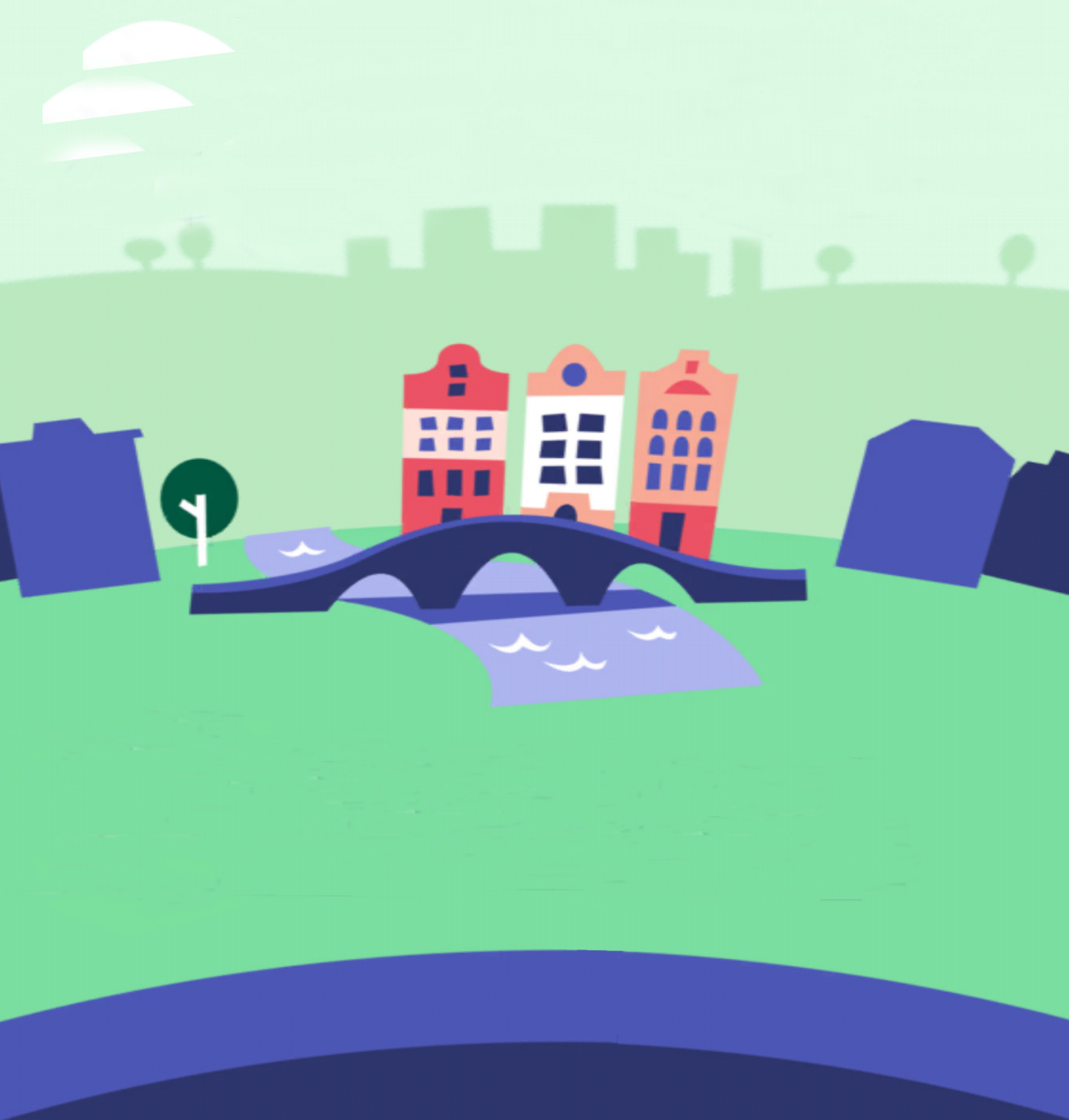


The ClairCity Amsterdam Action Plan

For citizen-inclusive air quality and carbon policies



Our future with clean air
www.claircity.eu



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ClairCity is an EU research project which aimed to raise awareness about air pollution and carbon emissions in our cities, 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.

In het naoorlogse Amsterdam konden steeds meer mensen zich auto's veroorloven en zagen beleidsmakers auto's als de toekomst van reizen. Amsterdam was op weg om net als de meeste andere Europese steden te worden, waarbij auto's de voorkeur krijgen boven fietsers en voetgangers. In de jaren zeventig keerde het tij toen in een jaar tijd meer dan 400 kinderen stierven bij verkeersgerelateerde ongevallen. Lokale actiegroepen werden gevormd en hun aanhoudende campagnes leidden ertoe dat de Nederlandse regering haar beleid veranderde en de vorming van een fietsersunie.

Tegenwoordig mogen in Amsterdam geen basisscholen en woningen voor ouderen worden gebouwd binnen 300 meter van een snelweg of 50 meter van een provinciale snelweg. Het heeft zones met lage emissies voor beperkte toegang tot voertuigen en trekt zelfs toeristen aan vanwege de fietsvriendelijke benadering van stadsontwerp.

ClairCity examined the possible future impacts of citizens' policy preferences and implementation possibilities. By investigating citizens' current behaviours, their preferred future behaviours and their preferred future policy measures, this brief aims to inform policymaking in Amsterdam.



Our behaviour creates air pollution

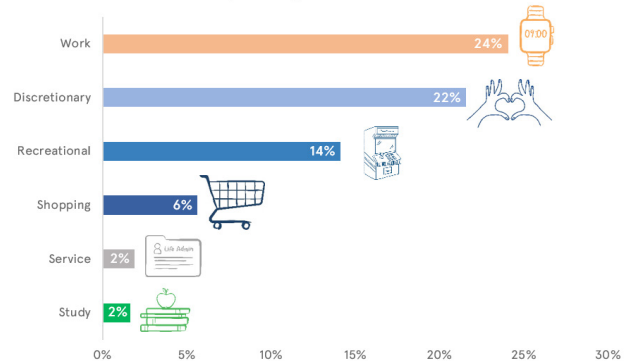
Road traffic is the main source of air pollution and the **service industry contributes the most to carbon emissions** in Amsterdam. Using innovative transport and emissions modelling for Amsterdam integrated with travel survey data, ClairCity found that private cars cause the most transport emissions (55% of NO_x and 77% of PM₁₀). Over one third (38%) of carbon emissions come from energy usage in the service sector, and one quarter (25%) come from residential.

More car journeys mean more pollution

Those aged 15-44 cause the most transport emissions in Amsterdam (27%) through greater use of their cars for commuting to work and discretionary trips. Middle income groups cause most emissions and public transport use decreases with higher incomes. Meanwhile, men produce more road NO_x emissions (32 v. 23%), largely through work-related travel.

Exploring the impact of behaviour on travel

KM travelled by motive, 2015 baseline in Amsterdam



Discretionary and recreational are overlooked

Across all ages, genders, and income brackets, almost one quarter (24%) of NO_x and 30% of PM₁₀ transport emissions come from work-related private travel. This is also reflected in the KM travelled, with work representing almost one quarter (24%) of total KM by private **vehicles**. However, discretionary (such as care escort or personal business) and recreational trips together contribute more than commuting for work.

A gap exists between policy ambition and behaviour

From the 638 citizens surveyed, citizens stated they are less likely to use a car in the future when commuting, shopping and recreational trips, and increase trips taken by public transport or active travel.

However, 17% still want to travel to work by car in the future and a similar percentage for shopping (14%) and leisure (23%). This means there is a gap between the policy ambition to end the access of non-electric cars to the city by 2030 and the anticipated behaviour of citizens.

A similar pattern is observed in home heating. 82% of respondents indicate they have gas home heating. 13% are connected to the district heating grid and 5% use renewables. Given the current policy ambitions for a gas-free built environment in Amsterdam by 2040, everybody should switch towards other sources than the current natural gas. Yet, 36% of respondents still expects to use gas in the future. The number of respondents that anticipates to use district-heating in the future does not increase (12%, compared to 13% now), which is also not in line with current policy ambitions to expand the district-heating.

Citizens seek more ambition

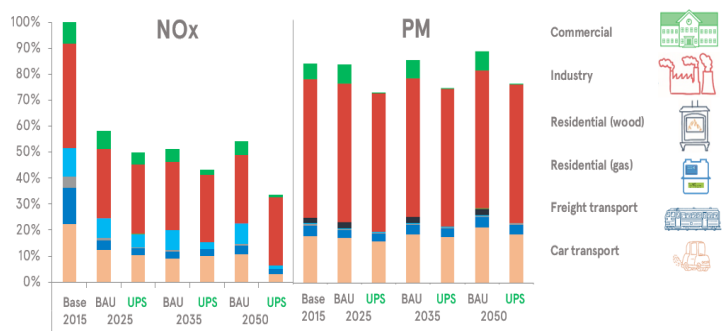
Using the Delphi survey process, workshops, and an innovative Skylines game, ClairCity asked citizens about the types of policy measures they would support to reduce air pollution and carbon emissions.

Their favourite policy measures were improving public transport; creating more cycle lanes and cycle parking; making public transport cheaper, and enhancing the environmental zone for polluting cars.

The top 11 measures were taken forward to a workshop where participants selected higher and lower ambitions (than business as usual) so ClairCity could create future scenarios. Policy makers then ratified these policies, often choosing the more ambitious measure.

Overall, the policy makers believed current air quality and climate policy measures would not be enough to achieve the very ambitious local policy goals set. Citizen-led policies would be key to change this. Cost of action in general did not seem a major problem. However, of the available city budgets a larger share would have to be dedicated to these policies. Citizen support for these policy measures in Amsterdam was considered high. However, it was also remarked that citizens could become more negative when they would envisage that measures also were very likely to require their own investments and/or behavioural changes.

PM and NOx emissions in UPS and BAU scenario



Citizen-led policies

Policy area

- 1 Improve public transport (including cleaner buses)
- 2 Create more cycle lanes and cycle parking spaces
- 3 Offer cheaper public transport
- 4 Enhance environmental zone for polluting cars
- 5 Change parking rules for cars
- 6 Limit inner city car traffic
- 7 Accelerate residential energy-efficiency
- 8 Ban wood-burning stoves and fireplaces
- 9 Solar power incentives
- 10 Amsterdam gas-free

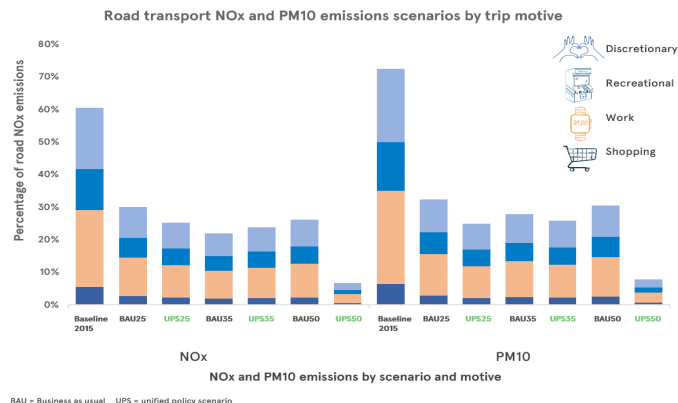
Citizens policies ratified by policy makers

- Increase network density and frequency by 2030 (half of all buses emission-free by 2022)
- Improve bike paths and bike highways by 2022. 60,00 new spots created by 2025
- Price remains the same until 2030
- Add an zone for private cars and make current zone more stringent
- Remove 7,000-10,000 spots and charge €7.50/h by 2020
- Ban cars in the centre, except for those who live there
- All housing association homes B or C rated by 2050
- Ban in both new and existing homes, restaurants & bars by 2025
- Offer mandatory and subsidised panels for all suitable roofs
- €10,000 subsidy/household to retrofit. Mandatory gas-free building sector by 2030



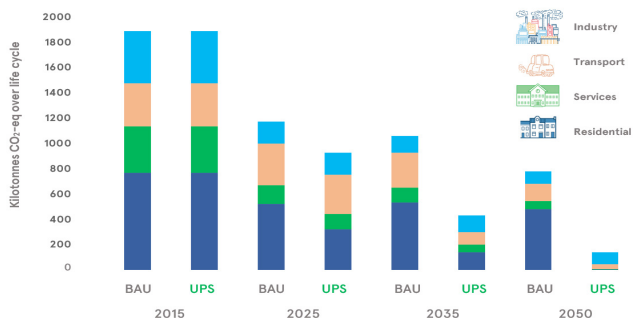
Business as usual is not good enough

Modelling air pollution reduction



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. UPS reductions mainly come from decreasing transport emissions due to tighter emission regulation and the stricter environmental zone. The decrease of using natural gas in residential and commercial heating further adds to this reduction. For PM10, both scenarios comply with the legal limit values, but neither result in compliance with WHO guidelines even in 2050.

Modelling carbon emissions reduction



The largest differences between UPS and BAU are found in the residential (built environment) sector, where the UPS measures contrary to BAU lead to almost zero emissions in 2050 as a result of e.g. the energy efficiency renovation of houses, the increased solar energy use and the substitution of natural gas. It is clear that in order to achieve these emission reductions, a large citizen involvement for renovations of houses and installation of solar panels is required.

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

Good for our health and our wallet

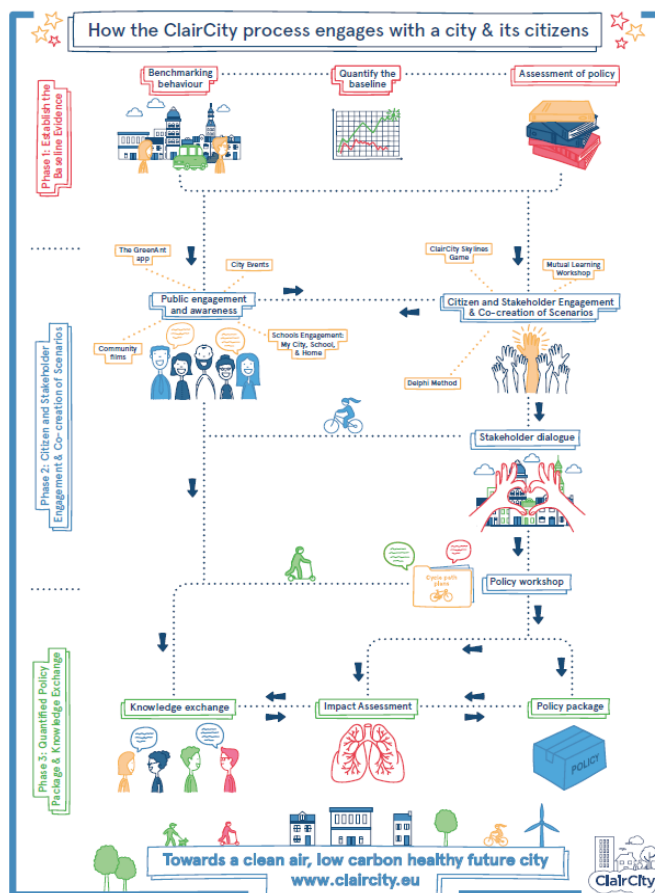
The citizen UPS scenario significantly improves human health compared to the current situation and to future BAU. It is estimated that the number of premature deaths would be reduced by more than 60%, much higher than BAU.

The ratified measures are also cost effective for both citizens and the City Council/Government. This balance would be even more positive if also the indirect health benefits of improved health of citizens would be added.

Amsterdam's future with clean air

Compared to other ClairCity cities, Amsterdam has relatively elaborated and ambitious air quality and carbon policies. However, while there is a regular interaction with citizens, more action in this field could help to successfully implement the ambitious policy measures still ahead.

Amsterdam is not alone in tackling these issues. Internationally, many cities struggle with implementing citizen-inclusive air quality and carbon policies. ClairCity shows the benefits of maintaining regular and long-term exchange of experiences and experiments with a diverse and international network of cities.



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