



Low hanging fruit and best incentive towards transport emissions reduction

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1. Determination towards Electric Vehicles (EVs)



- **EVs, including BEVs (daily trips), EREVs and FCVs (long trips):**
 - Are the best technologies for cars regarding WtW CO₂ emissions and primary energy consumption, urban pollution and noise, and oil dependence.
 - “Biomass → Electricity → EVs” uses less biomass than “Biofuels → ICVs”.
- **ICVs only have a limited improvement potential, at a high cost:**
 - Mostly through hybridization (→ EVs...)
 - EVs and power plants have a higher improvement potential than ICVs.
- **EVs price will drop fast once mass produced:**

Total cost of ownership will become competitive in 10 to 15 years.

***Low hanging fruit 1:
Concentrate all efforts in the best technologies: EVs.
Technological neutrality is suicidal...***



Mid 80's mobile phone



- 25 years ago, mobile phones weighted 800 g and cost 4000 \$.



- They weight, size and cost plummeted rapidly with mass production of their batteries and electronic components (= 3/4 of EV cost).
- They spread because they brought *unique benefits* to customers...



2. Inexpensive EV incentives



- **EVs bring advantages to society, not yet to their owners**
 - No real advantage in owning an EV – and drawbacks: cost and limited range!
→ Public incentives are *initially* needed for EV to spread.
- **Price is not the main issue**
 - Consumers anyway buy cars much more expensive than they *really* need.
 - They will only buy EVs if they get *unique benefits* over ICVs.
→ Financial incentives are expensive and hardly effective.
- **Governments should offer *unique benefits* to EV drivers**
 - The main criterion for choosing a conveyance is saving transport time.
→ EVs are successful in regions where EV drivers can **save time** over ICVs: priority lanes usage, free unlimited parking, EV reserved parking, toll and congestion charge exemption...

***Low hanging fruit 2:
Promote EVs with time-saving incentives.***



3. Determination towards light Electric Microcars



- **Light Electric Microcars are best for cities and commuters**
 - 80% of car mileage: < 60km/day, 1 occupant, mainly in slow traffic
 - Light Electric Microcars are *objectively* ideal for this usage.
 - They are much cleaner and reduce traffic and parking congestion.
- **Current type approval categories exclude safe Microcars**
 - L7e (quadricycles): mass restriction prohibits adding safety equipment, and power restriction makes them too slow for safe use on fast roads.
 - M1 (cars): excessive weight and size to comply with safety regulations designed for fast roads; approval procedures too expensive for SMEs.

***Low hanging fruit 3:
Create a new type approval category,
in-between L7e and M1, for light Electric Microcars.***



4. Inexpensive EV charging



- **No-one will buy an EV if he cannot charge it**
Over 50% of EU families don't have a garage...
- **Driving to a fast charging station is not convenient**
 - About 30 minutes per 100 km charge, plus driving time...
 - Inspired by the petrol car model: drive to a filling station...
- **Low-power charging at or near home is convenient and inexpensive**
 - Inspired by the mobile phone model: charge while sleeping...
 - 100 kerbside low-power charging poles (with cut-off during peak electricity) cost no more than 1 fast charging station and charge far more EVs.
 - Night charging uses off-peak electricity → good for the grid.

***Low hanging fruit 4:
Install inexpensive low-power charging poles
on the kerbside in residential districts.***



**Thank you
very much!**



More info at
www.going-electric.org