

Passenger transport abroad



Photo of high-speed trains in Brussels to respectively. London (back), Paris (middle) and Frankfurt (front).

This report is prepared by **Back-on-Track, Denmark** with the assistance of the NGO's Council for Sustainable Traffic, Friends of the Earth (N) and Renewable Energy.

Copenhagen on 24.4. 2020

To promote the vision of European Railways as a mean of replacement of aviation in Europe

Danish report

Non-CO2 related climate consequences from aviation

Contribution to the climate	Domestic	European short-distance	Intercontinental long-distance
CO2	1	1	1
Non-CO2	0.5	1	3.5
Total: Radiative Forcing Index, RFI	1.5	2	4.5

Source: German Aerospace Center


Biofuels and e-fuels

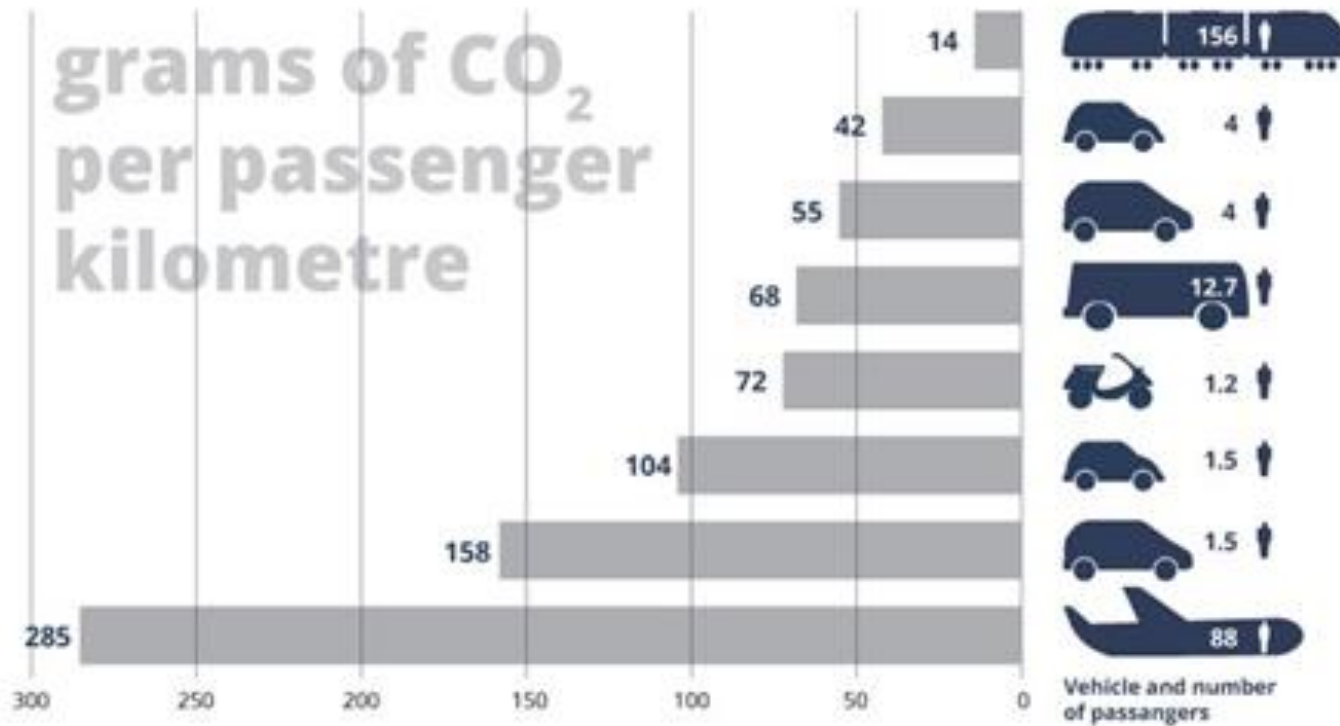
- Is not available
- Small amounts will be ready after 2030
- Large competition to get it
- Is going to be expensive



Comparisons air and train

CO₂ emissions from passenger transport

European Environment Agency 



Note: The figures have been estimated with an average number of passengers per vehicle. The addition of more passengers results in fuel consumption - and hence also CO₂ emissions - penalty as the vehicle becomes heavier, but the final figure in grams of CO₂ per passenger is obviously lower. Inland ship emission factor is estimated to be 345 gCO₂/pkm but data availability is still not comparable to that of other modes. Estimations based on TRACCs database, 2013 and TERM027 indicator.

Source: EEA report TERM 2014
eea.europa.eu/transport

Only CO₂
1 : 18

With non-CO₂
in Europe
1 : 36

Value of CO2e reductions, the big game changer

- Danish subsidy per year up to 0,67 mill. Euro
- CO2 is taxed (somewhere) with 30 Euro per tonne (not aviation)
- Tax of 100 – 500 Euro is mentioned in the climate debate
- Danish Climate Council (advisory board to the government) has proposed 200 Euro.
- With 200 Euro a nighttrain pushes away aviation worth 4,4 mill. Euro.
- Swedish Transport Authority estimates the socioeconomic value to 700 Euro. A lot of room for investments in trains in Europe.

Capacity on rail

	Seats	Seats incl. occupancy rate	Number of carriages in a whole train	Number of passengers in a ave. night train
Courette car	40	25	6	151
Sleeping car	22	14	4	55
Seated car	50	32	3	95
			total 13	301
Annual average occupancy *		0.63		All year, two trains: 220.000 travels

FIG. 7: Composition of one set of night trains

* Based on the occupancy of the night train, which ran from Copenhagen until November 2014

Night trains 2030 Copenhagen

- Half of all 30 mill. flights to and from Copenhagen Airport goes within EU countries = 15 mill.
- Half of the 15 mill. EU flights goes within 1.200 km distance = 7,5 mill.
- 2/3 of the 7,5 mill. travels will before 2030 take more than 4-6 hours
- 5 mill travels will require night train connections to/from Denmark
- That makes 23 night trains departing every evening from Copenhagen in 2030

Weakness today is
projected to the future

- Because railways have weaknesses now, it is always going to be so...
- NO!

