

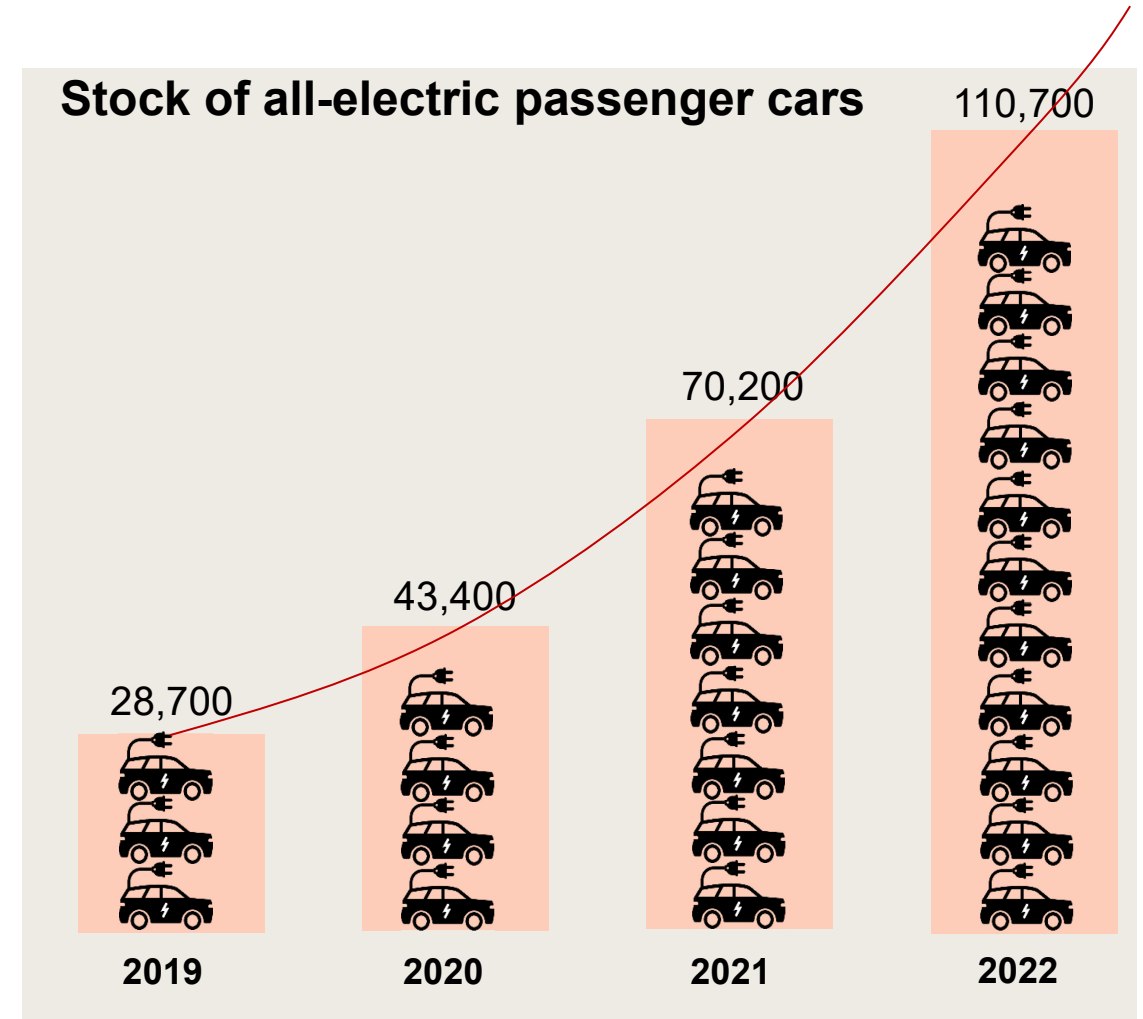
A major challenge: new road infrastructure financing in the context of increasing electromobility





Current trends



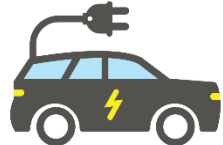

- Motor vehicles are becoming more efficient and need less and less fuel per 100 kilometres
- Increase in share of vehicles with alternative drive systems (e.g. electricity)





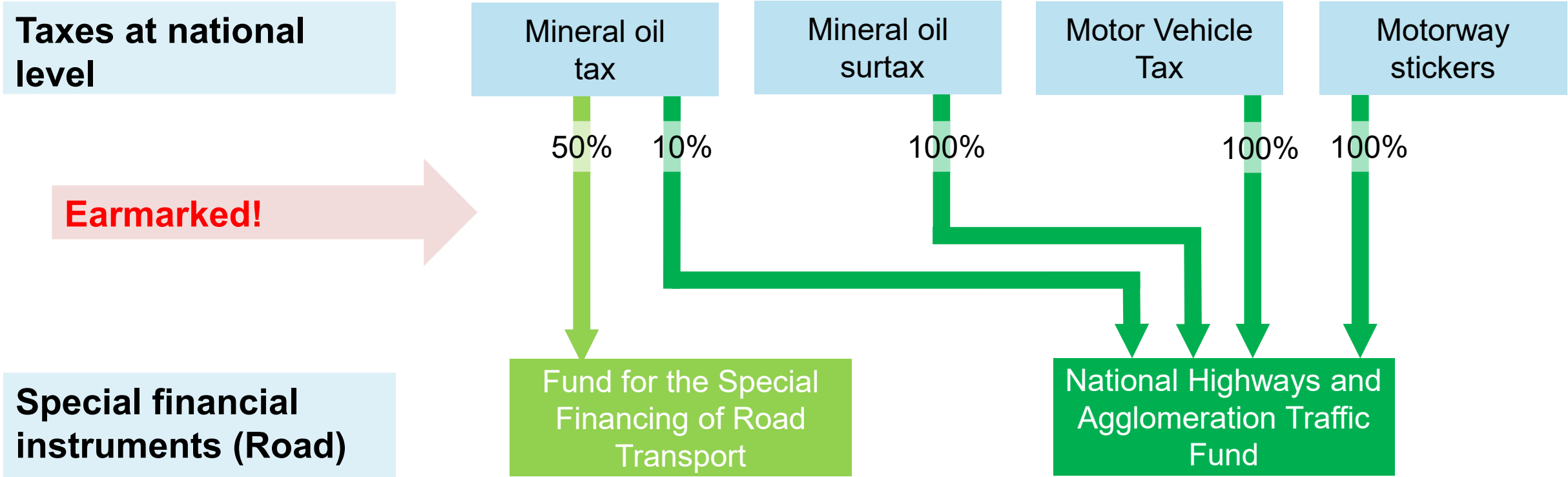
The Problem:

Electric vehicles do not pay mineral oil taxes

	Fuel consumption per 100km	Mineral oil taxes per 100km in CHF	Mineral oil taxes paid per year in CHF (15,000km)
	5 litres	3.84	576
	8 litres	6.15	922
	0 litres (electric)	0.00	 0.00



Switzerland as a special case





National Highways and Agglomeration Traffic Fund





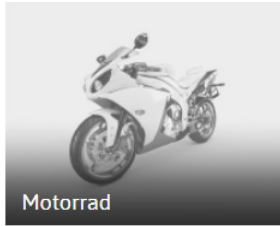
Federal Council mandate (2019)

Develop a concept to secure the long-term financing of transport infrastructure:
Replace mineral oil taxes with a distance-based levy.

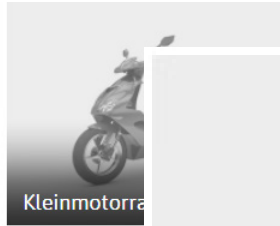


One major challenge: Many different vehicle types

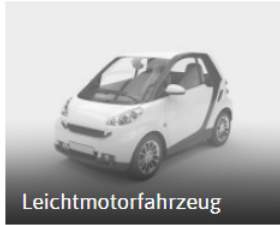
Examples



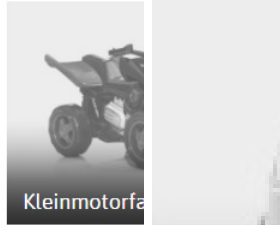
Motorrad



Kleinmotorrad



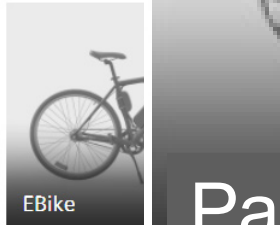
Leichtmotorfahrzeug



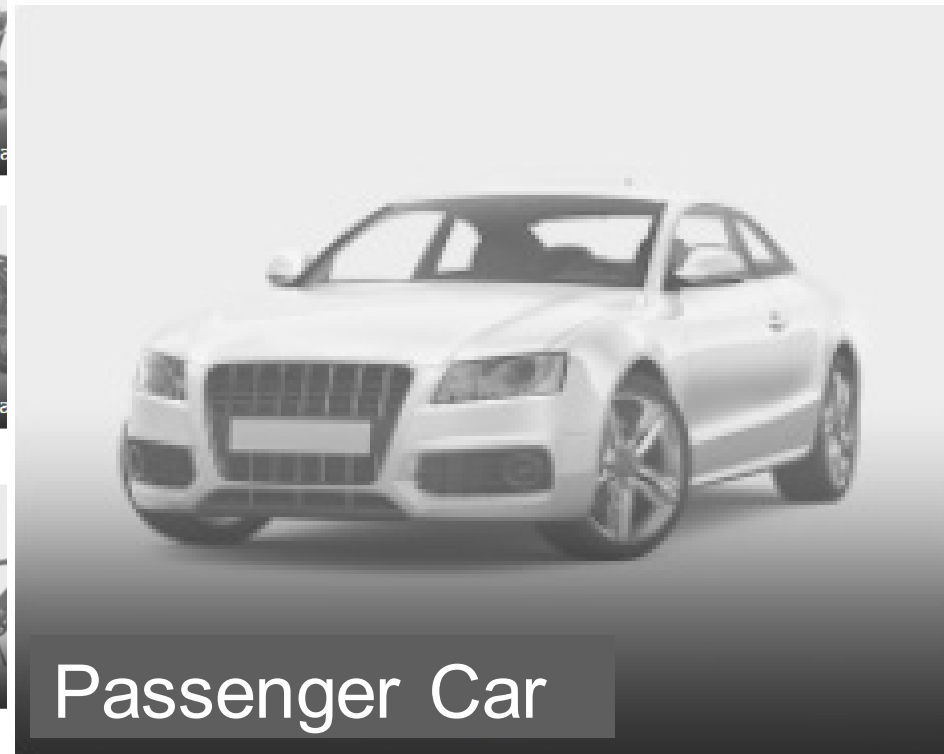
Kleinmotorfahrzeug



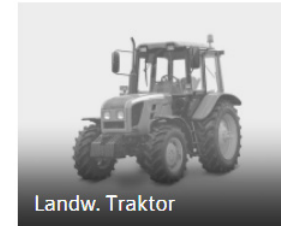
Motorfahrrad



EBike



Passenger Car



Landw. Traktor



Arbeitsmaschine



Landw. Motorkarren



Motoreinachsler



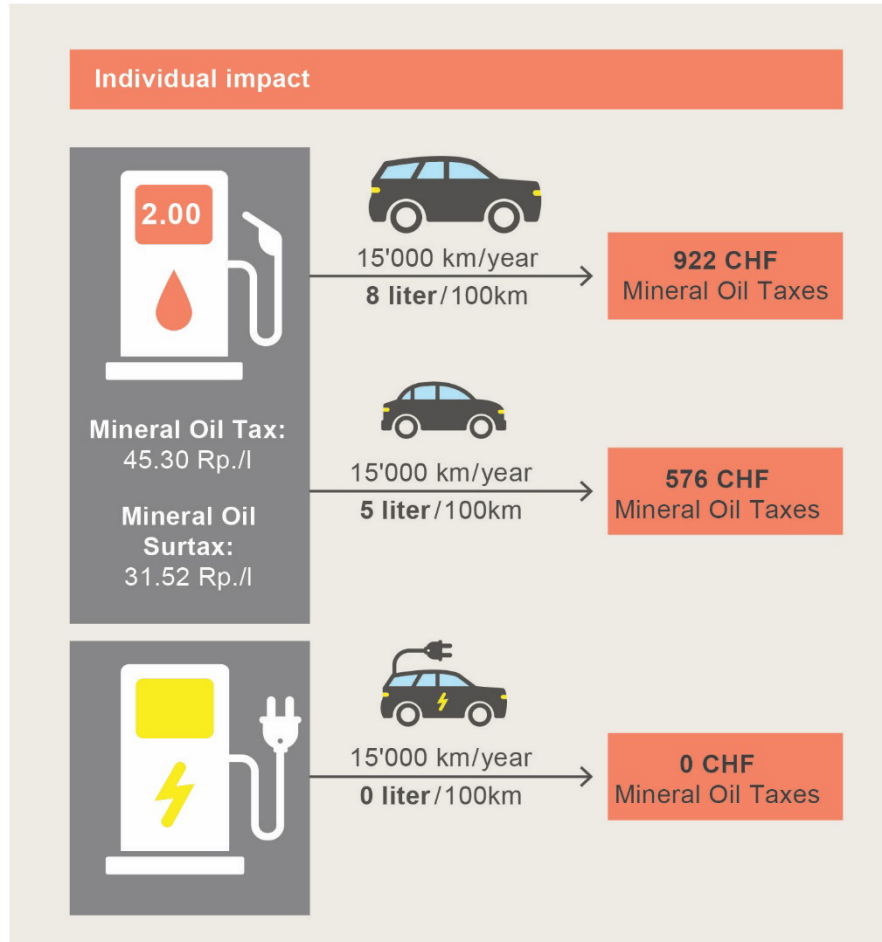
Arbeitskarren



Landw. Arbeitskarren



Concept for a new levy to replace mineral oil taxes

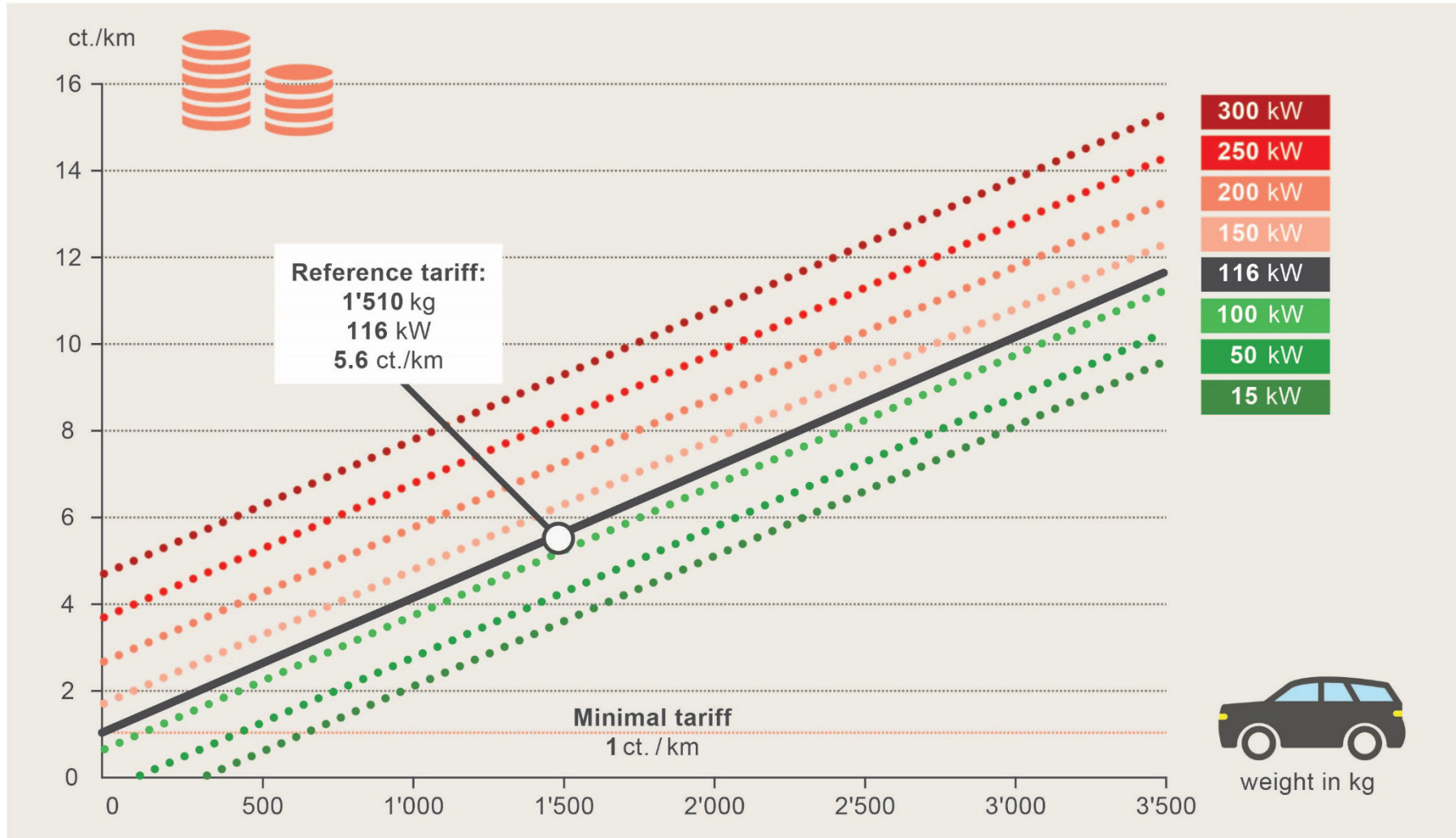


Basic principles:

- Compensation: Mobility should not become more expensive, nor should it become cheaper.
- Equivalence: The new levy should replace the levies to be compensated for as equivalently as possible.
- Pay as you use: All road users should contribute financially

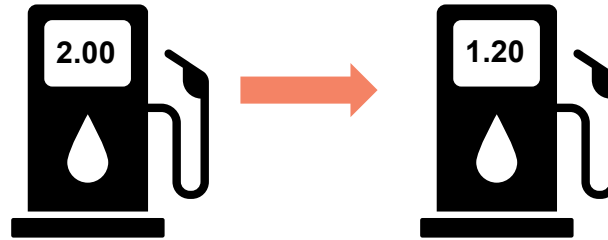


Illustration of tariff model for passenger cars





Negative side effects of replacing mineral oil taxes



'Fuel tourism' to Switzerland and deterioration of Switzerland's carbon footprint



Environment: Loss of the incentive effect of mineral oil taxes, especially in the non-road sector/ships



Loss of revenue from the non-road sector/ships, which would have to be compensated for by higher tariffs

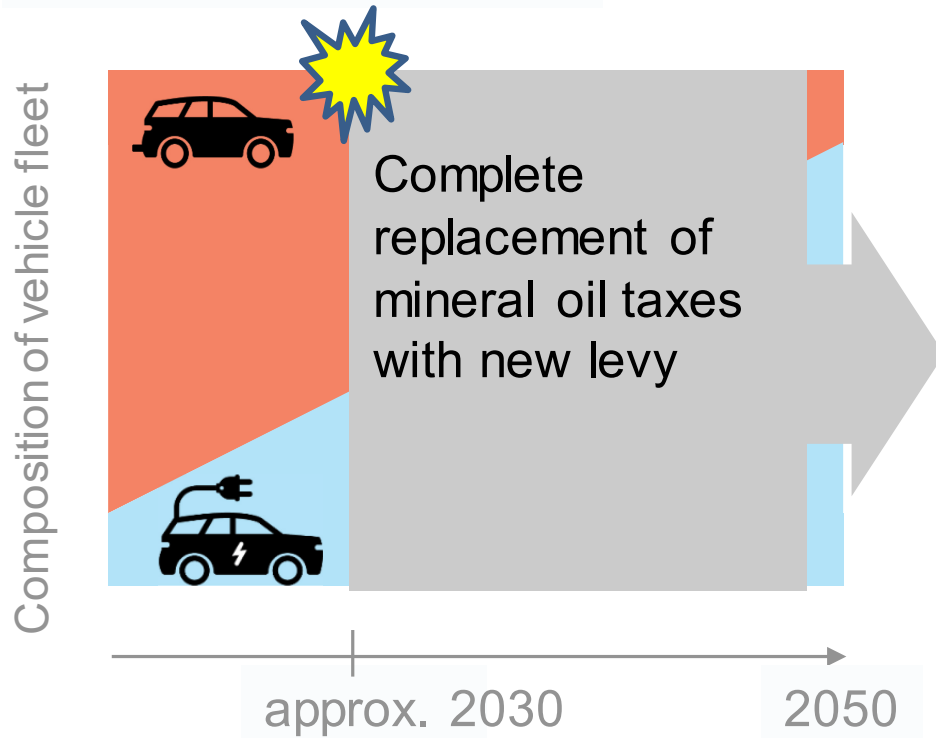


Route shifting in transit freight transport: More traffic through Switzerland because of lower fuel costs when refuelling in Switzerland

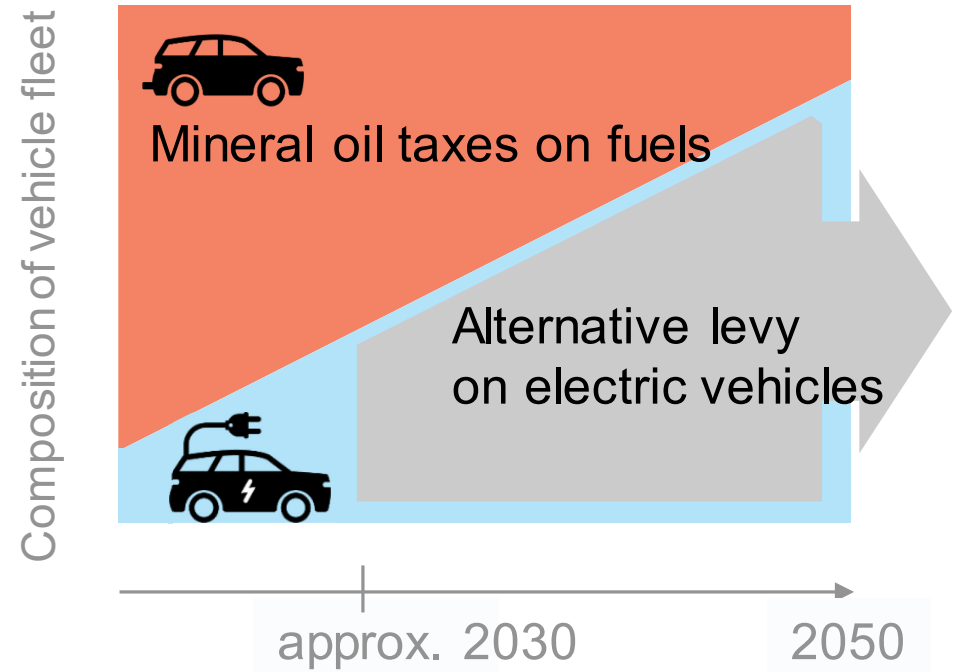


Introduction strategy?

Big bang?

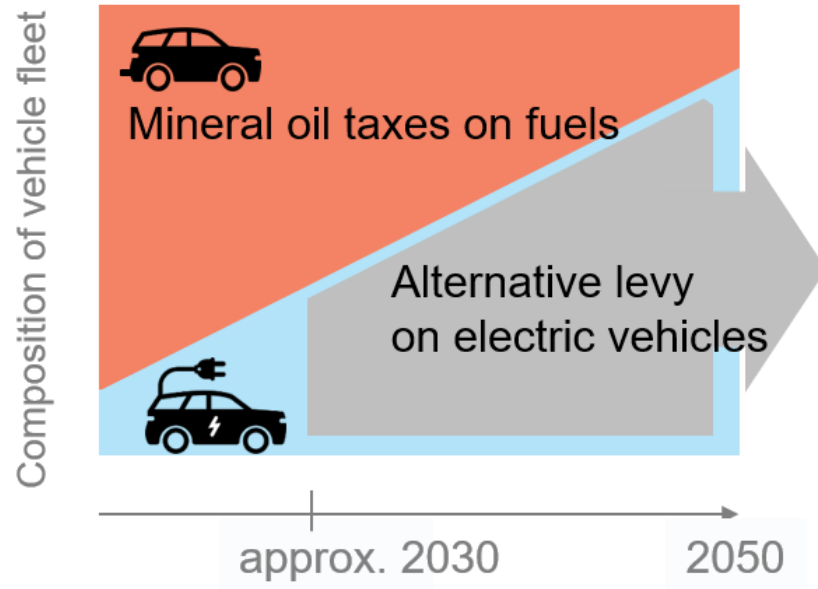


Gradual transition?





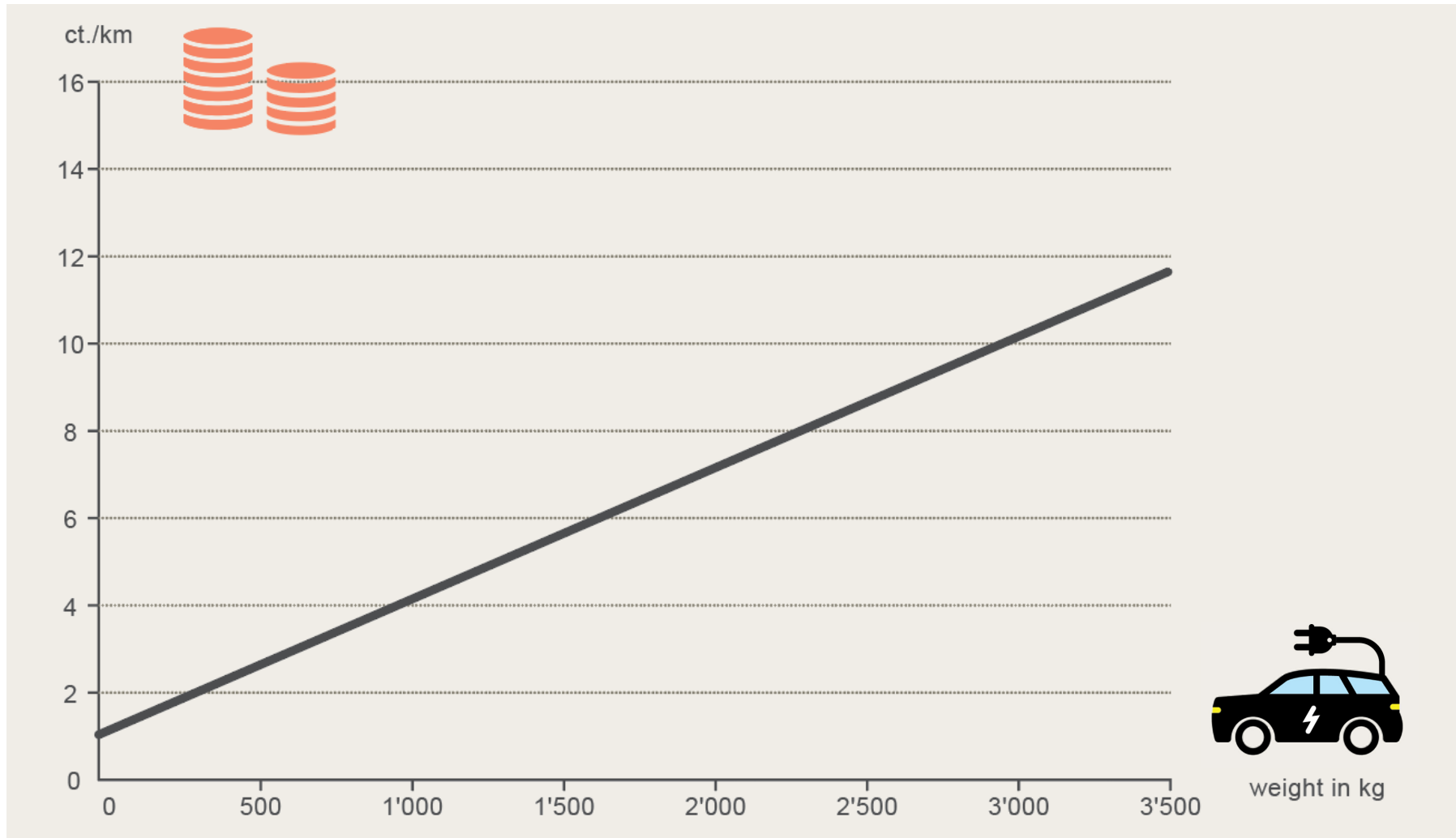
Decision: Gradual transition!



- No undesirable side effects
- Better financial outcome
 - No loss of revenue in the non-road sector
 - Lower Costs of data collection and enforcement
- Less complexity and risk during implementation than with «Big Bang»



Tariff model levy on electric vehicles

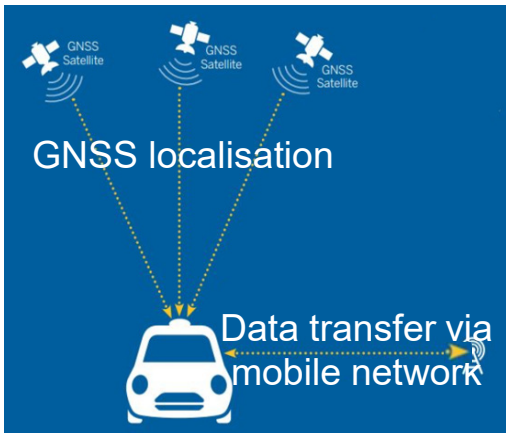




Calculating the levy: Recording distance driven

Acceptance?

Satellite-based positioning (GNSS) and mobile network (CN)

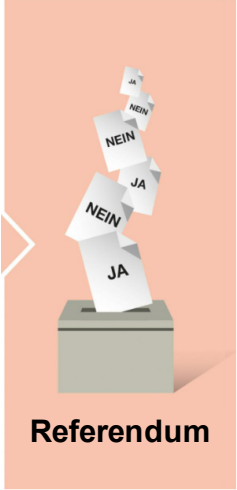


Special vehicle-mounted recording device

European Electronic Toll System (EETS)

Smartphone app

Vehicle manufacturer's on-board device



Distance counter without the use of geolocation?



Feasibility?

Electric energy consumption as a tax basis?



Feasibility?



Open Questions

Many questions remain unanswered

- How to treat drivers from abroad?
- Distinction between distance travelled within CH / abroad?
- Manufacturers have the necessary data, but:
 - Do vehicle manufacturers want to share data on distance travelled?
 - Are the data of the requisite quality?
 - Will it lead to a dependency on vehicle manufacturers?
 - Can the data be manipulated?
- Is there likely to be a European solution to replacing mineral oil taxes, and would vehicle manufacturers have to follow certain requirements in future?



Timeframe

