Meeting with Karina Svanborg (Project Head of Climate department), Steffen Arnbo Nielsen (Mobility expert) and Thomas Mikkelsen (Development consultant climate partnership) at the Climate Department, Sekretariatet for klima og grøn omstilling, Aarhus Kommune 2019-06-17.

The work on zero-emissions vehicles and zones in Aarhus

Within the project Sustainable Nordic Cities with Focus on Climate Smart Mobility, this subproject focuses on zero-emission vehicles (ZEV) and zones. It is a study of the effects of ZEV introduction and environmental zones in Nordic cities and amongst other aims, highlight good examples. Within the framework of the project, three cities in the Nordic region were visited. The purpose of the visit Aarhus was to meet key players and gain a deeper insight and understanding of the opportunities and obstacles for various actions and activities for introduction of ZEV. Aarhus was selected since it is a middle size city in Denmark that is working actively with environmental issues and has a low emissions zone (LEZ) in effect.

Aarhus adopted the *Carbon neutral city 2030* already in year 2008 and has come further than many other municipalities with respect to climate work, and among other things has a climate plan (2017) that states fossil free transport and a green transport plan that will be adopted in 2020. In addition, there is Aarhus climate action plan that includes six areas and 50 measures. There is a fairly clear picture of how the strategy for a fossil-free 2030 has been handled and how to proceed. The city sees no special barriers (e.g. national legislation) to working with these issues locally. However, there is difficulty that different parties rule locally in Aarhus and nationally in Denmark.

Issues regarding air pollutions is combined with climate targets to achieve the sustainability commitments. The politicians view of biofuels is as a technical measure that in principle is possible to use but expensive (no general tax exemption like Sweden), so their attitude is therefore to "wait" for electrification. The plan is to gradually replace the entire municipality's fleet with electric vehicles. The fleet is today around 750 cars, of which 60 are electric but also 400 electric bicycles. Electric car sales are slow, and the judgement is that the model supply and the prices are obstacles in addition to national taxes, but that the development is positive.

The municipality sets requirements on all procured transport within the city, construction firms, carpenters etc. which includes both their own and the suppliers, however the requirements for suppliers are not yet so strict but will gradually increase. Initially they received complaints from the suppliers about too much requirements. For smaller projects they can use cargo bikes which increases their efficiency. Among other things, the city working with transferring transports to bicycles and reviewing their own vehicle fleet, so they don’t have lower requirements than on procured services. At Aarhus municipality, one has recognized some negative reactions internally among employees about the new vehicles. Perhaps this is because they describe major changes that the staff are hesitant about (speculations).

Four new electric buses are on the way (there is none today). By 2030, the entire fleet should be exchanged to electric or hydrogen-powered. There is one hydrogen gas station in the municipality and ten in the entire country, which makes it possible to use hydrogen-powered vehicles both locally and in a larger region. They have received some negative press attention for the investment as these vehicles are relatively expensive. Hydrogen

cars are generally not popular and may not remain in the future. There are also political discussions about BRT (Bus rapid Transit) solutions but not yet been decided if the solution should be more light rail or to introduce a BRT system. There are plans to add new lines to the light rail in the coming years, but this is up for political discussions, as the national subsidies have been diminished and some politicians prefer the cheaper BRT-solution.

Aarhus has today a low emission zone (LEZ) that requires Euro IV (heavy vehicles) or have a certified particulate filter fitted (valid since 2010). The political view on LEZ or environmental zones is unclear, but it will soon be decided whether existing zones will remain or not. However, it seems unlikely that politicians would see environmental zones as a way of introducing ZEV. The demands for the zones are being discussed in the parliament, but so far earlier attempts to set up toll roads around Aarhus has been rejected quite clearly. The municipality was previously entitled to remove the existing zones, but now the national government must decide on it. Vehicle owners who want an exemption from environmental zone regulations must apply for a permit nationally, and municipalities cannot grant exemptions.

In Aarhus, no evaluation or public opinion of environmental zones is known beyond that the environmental regulations generally have no significant effect anymore since the rules have not been updated in ten years (Euro IV is allowed from 2005). The zones are updated with new regulations from 2020 and Euro V is then required for heavy vehicles (and light trucks but Euro 4), and from 2022 Euro VI for heavy vehicles (and light trucks Euro 5). The new regulations that include both heavy vehicles and light trucks, will reduce the emissions to air of NO_X with 5 % and of particles with 25 % respectively. There are attempts to test how certain areas in the inner city work without allowing cars to enter- so far it has only been tested a few days. There has also been political debate in terms of testing car free Sundays on special occasions, but already followed by public resistance.

The city adopted a new parking policy last year with 4-5 years validity. The new parking policy has five goals that refers to; more short-term parking, should always be free capacity (free lots), moving parking from streets to parking facilities, simple systems and supporting green mobility. The parking strategy combines charging strategies for electric cars with parking measures. The strategy aims to charge for residential parking in a larger area than before and simplify payments and clarifying zoning and pricing. One of the purposes was to get parked cars from streets to parking facilities (so only people that live close can park).

Residential parking (at streets) for electric cars and companies have free monthly cost. There is a general positive attitude to free parking for ZEV, but the officials had also clearly told the politicians that it must be evaluated after a while (when 5% of the fleet is electric), taking into account the risk that subsidies may compete with other goals, like increasing public transport, cycling and walking. Previously, there were restrictions on how much they could subsidize the parking of electric cars, but the rules had changed in Denmark.

Aarhus also has a politically adopted charging strategy from 2015 on a 7-year contract that aims to inspire, and set up requirements on appearance, placement and design. The municipality cooperates with actors who establish public charging but do not own their own chargers. You get fined if you park a regular car at a parking lot with charging possibilities.