Alternative technologies and instruments for cleaner air in Copenhagen

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Background - The harmful effects of traffic in the Inner City of Copenhagen, from particle pollution, caused by heavy diesel vehicles, is a major focus area in Copenhagen and at Miljøpunkt. With the amendment of the Environmental Protection Act in 2007, the City of Copenhagen was able to introduce Environmental zones for heavy vehicles, but not diesel vehicles in general. This will require a change in the law. Such a process has been discussed for some time now.

Before initiating a process about a possible legislative amendment of the Environmental law Miljøpunkt want to create a focus on the pollution in the Inner City caused by buses and taxis, as well as on alternative technologies and alternative regulations. This requires documentation for pollution levels, qualitative data and knowledge about and health effects from ultrafine particles (PM 0,1) etc.

Miljøpunkt has for several years been measuring pollution, i.e. ultrafine particles (PM 0.1). In 2018 the focus was on tourist buses and taxis. The pollution from these vehicles is a health risk for those citizens who travel along sidewalks and roads, and live and work in the Inner City, and causes illness, sick days and, in the worst case, death. There is every reason to encourage the municipality, and government, to regulate pollution from the tourist buses and taxis that drive in the city, including regulation on effective particle filters. Filters can remove ultrafine particles, but the filters need to be checked.

The measurements in 2018 indicated that it was technologically possible to remove the ultrafine particles from some vehicles but not others. What is technically possible for some vehicles, should be possible for all. From a socio-economic point of view, the health of the majority should be weighted higher than the additional investment, if any, by the individual car owner or the automobile industry. If at all technically possible, this is an argument for a tightening of environmental requirements.

It is our belief that we can go far on a voluntary basis and in cooperation with partners. To achieve this, we need to involve key stakeholders early in the process, including the municipality, the bus and taxi companies, the police etc. These actors / stakeholders have knowledge and experience that can be used when we need to find "new ways" and solutions, regardless of whether this requires an adjustment of existing legislation or a new legislation process.

Defining the problem

1. What are the opportunities for making demands on the buses, taxis and tourist buses that drive and park in special areas in the Inner city, including idling.
2. What are the requirements for measuring methods for the additives in diesel, measuring instruments, analyses and data?
3. What are the possibilities of controlling and maintaining particle filters (to remove ultrafine particles), alternative technology and behavior that affect the soft road users when the vehicles are idling or driving in the Inner city?
4. There are several places where taxis and tourist buses are idling, summer and winter, but how many would actually be able to turn off the engine?
5. How is the police controlling and regulating idling today?
6. How many tourist buses and taxis have attached particle filters and are continuously maintaining their filters?

Sources and background information:
The municipality is gathering more data together with Google and the students can expect to have access to the data.

New Taxi Law https://taxilov.dk/

Report from 2018, with results and conclusions: http://a21.dk/wp-content/uploads/2016/11/Ma%CC%8Alinger-af-ultrafine-partikler-pa%CC%8A-udvalgte-lokaliteter-i-Indre-By-2018-endelig.-1.pdf (Includes the latest background data)
Appendix: http://a21.dk/wp-content/uploads/2016/11/Partikelmaaling_samlede-resultater-i-Indre-By.pdf

Article with links about EU report about dieselgate-skandale https://ing.dk/artikel/vagthund-trods-dieselgate-stramninger-oser-eus-biler-stadig-meget-223972?utm_source=nyhedsbrev&utm_medium=email&utm_campaign=ing_daglig

Report The preliminary study of pollution caused by traffic in the city, ultrafine particles:
http://a21.dk/wp-content/uploads/2016/11/M%C3%A5linger-af-ultrafine-partikler-p%C3%A5-udvalgte-lokaliteter-i-Indre-By-og-p%C3%A5-Christianshavn-2016.pdf

Measurement results and records: http://a21.dk/wp-content/uploads/2016/11/Bilag-1-M%C3%A5leresultater-partikelm%C3%A5linger-2016-21-11-16.pdf

Link to articles in the press and TV, including the opinions of several experts who recognize our environmental point's survey. http://a21.dk/partikelmaalinger-i-forbindelse-med-bilfrie-dage/

Press on the EU's criticism of DK about air pollution:
http://politiken.dk/indland/ECE3342094/eu-kritiserer-danmark-i-goer-ikke-nok-mod-luftforurening/
http://www.microsofttranslator.com/bv.aspx?from=&to=en&a=http%3A%2F%2Fpolitiken.dk%2Foekonomi%2F2050%2Fgroen_omstilling%2FECE3323573%2Feu-gaar-til-angreb-mod-dansk-luftforurening%2F

EU letter criticizing Denmark: http://multimedia.pol.dk/archive/01049/Scan-to-Me_from_17_1049786a.pdf
Page 1 in the EU Air Quality Directive: In order to protect human health and the environment as a whole, it is particularly important to combat emissions of pollutants at source and to identify and implement the most emission reduction measures at local and national level and at Community level. Therefore, emissions of harmful air pollutants should be avoided, prevented or reduced and appropriate objectives set for ambient air quality taking into account the World Health Organizations standards, guidelines and programs.

The Ecological Council, traffic and air:
http://www.ecocouncil.dk/66-temasider/trafik-og-luft3/438-trafikkens-forurening
Page 3: EU Commission estimates based only on air pollution with fine particles and ground-level ozone. Recent research emphasizes that ultrafine particles from road traffic exhaust represents a hitherto neglected health problem in major cities.
The number of premature deaths represent a hitherto neglected health problem in major cities. The number of premature deaths, disease and the costs associated with air pollution are thus considerably larger one indicates the Commission's estimates. Despite this, there are still no limits for soot particles in urban air.

With the measuring apparatus P-Trak Ultrafine Particle Counter, it is possible to measure these soot particles. It is also possible to goal difference in the motor vehicles that pollute more than others. It is possible to create orientation measurements of background levels on a weekday, an ordinary Sunday and on a Sunday without motor vehicles.

When reviewing the results are not so surprising that the measurements show that there are more ultrafine particles in the air on weekdays than on weekends, and several particles at higher volume routes than the less traffic congestion. The ultrafine particles measured as counts per. cm3.

Bent Lohmann, Chairman of the Inner City Local Committee: "We have several years measured pollution in the city and I am seriously concerned that we continue to have buses in the degree pollute the air, and even more so, what it does in our health. The technology to do something about the problem, but where is the will "?
• Is based on the fact that there are new results from this weekend that underpins previous measurements and reinforces the problem of 3-500 citizens die earlier each year due to Air pollution.
• That there is great interest among the public, to reduce air pollution and the bother, as the dense traffic generation.
• That we (Local Comity) would like to dialogue with the City of Copenhagen on how the existing trials of Electric buses can be extended to include the part of the public transport which will pollute the city particularly hard.
• That points to the problem of many foreign coaches, who in all likelihood do not comply with rules on particulate filter.

Publikation from Miljøstyrelsen http://www2.mst.dk/udgiv/publikationer/200...
https://ing.dk/artikel/lastbil-med-brint-braendselscelle-batteri-vil-udrydde-dieselosere-189674