



Ministry of Infrastructure and the
Environment

Level playing field effects of EU-ETS

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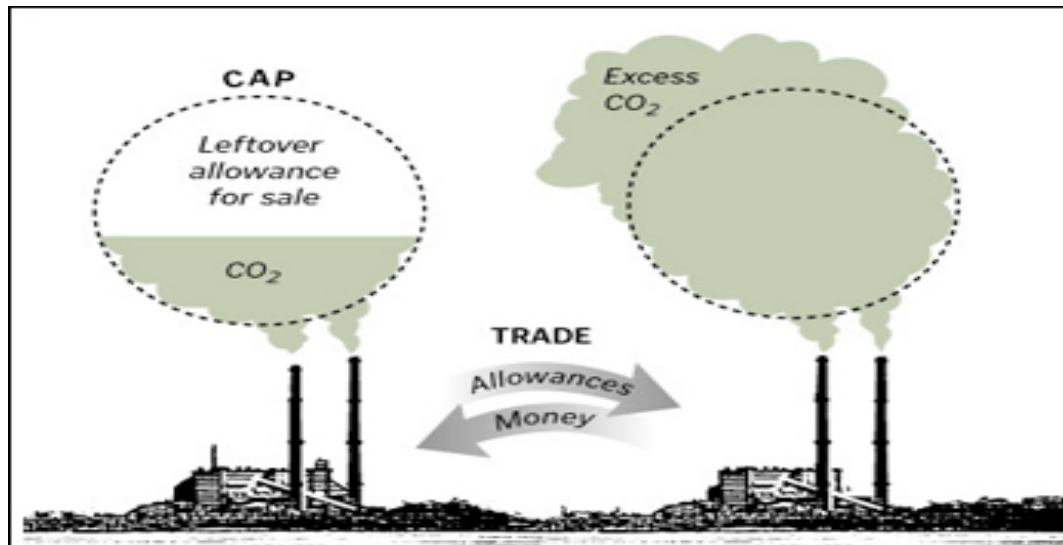
Netherlands Institute for
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ETS = cap-and-trade system

- Started in 2005
- Parties involved: different industries, power supply
- Emissions need to be covered by emission allowances
- Total number of emission allowances is limited (cap)
- On 1 January 2012 aviation was brought within the EU-ETS
- The total cap has therefore been increased with approx. 10%





- Not a cap for each individual company, but a general cap
 - Growth of individual participants is still possible as long as emissions of *all* participants combined are lower than the cap
- Flexibility for participants: purchasing/selling allowances or realising reductions
- CO₂ reductions are achieved at the lowest cost
- Environmental effect is guaranteed (=cap)

Geographical scope



—→
Flight(segment)
within ETS

---→
Flight(segment)
outside ETS



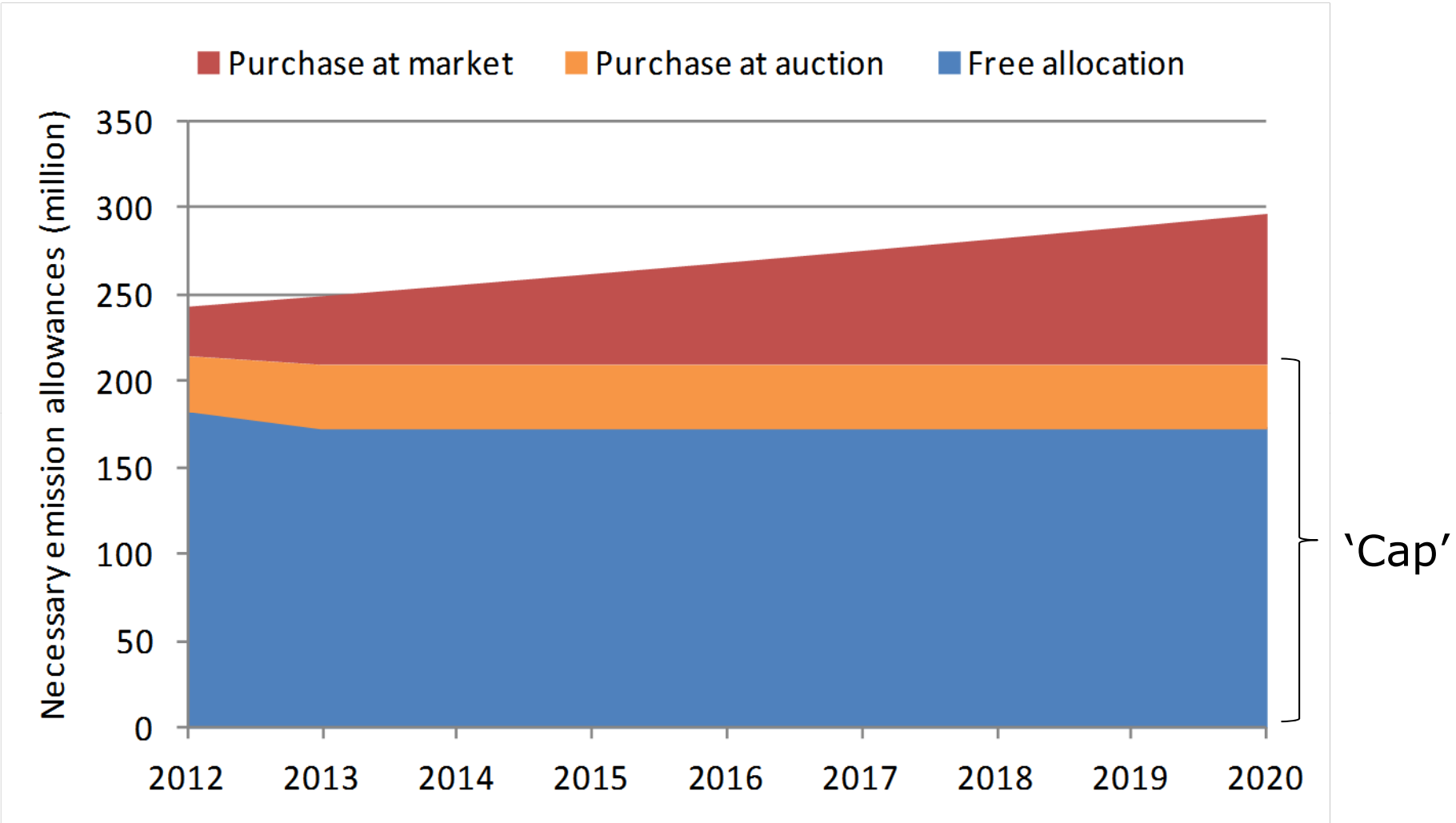
- All flights from/to/within EU-27 + Iceland, Norway and Liechtenstein
- Historic emissions = average yearly emissions in period 2004-2006
- 'Cap' 2012 = 97% of historic emissions
 - 85% allocated for free based on benchmark
 - 15% through auctioning
- 'Cap' 2013 = 95% of historic emissions
 - 82% free
 - 15% auctioning
 - 3% special reserve



Excluded from EU-ETS (a.o.):

- Government, military and police flights
- Search and rescue flights
- Training flights, scientific research flights
- Commercial aircraft operators with:
 - less than 243 flights per 4 monthsOR
 - Emissions of CO₂ less than 10,000 tonnes/year
- Incoming flights from countries with 'equivalent measures'

Allowance shortage





- Free allocation per airline:

$$\text{RTK 2010}_{\text{airline A}} * \text{benchmark}$$

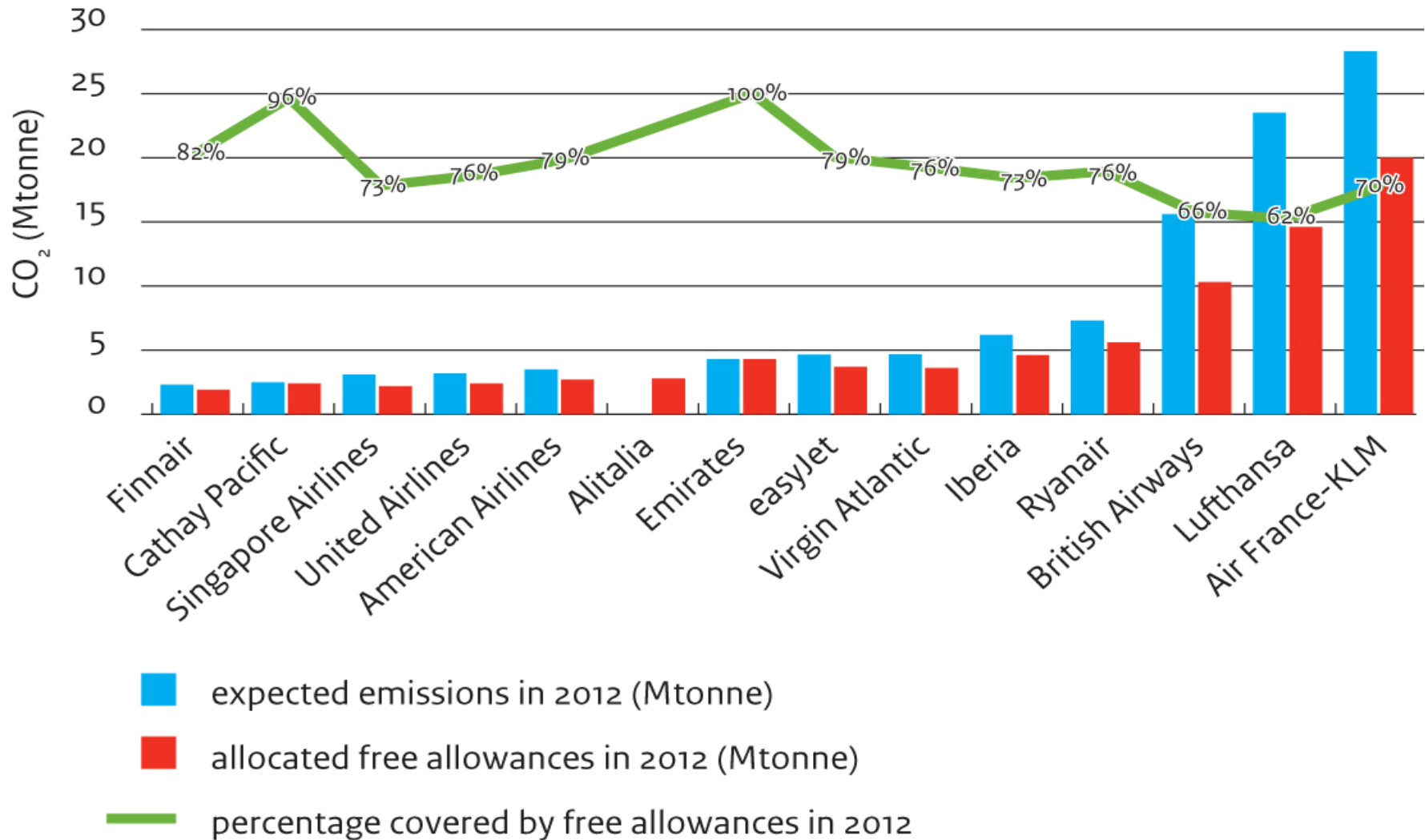
- Benchmark (2012):

$$= \Sigma \text{RTK's 2010} / \Sigma \text{free allowances 2012}$$

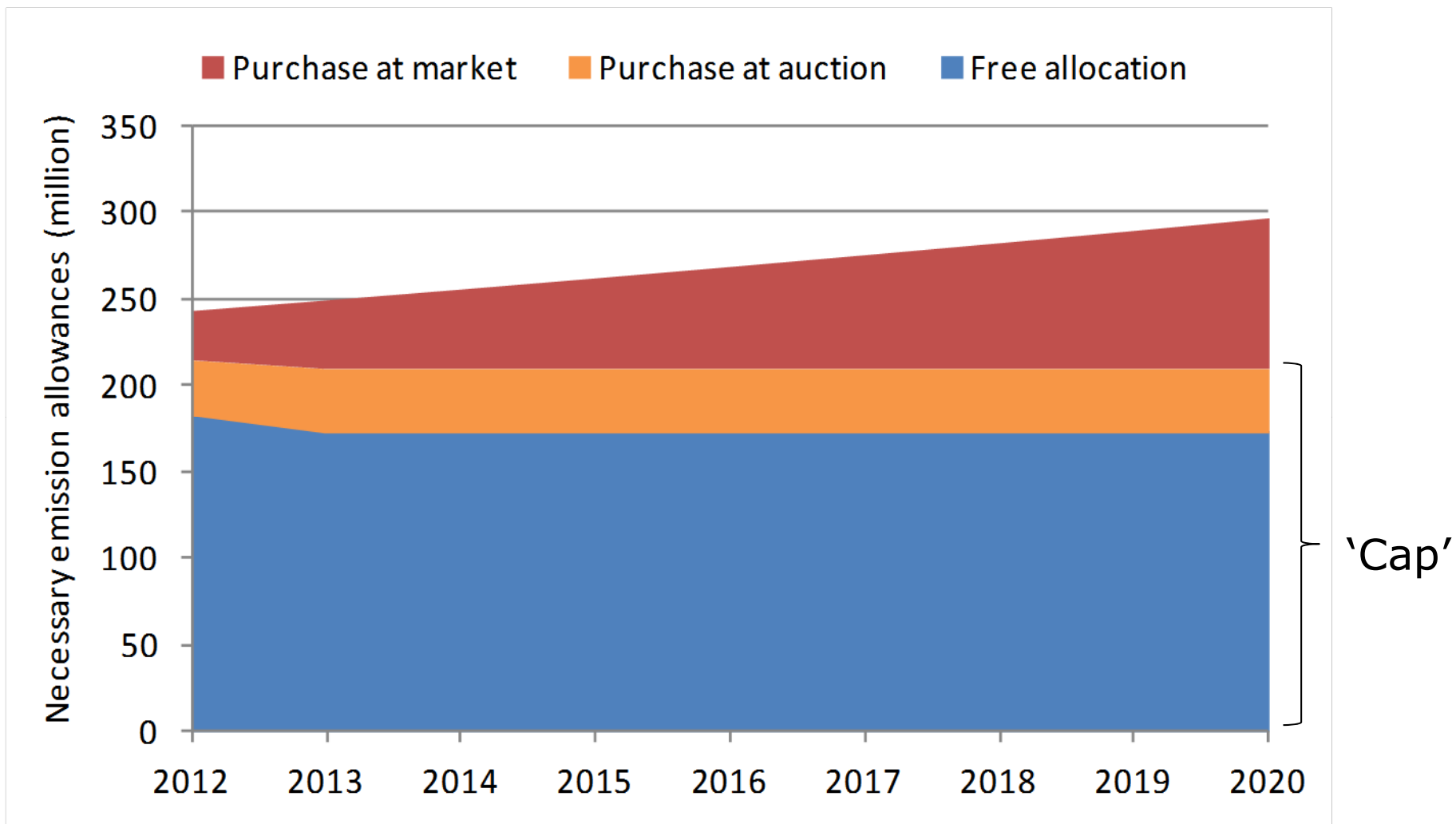
$$= 0.6796 \text{ allowances per 1,000 RTK}$$

- Number of free allowances per airline depends on efficiency compared to average efficiency (benchmark)!

Results benchmark



Allowance shortage



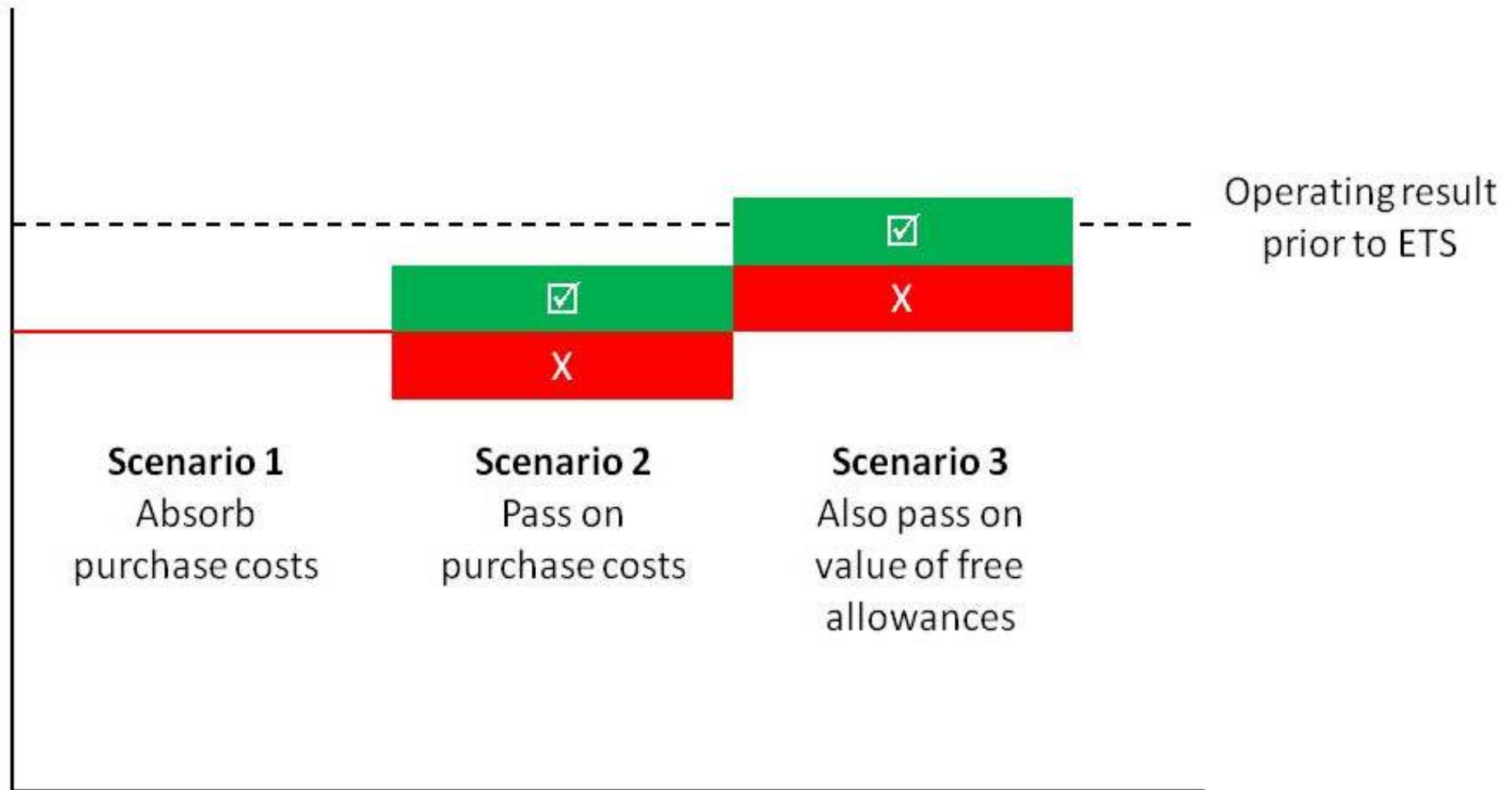


- Emissions forecast:
 - RTK's grow 3.5% per year
 - Autonomous efficiency improvement 1% per year
 - => CO₂ emissions grow 2.5% per year
- 2012: on average 25% purchasing of allowances
- 2020: on average 42% purchasing of allowances



- In 2012 airlines need to buy 60 million allowances
- In 2020 this will be 120 million.
- At a price of 10 euro per allowance, costs will be:
 - 2012: 0.6 billion euro
 - 2020: 1.2 billion euro
- Value of freely allocated allowances is ca. 1.8 billion euro each year
- Passing on costs to passengers is strategic choice:
 - price sensitivity, degree of competition, marketsegments etc.

Passing on costs



Effects on ticket prices



	Distance (return)	€10/ton Purchase costs (scen. 2)	€10/ton Also value free allowances (scen. 3)
Amsterdam – Londen	740 km	€ 0.2	€ 0.8
Amsterdam – Barcelona	2,480 km	€ 0.6	€ 2.4
Amsterdam – New York	11,730 km	€ 2.7	€ 10.8
Amsterdam – Jakarta	22,730 km	€ 5.2	€ 20.8

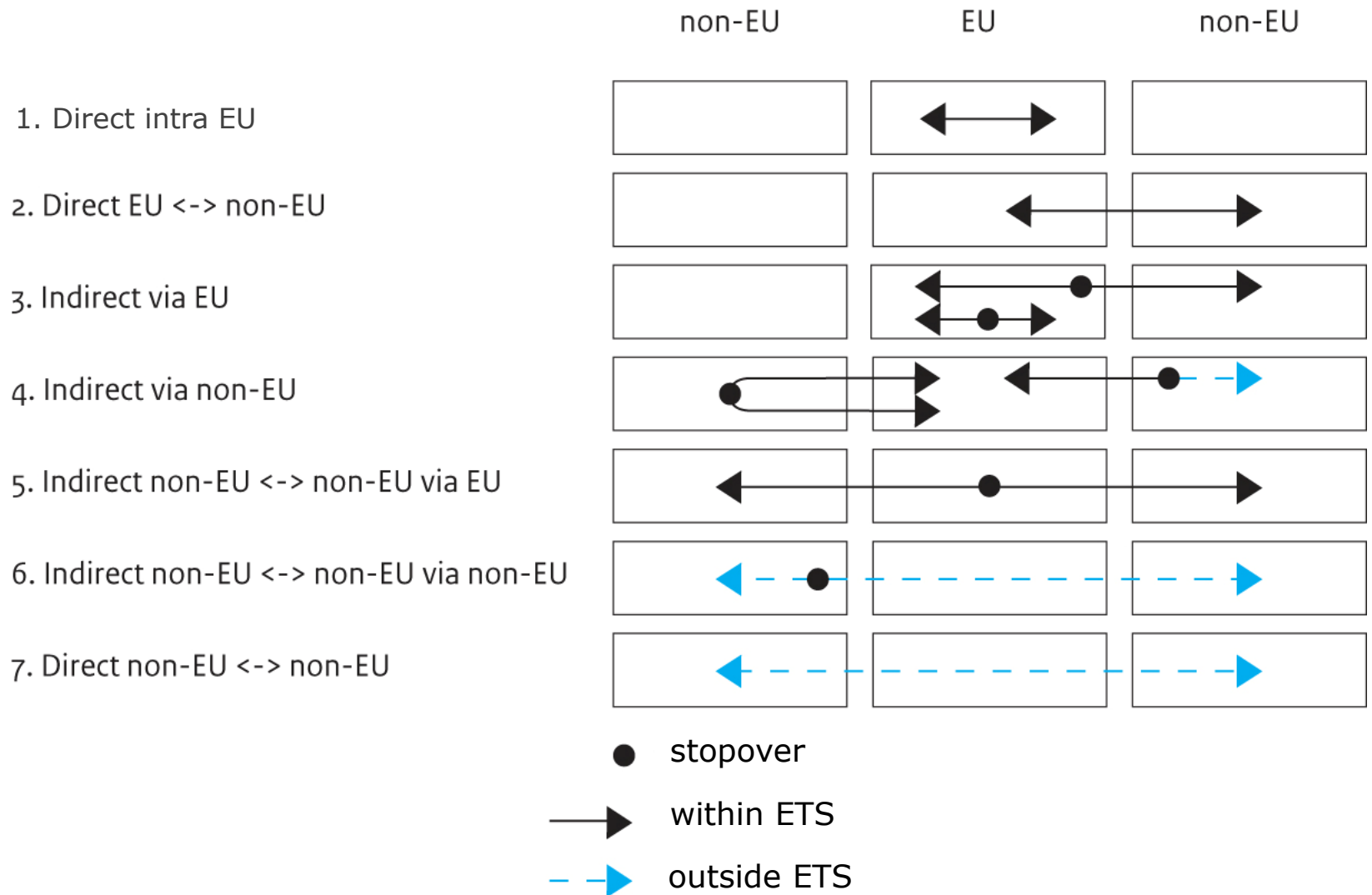


At a price of 10 euro per allowance:

Scenario	EU airlines	Non-EU airlines	KLM
Purchase costs (scen. 2)	-0.2%	0%	-0.6%
Also value of free allowances (scen. 3)	-0.9%	0.2%	-2.2%

- Effects in relation to expected market growth curve!
- Effects proportional to allowance price
- Outcome is not level...

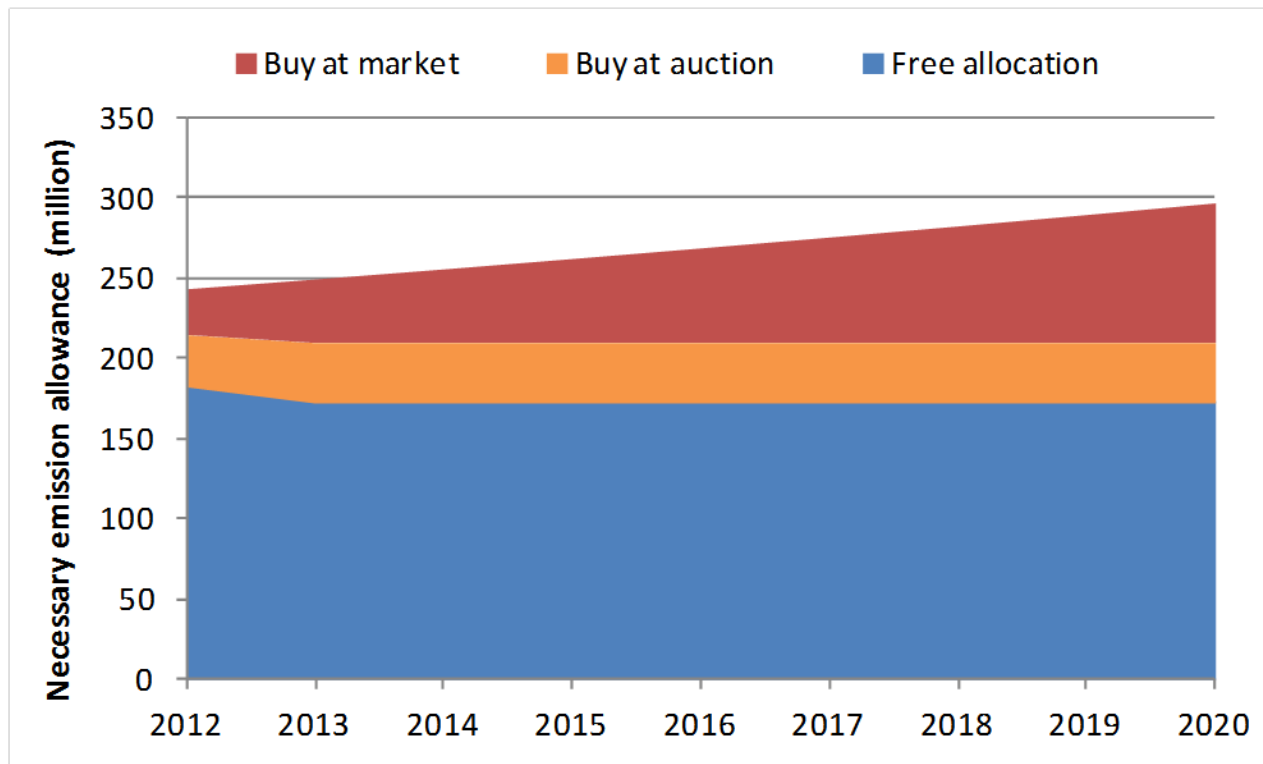
Effects on pax. demand





Airline	Passengers in 2011 (x mln.)	Relative effect	Change in number of pax (x 1.000)
KLM	25.1	-0.6%	-150
Air France	50.7	-0.2%	-100
Lufthansa	65.5	-0.3%	-200
British Airways	37.1	-0.7%	-260
Emirates*	8.2	0.7%	60
Swiss Airlines*	10.1	0.5%	50
Turkish Airlines*	11.1	0.1%	10

*) Only that part of the market served by that airline, that is affected by ETS (not necessarily within ETS!).



86 Mtonne

- 29% reduction of CO₂ in relation to expected emissions in 2020.
- Little increase of CO₂ in markets outside ETS: 0.5 Mton (scen. 2) / 1.1 Mton (scen. 3) at 10 euro per allowance.



- Non-compliance (China, India, US(?), ...)
 - Economic measures (China blocking Airbus orders)
 - Increasing overflight fees (Russia) or airport tariffs
 - Traffic rights
 - Could be applied 'generally', or country-specific
 - Not imaginary; has happened in the past
 - Reduced frequency of KLM-flights to St. Petersburg
- Retaliation could further distort outcome in terms of LPF



Conclusion:

- Rule based:
 - Flights of some commercial operators are excluded.
 - Equivalent measures might raise LPF issues
- Outcome based:
 - Allocation of free allowances (benchmark)
 - Effects of ETS differ per market and thus airline
 - Retaliation might raise LPF issues