Methodological note - June 2025

UEFA Women’s Euro 2025

Women’s national teams opt for sustainable travel for this summer’s Euros

Travelling emissions of all teams were estimated depending on their potential transport mode to join their basecamp in Switzerland for the UEFA Women's Euro 2025, and then travelling back to their home country. Basecamps locations are available on UEFA's website. We did not consider emissions from trips during the competition.

Estimating air travel emissions – To not rely on arbitrary choice of a single aircraft model for our analysis, we selected 7 different aircraft models, corresponding to the type of aircraft previously used by Women football teams to travel for Euro 2022.

Aircraft emissions were estimated by calculating fuel consumption of each aircraft between each team headquarters and their basecamp in Switzerland closest airports. Fuel consumption from aircraft was calculated following Eurocontrol's fuel consumption methodology. Aircraft emissions were then multiplied by two to account for the return journey after the end of the competition.

Aviation's impact on climate is not limited to CO_2 emissions alone. Other gases, such as nitrogen oxides, or contrails formed by aircraft also have an effect on global climate warming. To account for these non-CO_2 effects, we chose to convert from CO_2 emissions to an estimate of aviation's full climate impact using the mean global warming potential over a time scale of 100 years (GWP100) with a value of 1.7 given by Lee et al. (2021). While the climate impact of intra-EU flights may potentially be slightly lower than the global average, we believe this to be a conservative estimate as the global warming potential predicts a higher non-CO_2 impact of aviation on shorter time scales.

Once we accounted for non CO_2 effects, we calculated the average climate impact for the 7 aircraft types to estimate CO_2e emissions for a hypothetical air travel journey for the UEFA Women's Euro 2025.

Rail travel emissions – To estimate rail travel emissions, we first checked train itineraries between arrival and departure points for each journey of all teams using Google maps (Transit mode). Then, we used Google Maps Distance API to collect rail distances and travel time. We then used emission factors from each operator that teams could potentially use to get to their destination. If this information was not available, an average value for rail passengers in Europe was used instead. Emissions factors used for our analysis are displayed in the table below. Such emission factors are expressed in g of CO_2e per passenger per kilometer. For each team, we therefore multiplied train emissions by the number of supposed passengers by teams. The UEFA

allows teams to bring up to 23 players. In addition, a number of team staff will be travelling with the players. Using team staff composition on national teams websites, we estimated that on average, staff would be composed of 19 people during the tournament this summer, for a total of 42 people travelling per team. For each team, emissions were multiplied by two to account for the return journey after the competition.

It is important to note that for the Finnish and the Portuguese teams a full journey by train to reach Switzerland is relatively complex. To estimate a journey scenario mostly relying on rail, but with a reasonable overall travel duration, we considered other modes of transport than rail for specific portions of their respective potential journeys. Therefore, we estimated emissions related to a ferry travel between Helsinki and Tallinn, and a bus travel between Tallinn and Warsaw for the Finnish team, and a bus travel between Lisbon and Badajoz for the Portuguese team.

Operator	Emission factor		Unit	Source
Eurostar Bxl-Paris	1.6	Kg/passenger	CO2 equivalent	Eurostar
Eurostar London Paris	2.4	Kg/passenger	CO2 equivalent	Eurostar
SNCF TER	0.0194	Kg/passenger-km	CO2 equivalent	SNCF
SNCF TGV	0.002	Kg/passenger-km	CO2 equivalent	SNCF
RER D	0.0049	Kg/passenger-km	CO2 equivalent	SNCF
Lyria	3.1	Kg/passenger	CO2 equivalent	Infras for TGV Lyria
DSB	0.0192	Kg/passenger-km	CO2 equivalent	DSB
DB	0.001	Kg/passenger-km	CO2 equivalent	DB
SBB	0.007	Kg/passenger-km	CO2 equivalent	SBB, Suisse Energy
Avanti	0.03546	Kg/passenger-km	CO2 equivalent	UK Government GHG Conversion Factors for Company Reporting
Trenitalia Firenze-Milano	16.84	Kg/passenger	CO2 equivalent	Trenitalia booking system
Trenitalia Milano-Arth	2.45	Kg/passenger	CO2 equivalent	Trenitalia booking system
NS	0.017	Kg/passenger-km	CO2	NS mobility scan based on Milieu Centraal

VY	0.01	Kg/passenger-km	CO2 equivalent	Vy
SJ	0.01	Kg/passenger-km	CO2 equivalent	SJ Nord
Renfe	0.024	Kg/passenger-km	CO2 equivalent	Spanish government
GWR	0.03546	Kg/passenger-km	CO2 equivalent	UK Government GHG Conversion Factors for Company Reporting
Hammersmith	0.03546	Kg/passenger-km	CO2 equivalent	UK Government GHG Conversion Factors for Company Reporting
Average passenger rail Europe	0.033	Kg/passenger-km	CO2 equivalent	EEA

Rail emissions factor used in T&E's analysis

Rail travelling scenarios – For our analysis, we considered four scenarios:

1- all teams will travel by plane (except Switzerland)
2- teams with journeys under 6h by rail avoid flying
3- teams with journeys under 10h by rail avoid flying
4- teams with journeys under 14h by rail avoid flying
5- all teams will avoid flying (except Iceland)

Coach travel emissions – To estimate coach travel emissions, we calculated road distances between arrival and departure points using Google maps for each journey. To these distances, we applied coaches emissions factors from T&E's EU Transport Roadmap Model (EUTRM). Note that for each team, we considered that the coach they may use for travel would originate from their home country. Emissions calculated for each journey were then multiplied by 2 to account for the return trip after the competition.

Comparing air travel emissions with numbers of trips around the earth with a car – this comparison was made using ADEME's "*Comparateur carbone*" tool.

Further information

Thomas Enriquez

Data Analyst

T&E

thomas.enriquez@transportenvironment.org

Aiza Rodrigues Akhtar

Corporate Travel Campaigner

Travel Smart Campaign

aiza.rodrigues.akhtar@transportenvironment.org