and user friendly calculator. To calculate the environmental impact of your freight transport, visit www.ecofreight.org'. Below the quote is a photograph of a high-speed train on a bridge over a valley. At the bottom of the page, there is a small 'eco passenger' logo and fine print: 'Timetable valid from 14.12.15 to 15.12.15. Software/Tool: MARCO S.261040 ECO-CALCULATOR 4.7.1-20151029-261040-ACCOMMODATION 4.7.1-20151029 -06.11.15. © 2015 www.ecopassenger.org. All information is issued without liability. www.ecopassenger.org'

Gabriel Castanares Hernandez,
Senior Advisor Energy and CO2, UIC

EcoPassenger: General Introduction



- Why and What is EcoPassenger: General frame and description of the tool
- Evolution and development of EcoPassenger
- Next developments and possibilities of the tool: Future perspectives
- Advantages of EcoPassenger
- Conclusions



Why EcoPassenger?

- More than a quarter of greenhouse gases emissions come from the transportation sector, and more important, it is the sector where we have seen the highest growth in these emissions the last decades and it is not stopping.
- The International Union of Railways would like to increase awareness among users about the consequences of our travel choices and to give support to decision makers on how to facilitate sustainable choices



Why EcoPassenger?

- Carbon footprint of products and services is used since many years
- Competitors modes are communicating data highlighting their “advantages”



What is EcoPassenger?



- > A user-friendly internet tool with a solid scientific methodology
- > A calculator to compare the energy consumption, CO₂- and exhaust atmospheric emissions for planes, cars and trains for passenger transport
- > Including with the best available data for all modes
- > Developed by UIC, with its members, the Sustainable Development Foundation (Italy), Ifeu (the German Institute for Environment and Energy) and Hacon (routing system and software) are the scientific and informatic providers.



Evolution of EcoPassenger



- > First developments started in 2003-2005
- > Best practice included at TERM Report of EEA 2007
- > Official presentation on 24th June 2008 at EEA
- > New design in 2009 for the campaign Train To Copenhagen
- > Implementation of new methodologies, functionalities, countries and design in November 2015



How does it work?

- Input origin and destination
- Further options to be customized (electricity mix for railways, load factor, vehicle type for cars, RFI for air transport, etc.)
- Friendly user for mobile, tablets and PCs
- Provides information on timetable and environmental impacts



Recent developments: Timetable

- In previous years 4 timetable updates were performed each year for EcoPassenger
- When members changed their timetable there could be a lag before this was reflected in EcoPassenger resulting in misleading and erroneous reporting of carbon emissions
- Recently, UIC has implemented a new level of service completing 12 timetable updates per year, and to align these with members changes so that any difference is minimized
- The extension of MERITS Data base to Russia and Turkey, allows to extend EcoPassenger with the same level of information.
- European Union + new countries included: Russia, Turkey, Belarus and Ukraine

YOUR CONNECTION (PARIS NORD (FRANCE) - LONDON ST. PANCRAS (UNITED KINGDOM))

DETAILED VIEW

DEP. / ARR.	STATION/STOP	DATE	PLATFORM	PRODUCTS
15:13 dep	PARIS NORD (France)	06.11.15		 ES 9039
16:39 arr	LONDON ST. PANCRAS (United Kingdom)			





Comments
Eurostar
First-class seats, Second-class seats, Heavily disabled, Bar, IRT (Integrated Reservation Ticket) tariff is applicable for the given travel service. PREMIUM. Reservation compulsory. Nursery

Duration: 3:01; runs not every day, 6. Nov until 12. Dec 2015
Hint: Departure/Arrival replaced by an equivalent station

Recent developments: Timetable

YOUR CONNECTION (VLADIVOSTOK (RUSSIA) - KALININGRAD-PASSAJIRSK (RUSSIA))

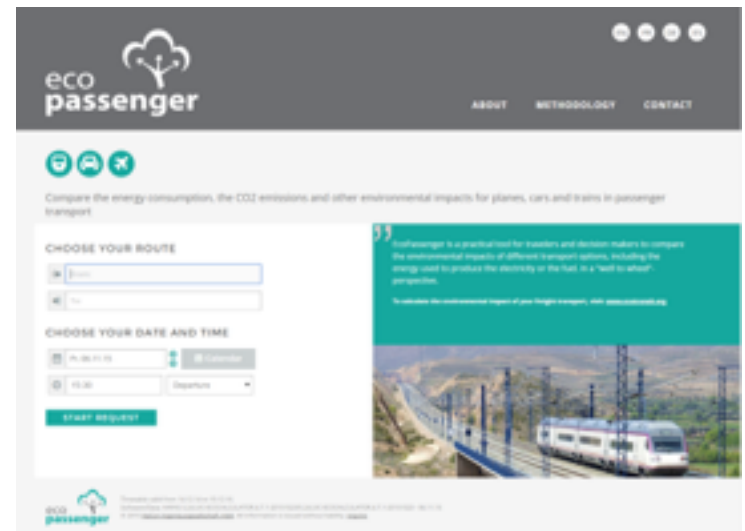
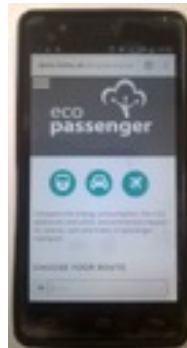
DETAILED VIEW

DEP. / ARR.	STATION/STOP	DATE	PLATFORM	PRODUCTS
10:10 dep 00:15 arr	VLADIVOSTOK (Russia) HABAROVSK 1 (Russia)	05.11.15 06.11.15		 351EI
Comments Night train First-class sleeper, double, First-class sleeper, single, Second-class sleeper, T4				
06:47 dep 11:03 arr	HABAROVSK 1 (Russia) MOSKVA IAROSLAVSKAIA (Russia)	12.11.15		 43EI
Comments Night train First class sleeper, single, shower, WC, First class sleeper, double, shower, WC, Second-class sleeper, T4				
	MOSKVA IAROSLAVSKAIA (Russia) MOSKVA BELORUSSKAIA (Russia)			 Transfer
Comments 150 min. Transfer with local public transport				
14:19 dep 11:09 arr	MOSKVA BELORUSSKAIA (Russia) KALININGRAD-PASSAJIRSK (Russia)	13.11.15		 29
Comments International Restaurant, First-class sleeper, double, Reservation compulsory, Second-class sleeper, T4, East-West tariff				

Recent developments: Graphics and usability



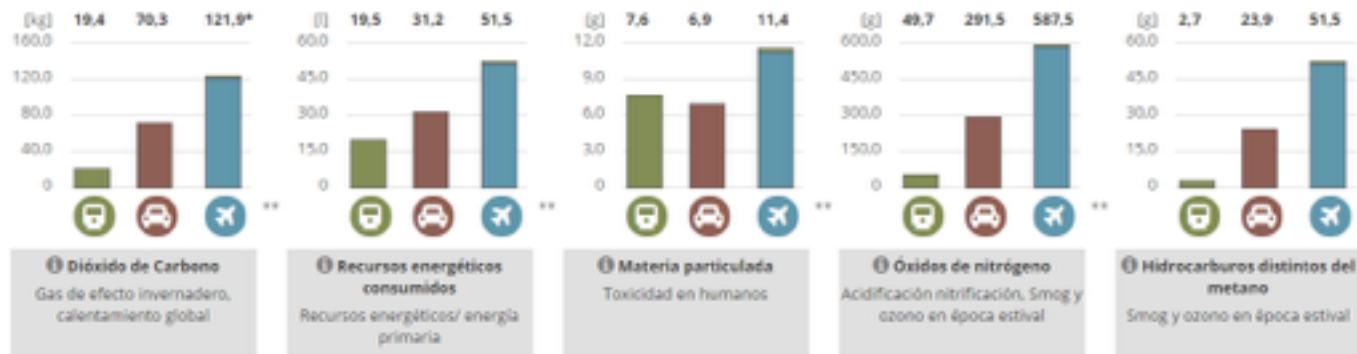
- **New logo** and flat web design
- Available for Mobiles, Tablets and all web browsers
- **Widget** available to be inserted in Members and other UIC Websites
- According to UIC Communications Guidelines



Consistent Scientific background

Scientific Support of **IFEU** (German Institute for Energy and Environmental Research)
 Scientific methodology provider.

- Primary Energy Consumption
- CO2 Emissions
- Local pollutant emissions (NOx, PM, NMHC)
- Graphics and tables







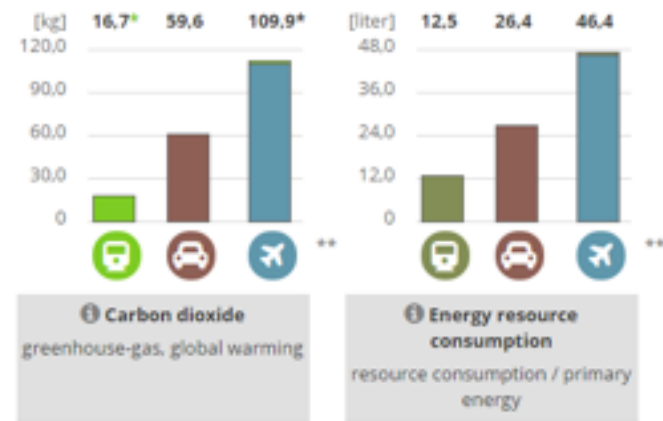
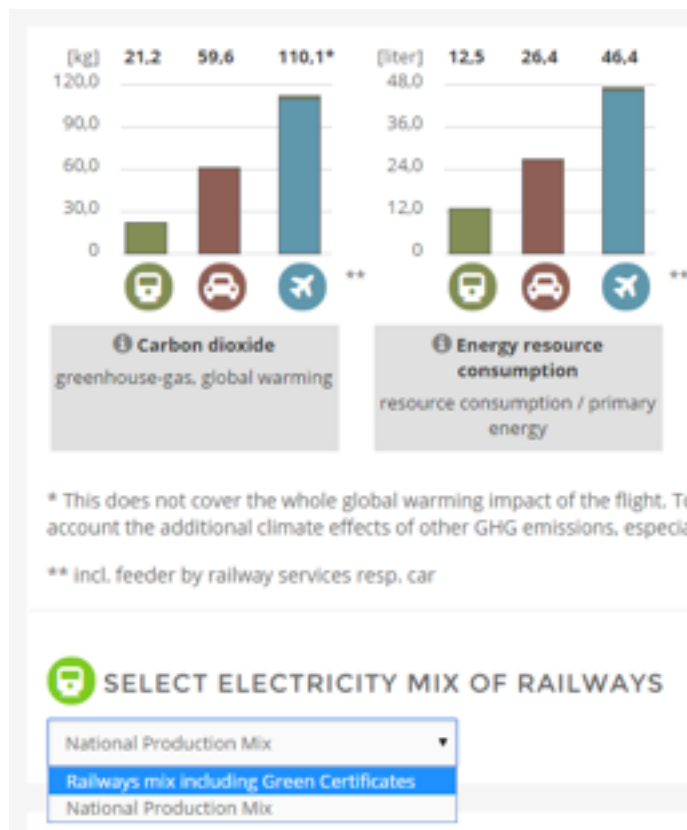

 incl. transport to and from the airport

COMPONENT	Train	Car	Train	Aircraft	Sum
Carbon dioxide <small>kilograms</small>	26.7	114.3	0.53	159.3	159.8
Energy resource consumption <small>liter</small>	25.2	50.8	0.93	66.9	67.8
Particulate matter <small>grams</small>	9.5	11.1	0.23	15.3	15.6
Nitrogen oxides <small>grams</small>	39.9	490.1	0.92	667.8	668.7
Nonmethane hydrocarbons <small>grams</small>	1.8	38.0	0.04	67.0	67.0

Recent Development: Dual Reporting

To include a part in the rail emissions where the CO₂ emissions avoided by the inclusion of renewable energies procured by rail companies.

This graphical solution let to include the GOs procurement made by rail companies and therefore the lower carbon footprint.



Recent Development: Dual Reporting

CO2 emissions from the National electricity mix comes from IFEU calculation of included countries

Carbon emissions from Railways Mix comes from the Sustainable Development Foundation information, reported by railways at the UIC ESRS including own electricity plants and green certificates (Guarantees of Origin)

This reporting follows the guidelines of main standards of the topic as the GHG Protocol Scope 2

All the methodology is included at the methodological background report of IFEU available at EcoPassenger website



EcoPassenger

Environmental Methodology and Data
Update 2015

Wolfram Knörr, ifeu Heidelberg
Dr. Ing. Reinhard Hüttermann, HaCon Ing. GmbH Hannover (Routing)

Heidelberg/Hannover 29.10.2015

Future Perspectives

Include direct/indirect emissions according to GRI and the main reporting standards. Relevant for local pollutants

Extend to other countries (with MERITS and with new scope)

To help customers on aggregated calculations for ISO 14000 and EMAS management systems including carbon footprint of transportation services



Leading EcoTool for passenger services

EcoPassenger provides complete information of trips and timetable

EcoPassenger allows to customize according to personal choices and conditions (load factor, type of car, modes to reach the airport)

EcoPassenger background data contains the latest information on reporting of energy and emissions:

- Well to wheel approach
- RFI for planes
- Dual reporting for railways
- EURO Standards for cars

EcoPassenger includes a modern design a the usability is adapted to the latest hardware and software browsers

Conclusions

- Carbon footprint of transport accountability as a useful tool for personal choices and policy makers'
- All modes are presenting tools to evaluate their GHG performance
- EcoPassenger includes main developments and the most updated scientific methodology.
- The new perspectives of the tools aim to consolidate EcoPassenger as the leader Eco-calculator including new functionalities and new methodological approaches.



Thank you! [http://
EcoPassenger.org/](http://EcoPassenger.org/)

*Gabriel Castanares Hernandez,
Senior Advisor Energy and CO2, UIC*
castanares@uic.org