

PM-emissions from EVs

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I N N A S

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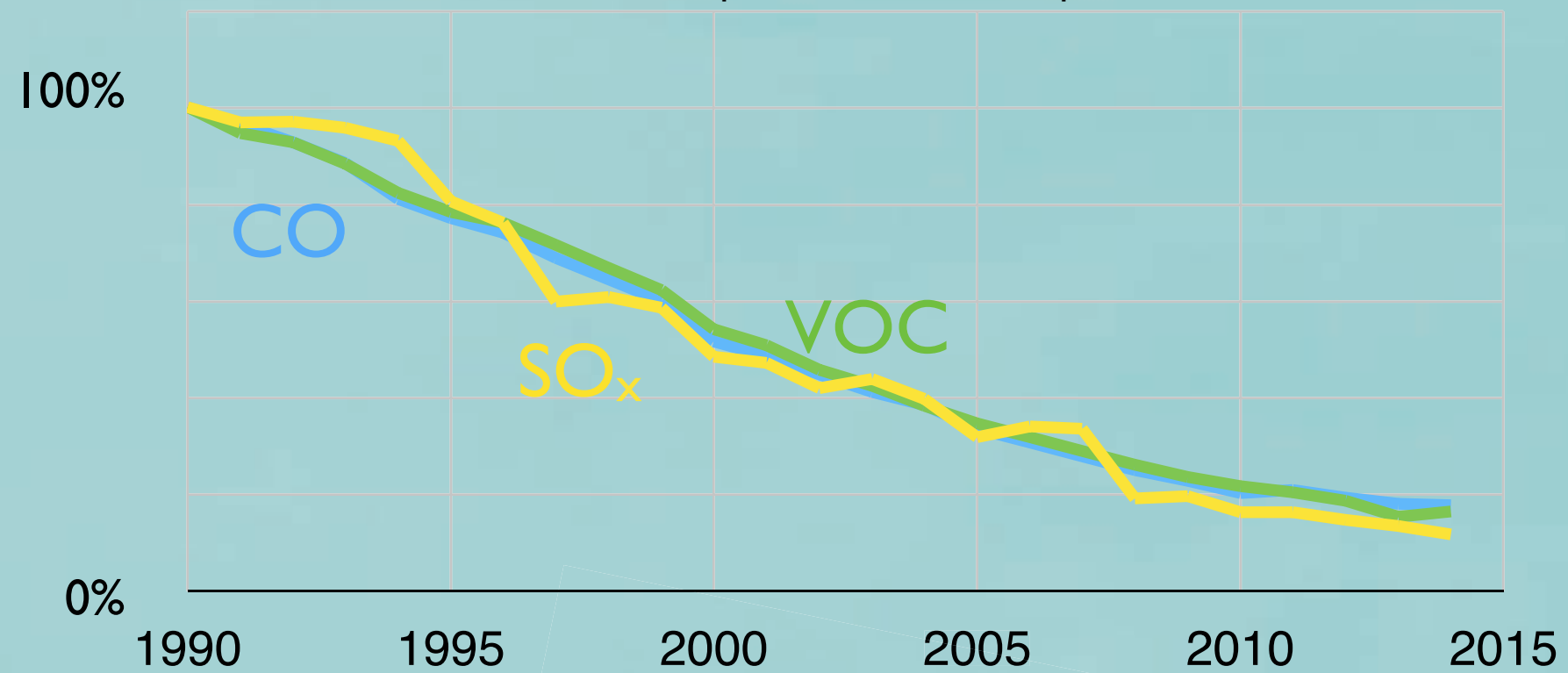




exhaust

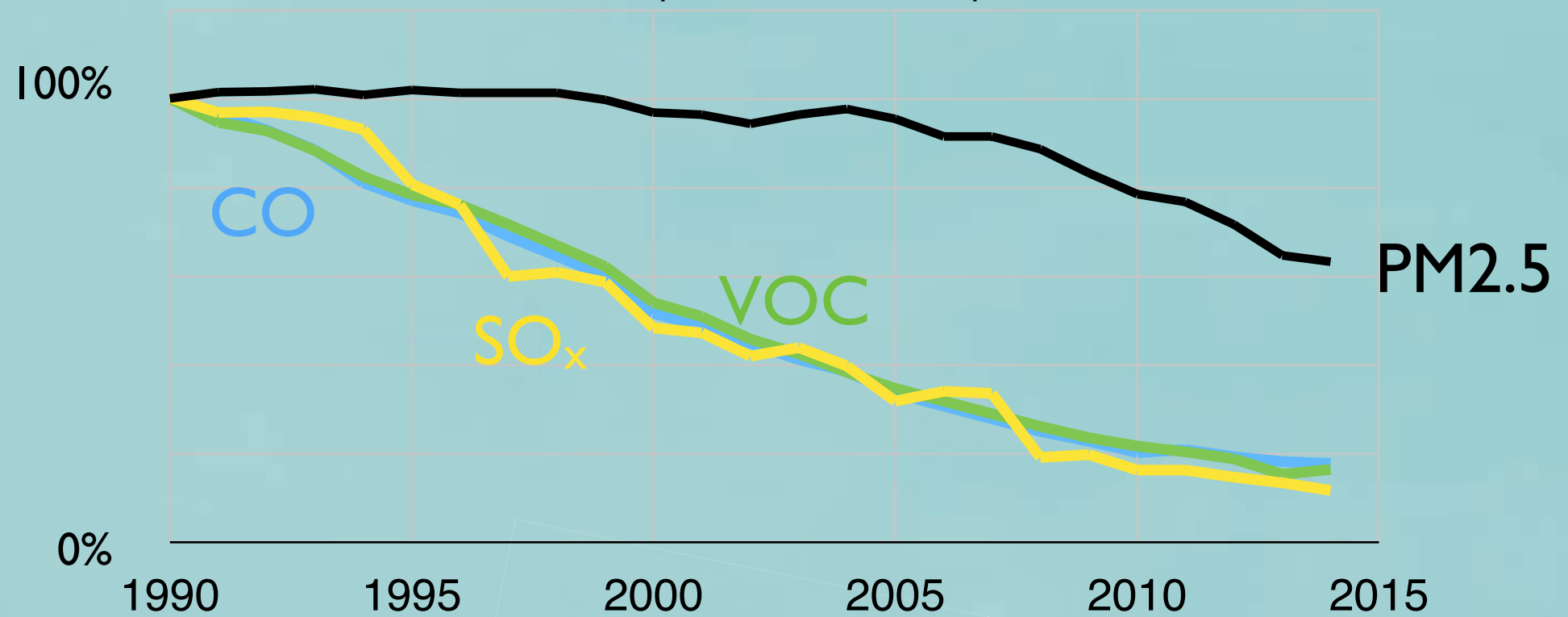
source: EEA Report No 34/2016

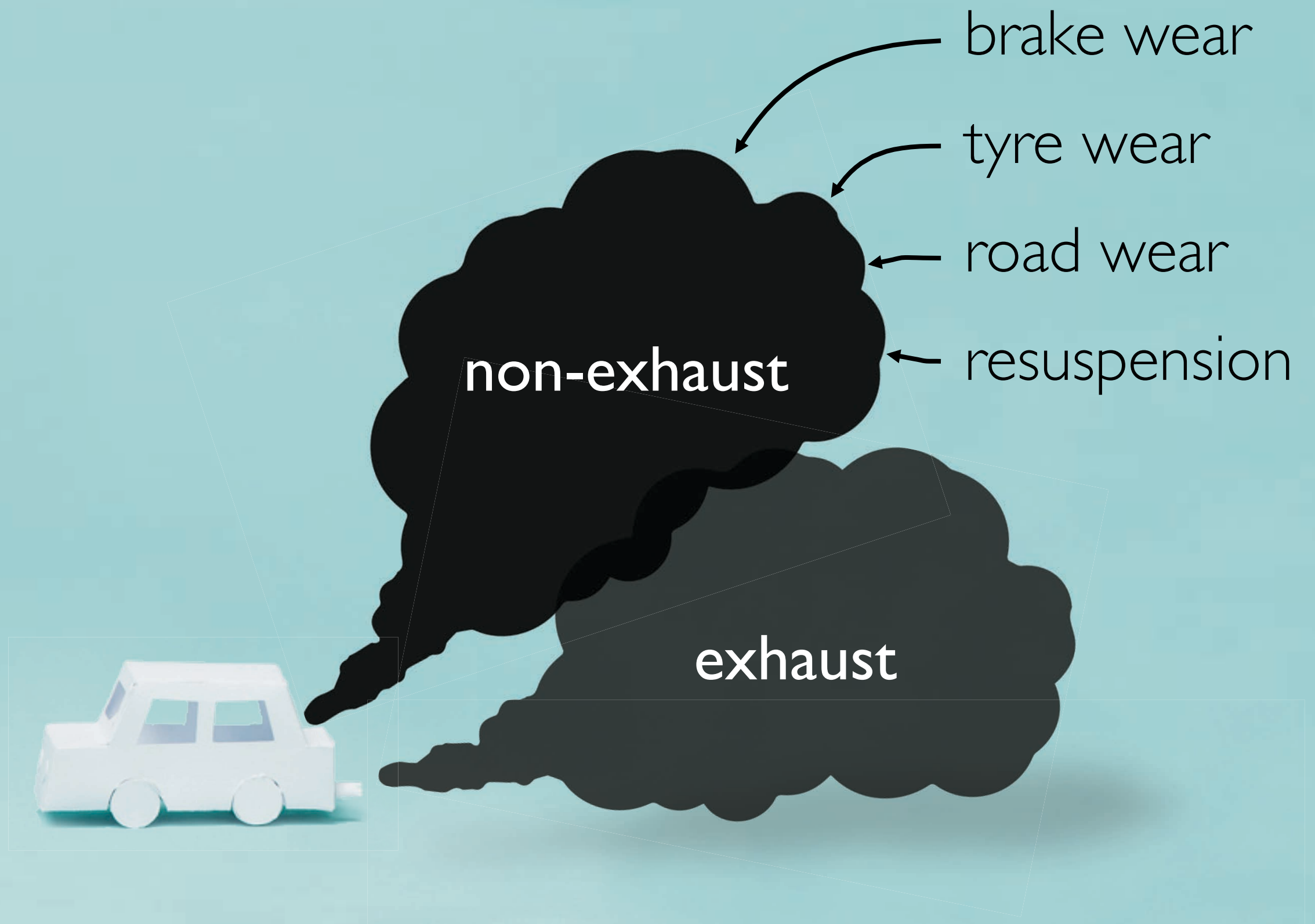
Trend in emissions of air pollutants from transport in EEA-33



source: EEA Report No 34/2016

Trend in emissions of air pollutants from transport in EEA-33





2017



2025

non-exhaust

not
regulated

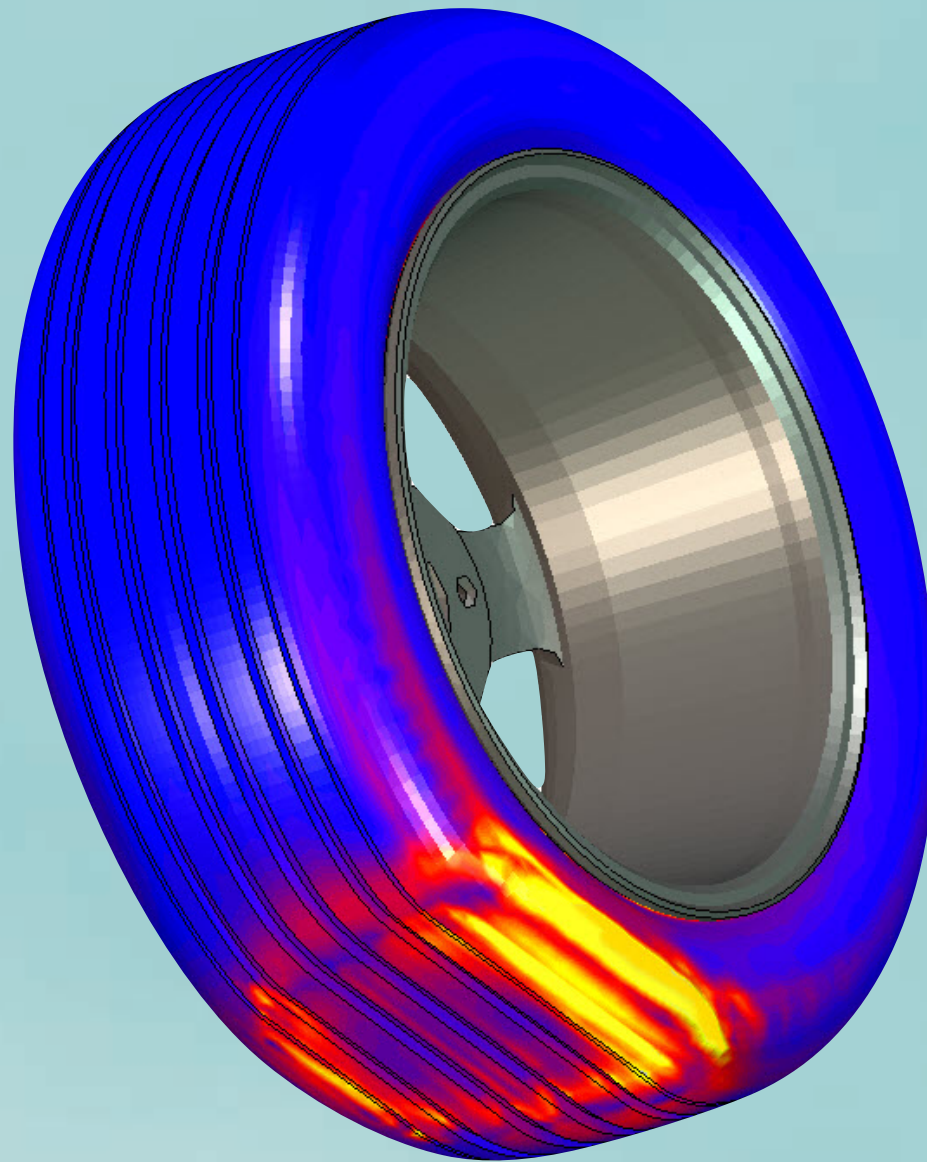
exhaust

regulated



Vehicle weight

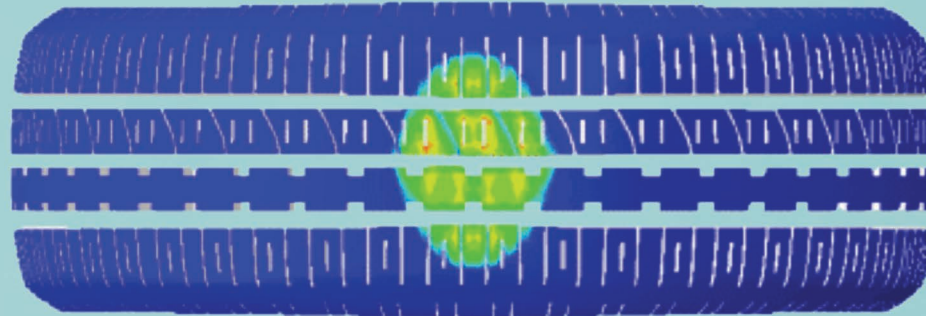
Tyre deformation



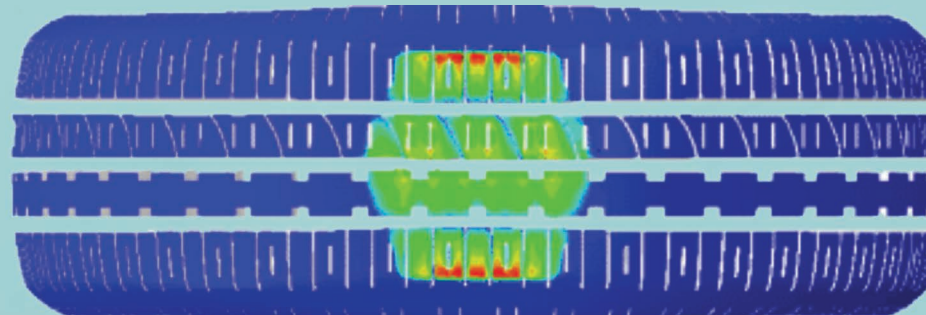
Source: MSC Software

Influence of weight

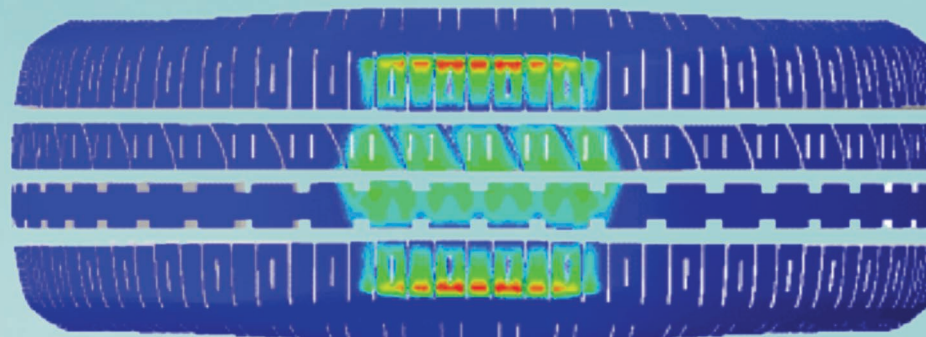
200 kg



400 kg



600 kg



A heavier vehicle...

- ...increases brake wear
- ...increases tire and road wear
- ...increases resuspension
- ...increases **PM-emissions**

battery electric vehicles



ICEV



BEV

no exhaust
reduced brake wear
heavy

PM-emissions



ICEV

- exhaust
- brake wear
- tyre wear
- road wear
- resuspension

≈



BEV

- ~~exhaust~~
- ~~brake wear~~
- more tyre wear
- more road wear
- more resuspension

Conclusions

Conclusions

- BEVs are heavier
- Increased wear and resuspension
- BEVs don't reduce the PM-emission
- Zero emission vehicles don't exist



