The ClairCity Ljubljana Action Plan

For citizen-inclusive air quality and carbon policies

ClairCity

Our future with clean air
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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.

Slovenia is one of the European countries with the highest levels of PM10 pollution, due largely to the country's widespread use of wood for domestic heating in outdated boilers and stoves. This pattern is observed across the whole country, but to a lesser extent. The number of daily exceedances is gradually decreasing, even though this number is still above the permitted level. Since 2014 the country has managed to keep NOx within annual mean limit values.

Thanks to environmental policies in 1990s, Slovenia observed significant reductions in greenhouse gas emissions (GHG) largely from manufacturing, and the commercial and residential sectors. Much of these gains, however, have been overshadowed by emission increases in the transport sector during the 2000s. The 2008 economic and financial crash led to a fall in CO_2 emissions by 10% the following year, and in following years GHG in Slovenia emissions have largely continued to decline.

Local clean air action plans aim to reduce air pollutant emissions exceeding the permitted levels (e.g. PM10) with a focus on residential heating and traffic. The city also benefits from a number of sustainability strategies, exploring energy and mobility. The city, for instance, envisions that by 2027 two thirds of journeys are going to be completed in a sustainable way.

In light of this context, 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 Ljubljana.

The full report can be accessed here: www.claircity.eu/reports.

Our behaviours contribute to air quality

Current transport behaviour of Ljubljana citizens is already quite environmentally friendly, with shopping as the least environmentally friendly transport activity. Of the ClairCity respondents, 42% currently uses only their private car for shopping, compared to 23% and 16%, respectively, for commuting and leisure. Also, at present a much smaller number (32%) uses public transport and active travel exclusively for shopping, compared to 65% for commuting and 54% for leisure.

Future behaviours are misaligned with city ambition

In the future, shopping may impeed the city's policy ambition to achieve 2/3 active transport. 77% indicated preferring to use only public and active transport for commuting in the future, 70% did so for leisure and 60% for shopping. Equally, 4%, 9% and 20%, respectively, want to use only their private car for these trips.

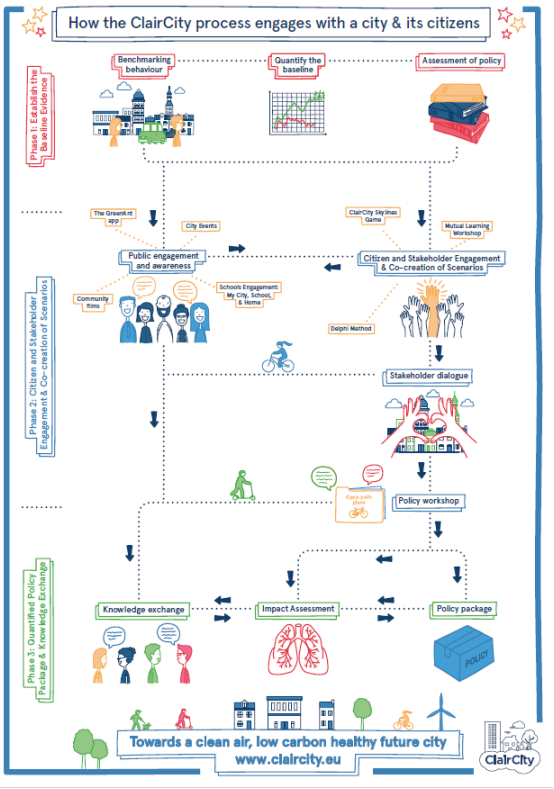
Over 40% of citizens go to work, shopping and leisure always by car and there is virtually no willingness to change modes in the future. The main barrier for car users to switch to alternative modes concern time/distance and a lack of services. For commuting, a latent demand for greener cars was found and several active travellers would like to cycle instead in the future.

District heating can be an environmentally friendly option for the heating of private homes, provided that the heat is generated for instance from renewables or waste heat from industry. Yet, its expansion does not seem popular with respondents. 32% indicated to be currently connected to the district-heating system, but only 16% wanted to use it in the future.

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 250 local citizens were engaged during this process. This is a limited sample and is not fully representative. Nevertheless, it gives an indication of local support for policy measures and intentions for behavioural change.

Of the policy measures selected, both the expansion and the scrapping of cycling lanes proved almost equally popular with respondents. The top 10 policies were then taken forward to a policy workshop for ratification. Policy makers had a relatively large influence on the impacts of the policy measures compared to other ClairCity cities. Measures for the policy workshop were limited to transport measures and the policy makers, contrary to many of the other ClairCity cities, selected low or medium ambition levels for many of the measures. The main reason for this concerned cost.



Citizen-led policies

	Policy area	Ratified policy (level of ambition) and comments
1	Green fleet for Ljubljana Passenger Transport	50% public transport fleet fulfils standard EURO VI by 2025 (LOW). Adapt eligibility criteria for Eco-fund calls so public companies can apply and efficiency is made mandatory when tendering.
2	Higher bus frequency and inclusion of trains	Increase public transport by 30% by 2027 (MEDIUM) - smaller buses with higher frequency. Investigate the construction of a light rail and enhancing the city centre's railway network.
3	Cheaper public transport	Stay the same (MEDIUM). Explore free transport options (in addition to vulnerable groups that already have free transport) and pay compensation subsidies directly to public companies.
4	New areas for pedestrians and cyclists	Design new areas with limited access for vehicles (particularly outside city centre), expanding cycle lanes, adjusting width of lanes for vehicles and strengthen requirements for access to existing areas to allow for more buses (HIGH).
5	New cycling routes	New and modified cycling routes and connection - 30% by 2021 (MEDIUM)
6	Safe cycling and walking	A commitment to zero deaths within the inner ring by 2027. This would equire a real speed limitation to 50 km/h in the inner ring and 30 km/h in the city centre.
7	Independence from car	Incentives and subsidies for car-free neighbourhoods by 2027 (HIGH). A roadmap and awareness campaign should be prepared so people can car-share or choose alternative modes to the car. Developers should allocate money into a fund that helps finance the mobility plan.
8	E-mobility	Other than pre-existing measures (charging stations and free EV parking for car share providers), electromobility is left to the market (LOW). Increase EV charging and carry out an integral assessment to understand the impacts of e-mobility on air quality.
9	Change of parking norms	Parking norms reduced to 0.5 per new apartment by 2020 (HIGH)
10	Regional public transport	Implementation of the Railhub solution by 2027 (HIGH)

Ljubljana's future air quality and climate

Modellers used the ratified policies to explore future scenarios. Both citizen and business as usual (BAU) scenarios lead to compliance with EU legal NO_2 limit values and WHO guideline values by 2050; PM10 also acheives compliance but in a shorter timeframe (2025). PM2.5, while achieving EU compliance by 2025, fails to meet WHO guidelines, even by 2050. Regarding GHG emissions, BAU leads to an 80% reduction by 2050.

In terms of health: in 2015, the number of premature deaths as a result of NO_2, PM10 and PM2.5 was 219, 185, and 169, respectively. Both BAU and citizens preferences reduce these numbers by roughly 67%, 5%, and 3% in 2050, respectively. The 10 measures will incur costs, especially in terms of infrastructure investments. However, if indirect health benefits are included these costs would be balanced by saved lives.

Institutional conditions for implementation

Ljubljana is surrounded by mostly rural areas. Integration of policy measures with those in the region is therefore a key issue, for instance to integrate regional with urban public transport (bus and train) and to address mostly rural biomass burning that, along with industrial emissions, impact air quality in the city.

The City Mayor has been in office for many years and was re-elected several times. Civil society and NGOs indicate that this sometimes makes it difficult to make their voices heard. As such, a key recommendation is for the government to take into consideration citizens inputs in policy decision making to improve not only the air but the health of its citizens.

Action plan for a clean air, zero carbon future

Address in particular shopping behaviour, next to other transport behaviours. Since shopping behaviour appears am area where behavioural change towards public and active transport is difficult, a specific campaign could be directed at facilitating non-car shopping transport, e.g. by promoting (electrical) transport bikes, public transport rebates provided by shopping centres and increased parking fees in shopping areas. Also, home delivery by electric vans could be stimulated.

Make citizens aware of the advantages of district heating to combine with renewables. If realised with renewables, waste heat from industry or geothermal heat sources, it could make a switch to this source easier to accept.

Discuss the impacts of cycling lanes with citizens. Increasing the number of cycling lanes will decrease road space for cars. As such, it will be important to communicate the health benefits of this change to citizens, particularly in areas with the highest concentractions of pollution and open up discussion on intended impacts.

Investigate success stories of train transport integration in other countries and regions

Increase measuring and modelling facilities, for instance through citizen science. Citizen science measurements are a inexpensive way to increase the number of measuring spots in the city and simultaneously increase awareness of air quality. Several cities in Europe are already experimenting with such approaches.

Integrate policy measures with bordering regions and disseminate local successes. Integration could for instance be studied from the Bristol Metrobus system, or from elsewhere in Europe.

Communicate successes of the 'European approach' in Ljubljana to other cities. Ljubljana has benefited from European projects that have helped 'green' its city. It could furhter share these lessons to strengthen mutual relationships.

Show live air quality conditions in the city in order to increase awareness of citizens of the health benefits of clean air. Sosnowiec has integrated live air quality information into its public transport timetable system. Amsterdam is experimenting with expressing health benefits of clean air in equivalent cigarettes not-smoked per year. Similar approaches could be applied in Ljubljana.

Make sure that voices of civil society and opposition remain to be heard and discussed

ClairCity

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