Foster clean and multimodal mobility using smartphone data

Symposium of the IFP School Chair on Electric, Connected, and Autonomous Vehicle for Smart Mobility

24/11/2020, by Salah EL HAJJI
CleanMob - Clean mobility enabler (B2B)

Agenda

01. Context of modern mobility
02. Mitigation options
03. Vision, ambition and solutions
04. CleanMob under the hood
05. Conclusion
Context of modern mobility

Transport is the major contributor

CO2 emissions by source

Source: HCC report 2019
Context of modern mobility

An insufficient reduction...

National CO2 emissions evolution
Source: HCC report 2019
SNBC*: Stratégie nationale bas carbone

Imported CO2 emissions evolution
Source: HCC report 2019
Context of modern mobility

...especially in transport

CO₂ emissions evolution by source 1990-2018

Source: HCC report 2019
Context of modern mobility

...especially in transport

CO2 emissions - Transport evolution

Source: HCC report 2019
SNBC*: Stratégie nationale bas carbone
Context of modern mobility

People transportation represents 60%

CO2 emissions - Transport

Source: AEE 2018
Context of modern mobility

**Personal car, a habit that needs change**

75% of the French population uses individual cars for trips of less than 8km (5km in cities)

INSEE 2014

Traffic congestion

Source: tomtom.com/congestionindex
Context of modern mobility

Today transport innovation is mainly focused on energy efficiency and personal car...

- Excessive energy demand
- High dependency on oil
- High CO2/km
- Noxious emissions
- High usage of public space
- BEVs will increase imported emissions

...But is personal car our only option?

Transport contribution to national CO2 emissions
Source: AEE 2018 / HCC report 2019
A holistic view on the mobility problem

Context of modern mobility

- Primary energy demand /km/pers
- Well-To-Wheel Life-cycle-assessment
- Available stocks, consumption rate, geostrategic tensions, ethics
- m2/pers Frustration, anxiety
- Air-quality, noise pollution
- kCal/km Sedentarity

Mobility

Energy

CO₂

Local Pollution

Traffic Congestion

Natural Resources

Health
Mitigation options

Context of modern mobility

Vision, ambition and solutions

CleanMob under the hood

Conclusion
### Mitigation options

**Diversification will be key**

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- **Worse**
- **Neutral**
- **Improved**
## Mitigation options

### Diversification will be key

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Vision, ambition & solutions
Vision, ambition and solutions

Our vision

Energy sobriety is our best leverage for a successful energy transition

Resilient economy

Less sensitivity to strategic resources

Values CO2 reduction
Our mission

Promote sustainable mobility for *all employees*

*Empower* individuals
Vision, ambition and solutions

Ambition: Key levers to success!

Behavior changes with positive psychology
For a well adopted behavior and maintained for a long time

Tech for good
Leverage the phone sensors data, and couple it with AI and physics based models
Vision, ambition and solutions

**Confidential for more details please contact:**

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Vision, ambition and solutions

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Use case #2

- **Case 1** - flat road
- **Case 2** - hilly road

**Traditional model:**
https://ecolab.ademe.fr/transport

(193g/km)

**Direct CO₂ eq:** [g]

**Added value:**
- Real driving conditions
- High quality CO₂ evaluation

-54%

CleanMob under the hood

**Physical modeling & LCA**

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Conclusion

We shape tomorrow’s mobility today

Personal car is not the only option

We propose a holistic framework to optimize our mobility

You can measure accurate climate impact of your mobility using our app