The ClairCity Aveiro Region Action Plan

For citizen-inclusive air quality and carbon policies

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ClairCity is an EU research project which aimed to raise awareness about air pollution and carbon emissions in our cities and regions, looking at how our behaviour contributes to the problems and affects the air we breathe. Uniquely, the project put the power in the hands of residents to determine the best local solutions.

Air quality in the Aveiro Region is relatively good and compliant with EU limit values. PM2.5 is probably the pollutant of largest concern. ClairCity modelling shows that 49% of the population in the Aveiro Region is exposed to PM2.5 concentrations above World Health Organisation guidelines. However, there are currently only three monitoring stations across the whole region - low compared to other ClairCity cities and regions - meaning it is hard to know where pollution is concentrated.

For CO_2, there are no legal requirements on a local level, and unlike in other ClairCity cities, there is no climate neutrality formal ambition in Aveiro Region. Air quality and climate policies are not high on the political agenda however Improvements to (public) transport, on the other hand, is a priority. A reduction of fares (50% by 2021) and the replacement of 30% of the public transport fleet with zero-emission vehicles (by 2030) are in the pipeline, along with proposed bans on the oldest diesel cars and HGVs in urban areas (by 2030).

ClairCity examined the possible future impacts of citizens' policy preferences and implementation possibilities against these regional targets. By investigating citizens' current behaviours, their preferred future behaviours and their preferred future policy measures, this brief aims to inform policymaking in the Aveiro Region.
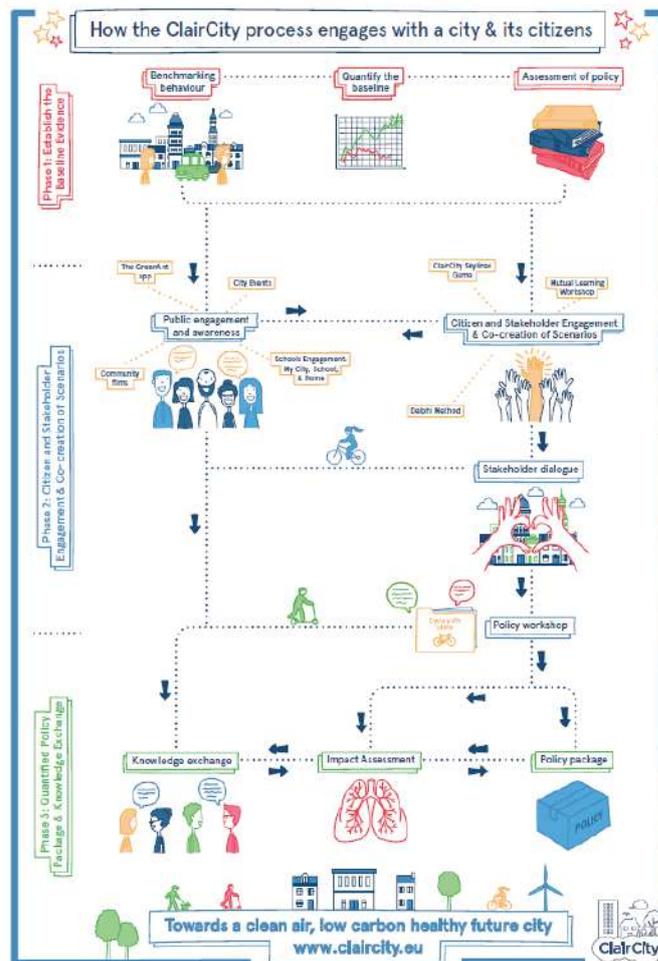
Our current behaviours create air pollution

After industry, car transport is the main contributor to NOx emissions, and it also contributes to a reasonable share of PM10 emissions. A very high percentage of the citizens surveyed currently 'always' use a car for commuting to work (65%), going shopping (67%) or for leisure (44%). The number of citizens using public transport and active travel is very small compared to the other ClairCity case studies. Leisure is the activity for which public transport and active travel are most popular.

Future behaviours encourage sustainability

There is a huge demand for public transport and active travel in the future provided that current barriers are overcome. Despite the overwhelming reliance on cars in the present for commuting to work, shopping and leisure, respectively 75%, 56% and 68% of respondents does not want to be using a car for these activities in the future. This indicates a very large latent demand for alternatives in the Region.

The main barrier for the use of public transport is the convenience cars offer. Coverage, frequency and travel times of public transport are considered rather poor at the moment and therefore a disadvantage in comparison to the comfort a car offers. In addition, parking is easy and often free. The main barrier for active travel is the poorly developed cycling infrastructure in urban areas.

With regards to residential heating, there is a huge demand for renewables. 5% of participants currently use renewables; in the future 52% want to use them. This would go mostly at the expense of solid fuels. The main barrier for this from the perspective of the citizens is the cost. It should be noted that there are some citizens who are in favour of wood or pellets for they consider these an environmental or renewable heat source. Many citizens are unaware they are a significant source of air pollution.

Preferred future policies

Using the Delphi survey process, workshops, and innovative Skylines game for mobiles, ClairCity asked citizens about the types of policy measures they would support to reduce air pollution and carbon emissions. A total of 1,700 local stakeholders were engaged during this process. Their favourite policy measures were improving cycling infrastructure and increasing active travel and public transport use for work and school.

Aveiro Region citizens are urging mobility related policies including the reduction in private car use. This means that besides the local and regional governments, citizens also see a need to change their habits. For public transport, citizens demand more ambition and speed in policy implementation.

Although residential heating is a main source of PM emissions, this is not perceived as an air pollution source by citizens. The fact that citizens have not come up with one single energy/heating measure is an indication either of lack of knowledge (e.g. on how heating can be a source of pollution, or on alternatives heating options) or lack of empowerment to ask authorities to do something about it.

Following citizen engagement, the top 10 policies were presented to regional policy makers for their reflections on implementation. Their comments went on to inform the action plan on page 4.

Future health impacts

ClairCity modelled the impact of these policy measures (unified policy scenarios (UPS)) and compared them to business as usual (BAU) for 2025, 2035 and 2050. The citizen UPS scenario would significantly improve human health compared to the current situation and to future BAU. It is estimated that the number of premature deaths from NO2 would be reduced by 100% in the UPS scenario, with a further 7% and 3% reduction in premature deaths from PM_{10} and $PM_{2.5}$, respectively.

Citizen-led policies

	Policy area	Detailed policy measure
1	Build segregated urban cycle lanes and create secure cycle storage/parking	300 km of new urban cycle lanes and 200 new cycle parking spaces by 2035
2	Create school and workplace travel plans to increase uptake of active travel and public transport	50% modal shift from private cars to active travel and public transport by 2025
3	Reallocate road space to pedestrians and improve safety	100 km of new/renewed pedestrian routes by 2025
4	Ban diesel cars/HGVs in urban centres	10% ban of diesel cars and 25% HGVs in urban centres by 2025
5	Allow free parking for electric vehicles only	Transform 100% of current parking spaces to free for EVs by 2035
6	Promote working from home	10% commuters work from home 1 day/week by 2030
7	Impose stricter regulation on polluting industries	Reduce industrial emissions by 15% by 2030
8	Encourage replacement of older public transport fleets	Replace 15% public transport fleets with zero-emission vehicles by 2030
9	Subsidise public transport tickets	Public transport fares reduced by 50% by 2021
10	Increase provision and reliability of public transport services	100% public transport journeys on schedule with all urban areas catered for by 2025

ClairCity

Action plan to acheive a clean air, zero carbon future

Facilitate cycling through developing an urban bike network and further promote walking. Measures, such as urban cycle lanes, should reach where citizens want to get on a daily basis. Cycling can be made safer with cycling traffic lights and bike parking. Municipal bike systems and the attractiveness of walking can be promoted through campaigns that stress health benefits. The integration of cycling with public transport can be fostered by offering bike rental options at popular train and bus stations. Meanwhile, pedestrian zones can be expansed and equiped with electrical mini-taxis for residents in need.

Public transport development and constant improvement needs to go along with other measures to discourage car use and collect revenues for financing public transport. For example, link municipalities and offer more frequent and wider ranging services at the same time as discouraging car use (e.g. expanding car-free, pedestrian zones; limiting parking spaces in city centres; and making parking more expensive except for EVs).

Promote alternatives to private car use and make public transport more attractive. Develop a city transport plan and communications campaign that shows a private car is not the only feasible way to get to work, shops or leisure. Campaigns should be directed to promoting alternatives (including the school transport network) and their health benefits, communicating widely about public transport services available, and about improvements made. The communications messages could also make reference to the cycling culture that the Aveiro Region had in the past.

Intensify cooperation with employers, schools, destinations of leisure and shopping to minimise car use. Install bus stops and bike parking next to these destinations, together with biking infrastructure, and encourage organisations to promote and raise awareness of alternative travel. In addition to businesses encouraging working from home, city planning should consider encouraging more jobs, leisure and shopping options close by to where people live.

Integrate air quality into the current educational offer and further promote by NGOs. Air quality education should address directly the activities / sources of polution, why it is important to go to school by public transport or active travel, and issues around biomass and home heating.

Make citizen support for current and planned policies more explicit and accelerate policy implementation. Implementation can be facilitated by a detailed year-by-year implementation plan of long-term policy ambitions.

Promote energy efficient renovation of buildings, support local PV implementation and raise awareness on the negative health effects of biomass burning. Provide existing building stock with thermal insulation. Set standards, nationally, for domestic heating fuels and devices. Promote the expansion of national support for rooftop solar through spatial planning, increase rooftop solar on public buildings and support local citizen cooperatives for renewables generation. Communicate the negative aspects of biomass burning to citizens.

Frame policies around improving transport options rather than 'improving air quality' or 'improving health'.

Using public procurement to improve environmental performance and service of overall public transport. The Aveiro Region can require strict environmental performance (how clean the busses network has to be) and quality of transport (service provided in terms of coverage, frequency and travel times) from providers.

Compensate costs of required infrastructural measures by revenue generating local financial instruments and communicate the need for such instruments. Compensate costs for public transport improvements through for example parking fees and permits, congestion levies or workplace parking levies, and properly communicate the need to citizens. Consider rewarding behavioural change (e.g. bike parkings and rentals offering discounts at local shops). Assess whether current funds are being used in the most efficient way.

Continue with low-barrier, long-term relationships with other cities to encourage experimenting and mutual learning. ClairCity has shown that many EU cities struggle with similar implementation issues for citizen-inclusive air quality and carbon policies. It is therefore recommended to maintain a regular and long-term exchange with other cities, both in the Region, in Portugal and in Europe. Particularly interesting for the Aveiro Region are cities that are trying to overcome/ have overcome a long tradition of car use to transition towards a wide use of public transport and an increased use of active travel. Since cooperations are often dependent on project funding, in particular low-cost and little-effort opportunities for regular exchange beyond such funding (e.g. video-conferencing, informal networks) should be examined.