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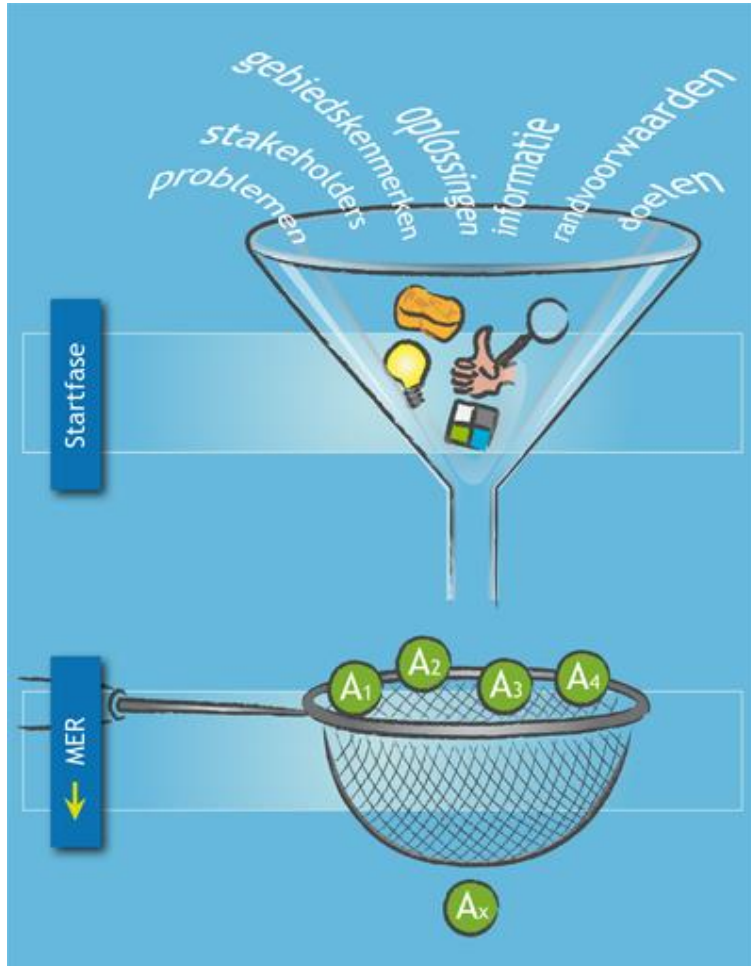
CO₂ in CBAs the Dutch practice

Hans Nijland (PBL)

Decision making process on infrastructure in the Netherlands



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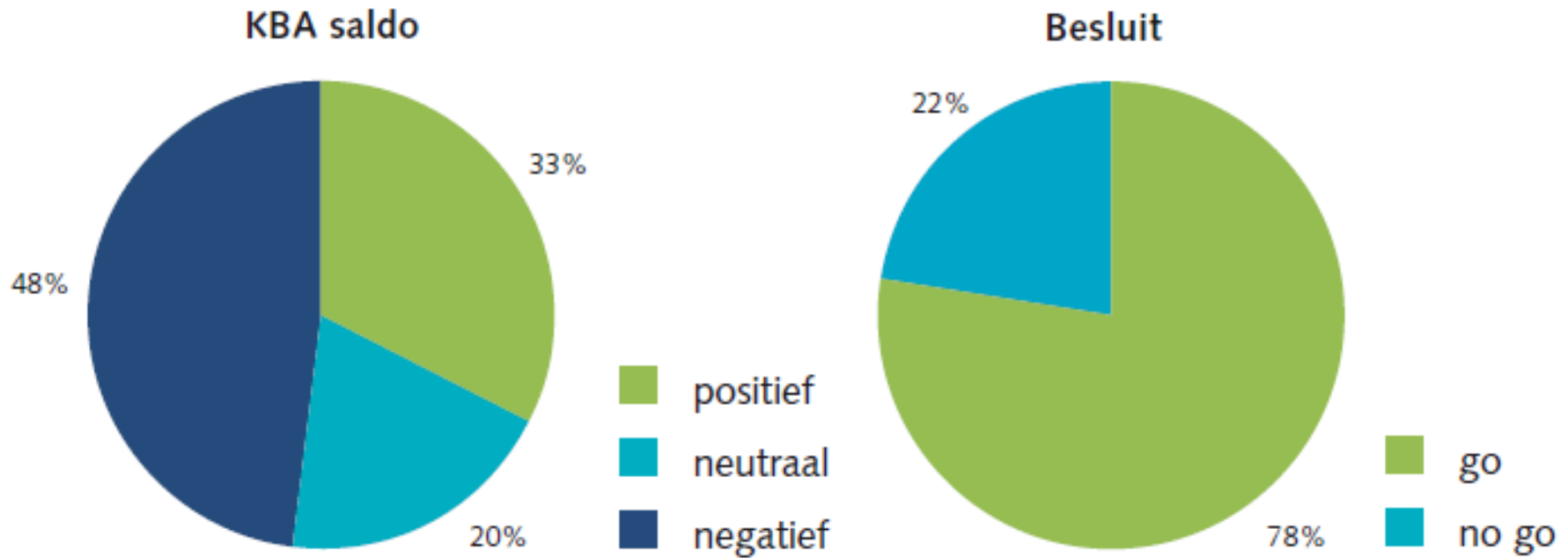
← **CBA: usefulness and necessity**

← **CBA: best alternative**

Application of CBA in Dutch decision-making practice (1)



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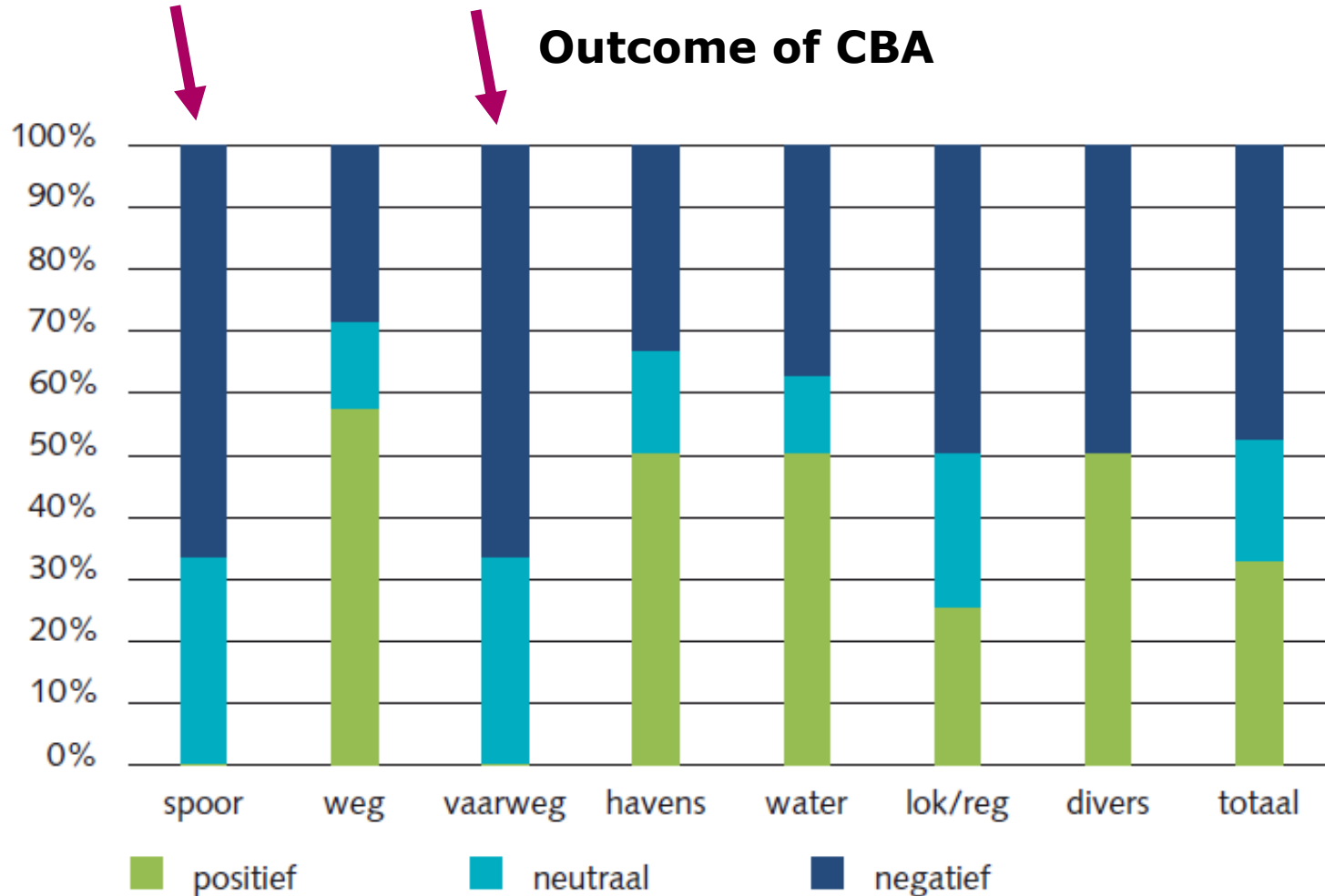
Most CBAs negative or neutral
Most decisions positive

Source: Rienstra, 2008

Application of CBA in Dutch decision-making practice (2)



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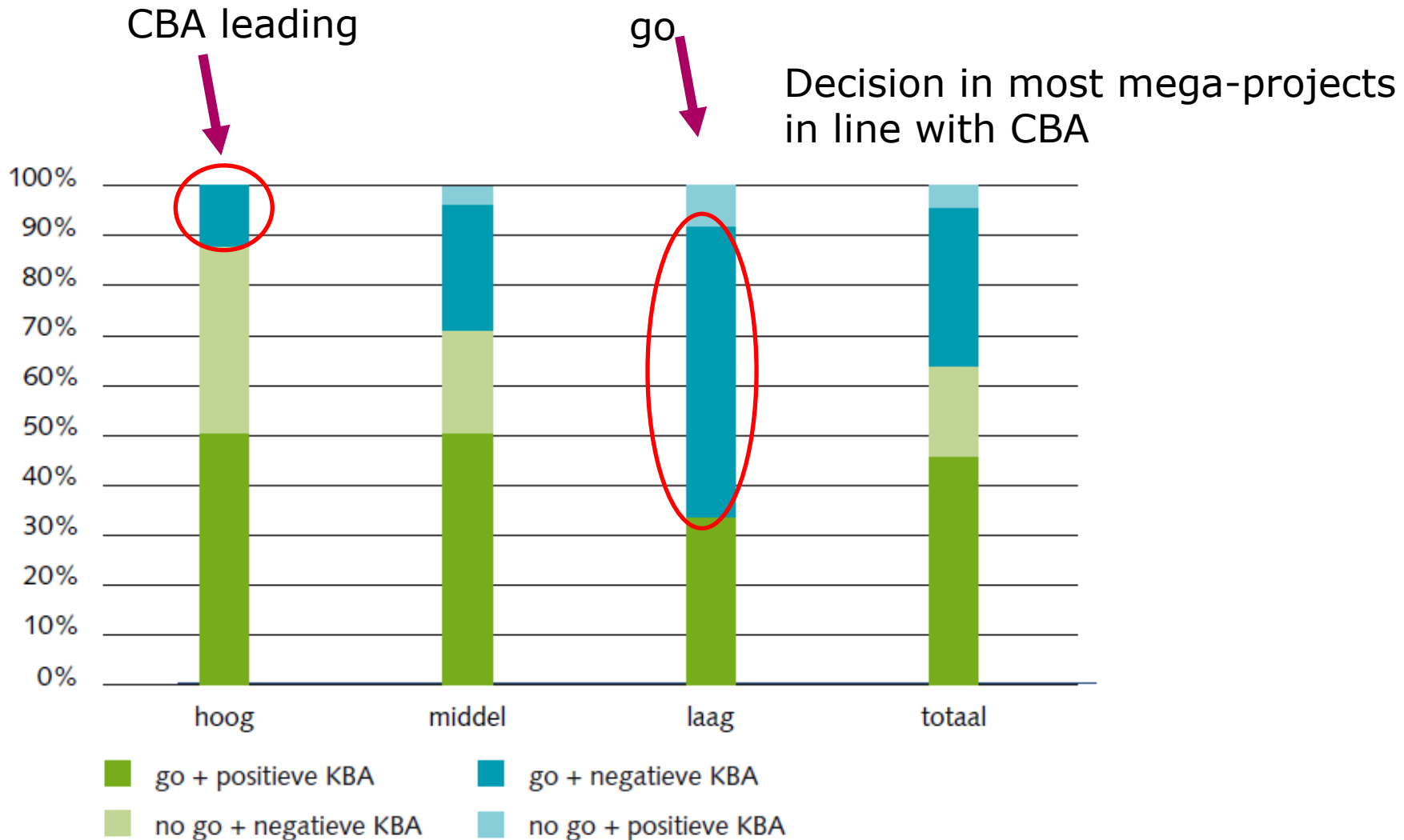
Rail and waterways always negative or neutral

Source: Rienstra, 2008

Application of CBA in Dutch decision-making practice (4)



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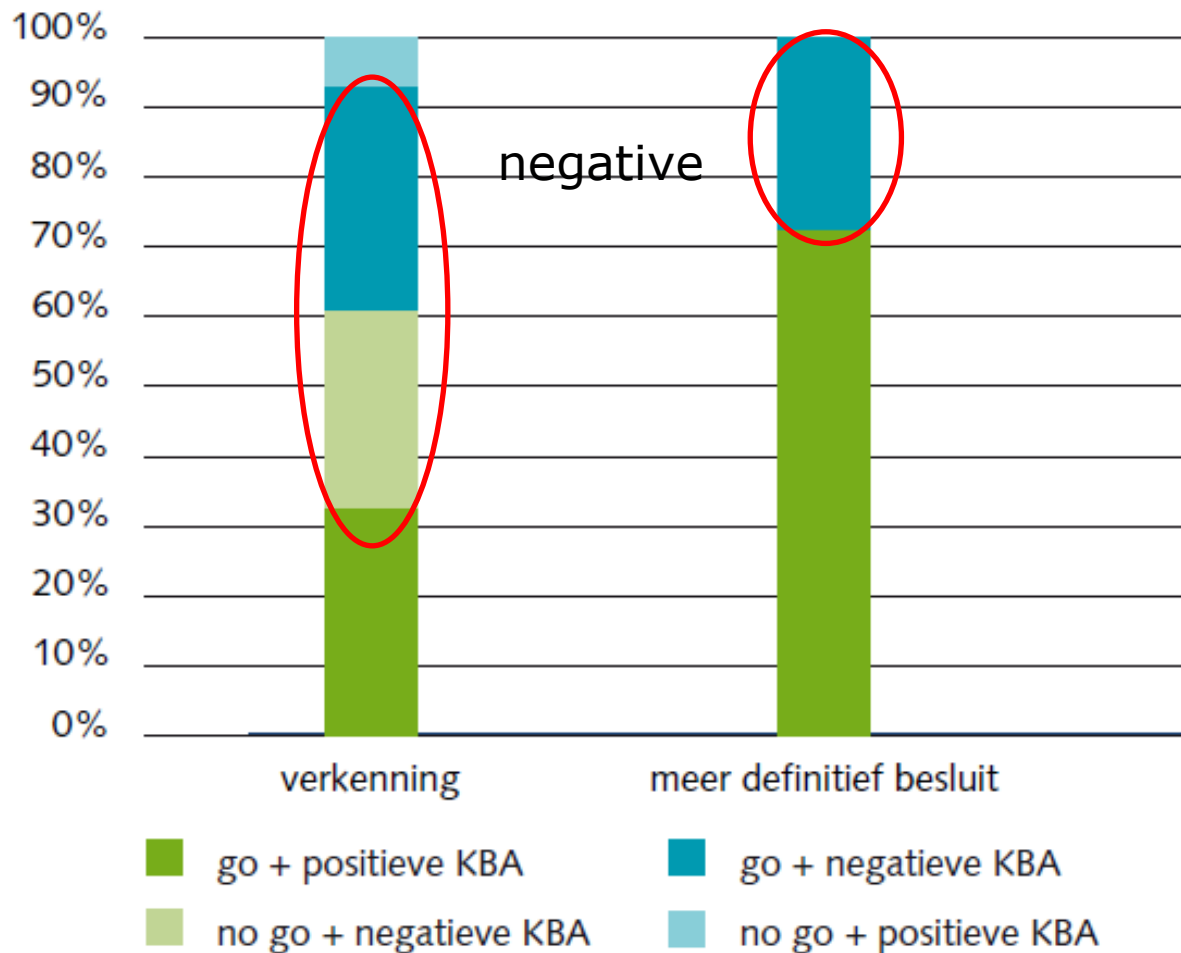
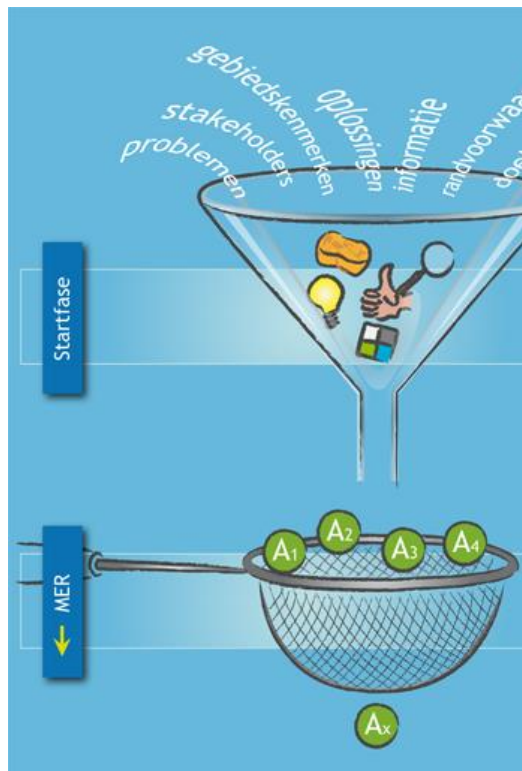


Noot Hoog = >€1 mld, middelhoog = €100 mln - €1 mld, laag = <€100 mln.

Application of CBA in Dutch decision-making practice (5)



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Outcome more often positive in later phase
Projects only stopped in initial phase

Environmental effects in Dutch CBAs

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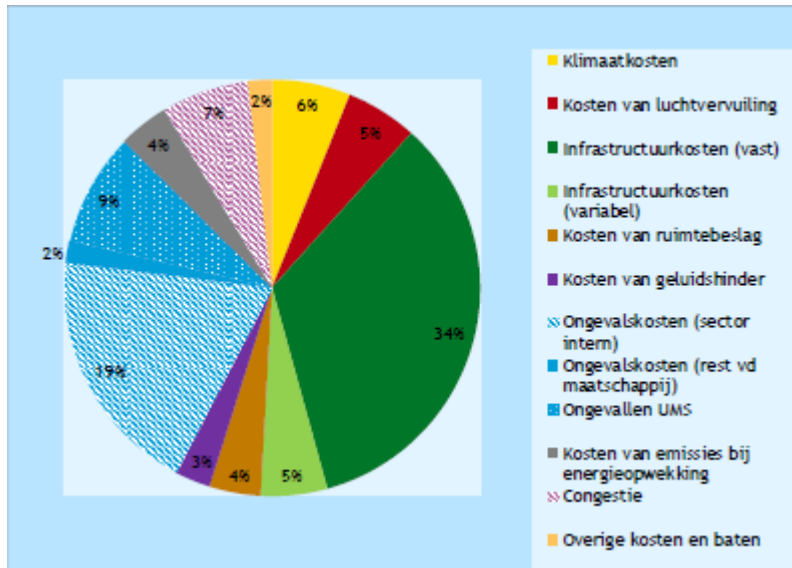
	<i>Noise and emissions (CO₂, NO_x, PM10)</i>	<i>Nature and landscape</i>
<i>Transport (37)</i>	35, often monetized	18, hardly ever monetized
<i>Spatial development (10)</i>	0	8, monetized in 6

Source: Annema and Koopmans, 2008

Total yearly average external costs



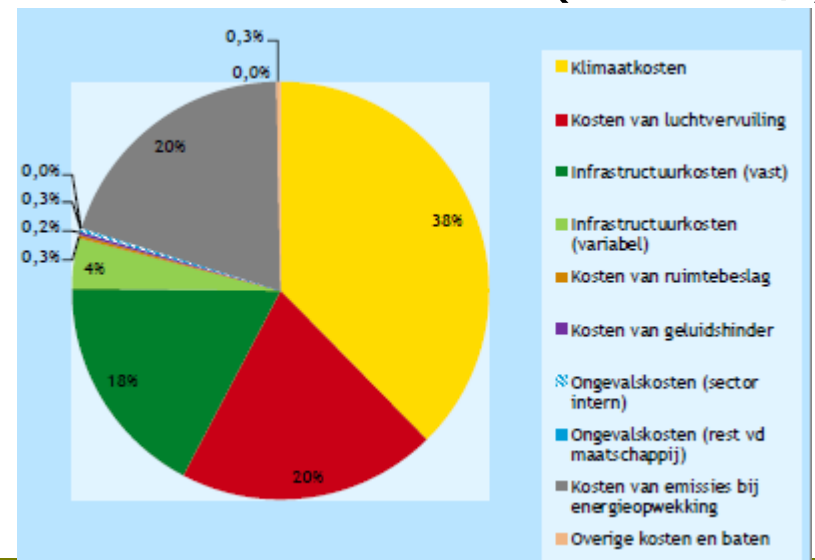
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Transport sector (37 billion/yr)
(excl. aviation and maritime)

Source: CE Delft, in press

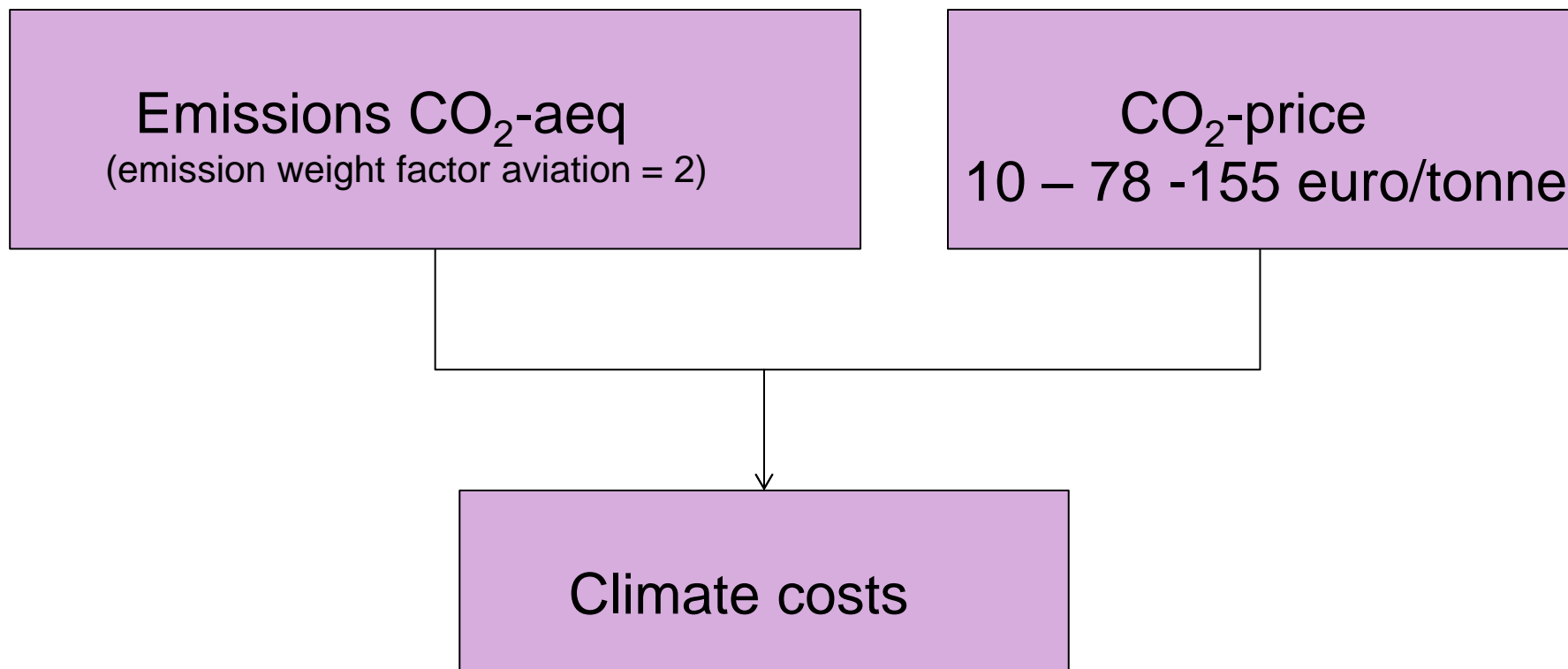
Aviation and maritime (6 billion/yr)



Method used to calculate climate costs



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Method used to calculate CO₂-price

- Direct damage costs:

preferred method, but....uncertainty high

uncertain impacts, small risks + high damage;

discount rate under discussion (2.5% + project specific 3% - 1.5%)

- Prevention costs:

related to policy goals

minimum costs 10 euro/tonne (EU 2020 20 % reduction target)

maximum costs 44 – 155 euro/tonne (EU 2050 2 ° goal, 445ppm)

(Kuijken et al., 2009)

average costs 78 euro/tonne

based on economy-wide, not transport-specific, mitigation costs