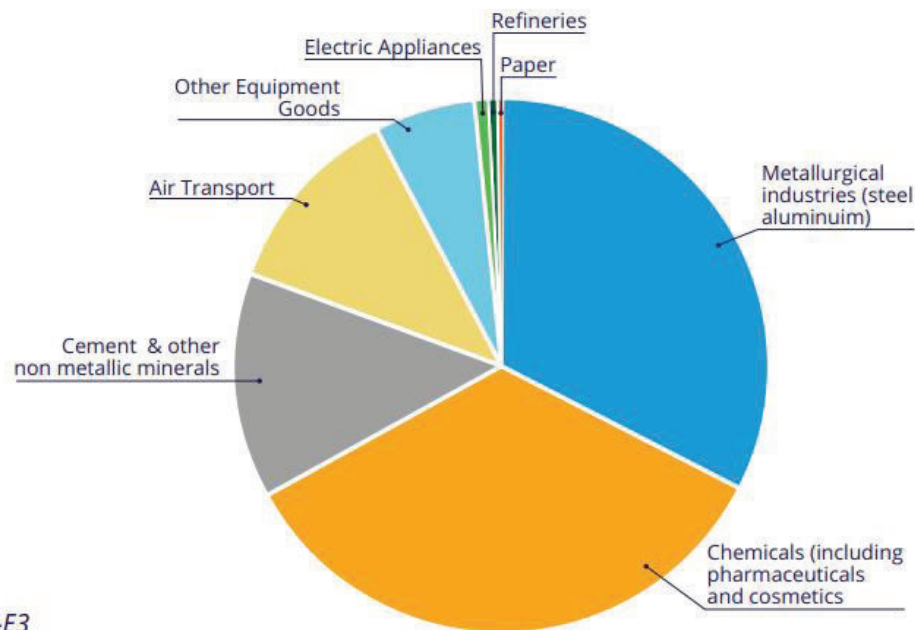


# GREEN DEAL — CARBON LEAKAGE

# Air Transport is one of the industries most affected by carbon leakage

Sectoral distribution of the carbon leakage (2025-2050)  
(leakage due to EU-ETS policy)



Source: GEM-E3

According to a cross-sectoral study made for AFEP\* by E3 Modelling using the GEM-E3 model\*\*,

**Air Transport ranks**

**#4**

in the sectors affected by

**carbon leakage,**

just behind the Cement sector.

(\*) AFEP = Association of French Private Companies

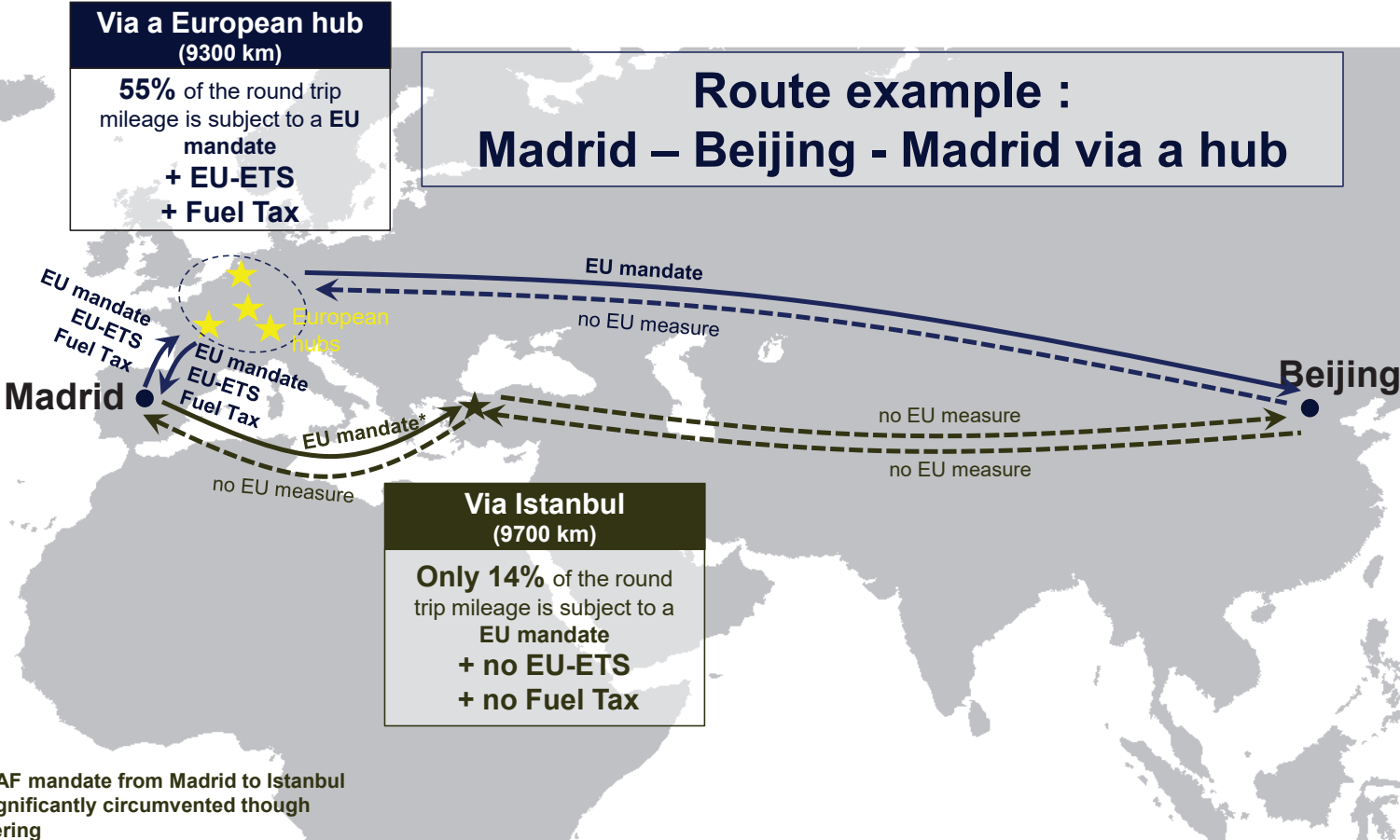
(\*\*) GEM-E3 model : <https://ec.europa.eu/jrc/en/gem-e3/model>

Source : AFEP / E3 Modelling - <https://afep.com/wp-content/uploads/2021/01/Trade-and-Climate-Change-Quantitative-Assessment-of-the-Best-Policy-Tools.pdf>



# Illustration of competition distortion induced by potential EU measures

## Route example : Madrid – Beijing - Madrid via a hub



**EU SAF Mandate**  
Although non-EU competitors will also be subject to a SAF incorporation obligation when departing from a European airport, carriers with hubs located close to Europe (e.g. Istanbul) will have a limited cost penalty.

**EU-ETS and Fuel Tax**  
Intra-EEA Traffic connecting to and from non-EEA countries (illustrated here with a Madrid passenger connecting to/from Beijing) pays EU-ETS and a Fuel Tax when connecting via a European hub, while no EU-ETS and no Fuel Tax is applicable when travelling via non-EEA hubs.

(\*) : EU SAF mandate from Madrid to Istanbul can be significantly circumvented through fuel tankering



# Fuel tankering : case analysis of Turkish Airlines on Istanbul-Madrid-Istanbul route

## Widebody fleet (twin aisle)



- Airbus A330, Boeing B777
- 83% of the seat capacity to Madrid
- Able to fly Istanbul-Madrid round-trip without refueling in Madrid.

## Narrowbody fleet (single aisle)



- Airbus A320, Boeing B737
- 17% of the seat capacity to Madrid
- Able to fly Istanbul-Madrid and more than half of the Madrid-Istanbul flight with fuel loaded in Istanbul

- A SAF mandate in the EU will increase fuel cost in Madrid, and create an incentive for Turkish Airlines to carry extra fuel from Istanbul (tankering).
- Turkish Airlines is able to load in Istanbul more than 90% of the fuel that they would normally load in Madrid.
- With a EU SAF mandate of 7% or more, Turkish Airlines would have a positive financial incentive to do tankering: the 10% increase in fuel consumption due to tankering would be more than offset by the gains of buying cheaper fuel in Istanbul rather than Madrid.
- Tankering and extra fuel consumption would result in approximately 6000 tCO<sub>2</sub> additional emissions each year for the Istanbul-Madrid route only.
- Through tankering, Turkish Airlines would also not use the SAF that they should buy in Madrid, resulting in more than 3000 tCO<sub>2</sub> additional emissions.



# In the absence of a CBAM, free allowances should be considered for connecting traffic

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## General description of a EU-ETS scheme addressing competition distortion risks:

Revision of the current scheme, and application of Green Deal measures.



New allowances for intra-EEA traffic connecting to/from non-EEA countries

- The current scheme of EU-ETS, including upcoming reduction in free allowances, should apply to intra-EEA travel, excluding intra-EEA travel in connection to/from non-EEA countries.
- The reduction of free allowances currently planned needs a proper calibration, taking into account the difficult situation of the aviation sector in Europe.
- Intra-EEA travel connecting to non-EEA countries is subject to carbon leakage risks and competition distortion factors.
- As a consequence, carriers exposed to this market could be granted free allowances on a separate basis, based on the percentage of their intra-EEA traffic which connects to/from non-EEA countries.

# In the absence of a CBAM, free allowances should be considered for connecting traffic

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## Application considerations:

- Free allowances were distributed to each carrier for the period 2012-2020 according to ratio of 0.6422 allowances per 1,000 tonne-kilometres flown in 2010.
- Traffic taken into account in 2010 for the distribution of free allowances was including intra EEA-traffic connecting to/from non-EEA countries. In order not to give to this type of traffic free allowances twice, the reference amount of free allowances initially given to each carrier should be diminished in proportion to its 2010 traffic connecting to/from non-EEA countries.
- Based on this decreased 2010 reference for free allowances, Green Deal measures could be applied through a reduction of free allowances (e.g. from 82% free, 15% auctionned, 3% reserve to 42% free, 55% auctionned, 3% reserve). This would result in a new general allocation calculated for each carrier.
- On top of this evolution of the current scheme, free allowances would be granted each year to each carrier for their emissions related to travel of intra-EEA passengers connecting to non-EEA destinations. The number of free allowances allocated for this purpose could be calculated each year by multiplying the CO2 emissions and the share of connecting traffic (expressed in passenger-kilometers) of previous year.
- The total number allocated to a carrier for a specific year would be the sum of the general allocation, and free allowances attributed to cover intra-EEA traffic connecting to/from non-EEA countries.