RESCUE

CASE ACTION REPORT

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EUROPEAN YOUTH PARLIAMENT

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YEE YOUTH AND ENVIRONMENT EUROPE

Introduction

In this document you will find four prioritised cases.

They are based on our stakeholder consultations, survey responses and our knowledge compilation report Building Climate Resilient Cities: Youth Perspectives and Practices.

This report outlines contextual and cultural relevance, the cases and finally insights and recommendations for future work packages.

About Y-Rescue

Funded by the European Union

Y-RESCUE is a project that empowers young people to lead transformative climate action in urban areas increasingly threatened by environmental challenges.

Launched in 2025, the project will mobilise 300 young participants (aged 18–30) and youth organisations across several European partner countries to co-create local resilience solutions and strengthen youth entrepreneurship in the climate field. More specifically, throughout Y-RESCUE partners and young participants together will attend workshops, identify challenges, and come up with innovative solutions. By making the most of peer learning, mentorship, and shared resources, the project will build its participants' skills in leadership and project management, while ensuring valuable action is carried out to fight environmental challenges.

Contextual Relevance and Cultural Sensitivity Assessment

We conducted a contextual relevance and cultural sensitivity assessment for the four Y-RESCUE challenge cases. It was designed to ensure the cases are inclusive, adaptable, and meaningful across diverse European cities. The assessment combined four evidence sources: a desk-based knowledge review, 21 stakeholder interviews, over 300 youth surveys, and a focus group workshop with 16 experts and stakeholders. Together, these informed the development of challenge cases that reflect shared urban climate issues across Europe, including air pollution, extreme heat, lack of green space, underused urban land, food insecurity, and unequal exposure to environmental risks. The process focused on creating challenge frameworks that are flexible enough to work across different governance systems, climate zones, municipal capacities, and neighbourhood contexts.

The assessment also examined how well the cases align with youth priorities, participation realities, and cultural inclusion. Findings showed that young people are most motivated by climate action that is practical, community-based, visible, creative, and meaningful rather than symbolic. To reduce exclusion, the cases avoid assumptions about digital access, technical expertise, free time, institutional trust, or identical experiences across countries. Particular attention was given to vulnerable groups such as low-income communities, migrants, older adults, children, and people with disabilities. Overall, the assessment confirmed that the four cases address urgent urban climate challenges while supporting equitable participation, youth leadership, local innovation, and practical action adaptable to many European contexts.

Case 1

Case Question

> ***How might youth co-create and implement scalable solutions to reduce air pollution that prioritise and include vulnerable groups in cities?***

Urban Environmental Problem and Intended Impact

Air pollution is one of the clearest ways climate and urban design affect everyday life. Traffic-heavy streets, fossil-fuel heating, industrial activity, and poor planning expose residents to harmful particles and gases. Children, older adults, people with chronic illness, and low-income communities are often hit hardest because they may live, study, or work near polluted roads and have fewer resources to avoid exposure.

The intended impact is to help young people and vulnerable groups move from being affected communities to active co-creators of cleaner, healthier neighbourhoods. Solutions could reduce exposure to pollution, improve awareness through accessible data, influence transport and planning decisions, and create models that can be repeated in other neighbourhoods or cities.

Why this Case Matters

It affects everyday life now: The air people breathe on the way to school, work, and home is directly harming health.

Some groups are hit much harder than others: Children, low-income communities, and people living near busy roads face the highest risks.

Young people are affected but rarely heard: This is a chance to change that and give them real influence.

Solutions already exist, but need to be scaled: Cities need practical, inclusive ideas that can be implemented widely.

It is often invisible and underestimated: Unlike other environmental problems, air pollution is difficult to see, which can make its health impacts easier to ignore despite affecting millions of people every day.

Your Solution Could

- **Be participatory and inclusive.** Involve young people and vulnerable groups in every stage: identifying problems, designing ideas, testing solutions, and evaluating results.
- **Use accessible tools.** Consider citizen science methods that allow residents to gather evidence and propose change.
- **Be scalable and affordable.** Solutions should be transferable to other schools, districts, or cities.
- **Create lasting impact.** Combine quick wins (cleaner school streets, safer walking routes) with long-term change (better health, stronger participation, policy influence).
- **Build local ownership.** Work through schools, youth clubs, housing associations, and community organisations.
- **Consider preventative action.** What can we do to reduce pollution in the first place?
- **Raise awareness.** This is a global issue that needs wider attention.

Glossary

Air pollution: Harmful particles and gases in outdoor air. In this case, key pollutants include PM2.5, which can enter deep into the lungs and bloodstream, and NO_2, which is often linked to traffic and combustion.

Citizen science: Research or evidence-gathering where members of the public help collect, interpret, or use data to support knowledge, action, or policy change.

Participatory budgeting: A democratic process where citizens help decide how part of a public budget is spent.

Climate resilience: The ability of cities, communities, and institutions to prepare for, respond to, adapt to, and recover from climate-related risks.

Vulnerable groups: People who face higher risk of harm and may have fewer resources to protect themselves. Vulnerability can be linked to age, health, income, housing, disability, migration status, working conditions, language access, or location.

The Problem

Air pollution causes major health damage across Europe. It contributes to respiratory illness, heart disease, reduced wellbeing, and premature death. Children can develop asthma or struggle to concentrate in polluted environments, while older adults may experience worsening health conditions. Air pollution is also unequal: neighbourhoods already facing social disadvantage often have the worst air quality.

Looking ahead, the problem is likely to get even worse because of climate change. Warmer temperatures can make air pollution build up more easily, and longer periods of heat and dryness can lead to more polluted air. Wildfires are also expected to happen more often, which can spread smoke over large areas. Without strong action to reduce pollution, this means that air quality is likely to remain a serious health problem in Europe in the future.

Contextual considerations and including vulnerable groups

Your solution should begin by identifying who is most exposed and who is least likely to be heard. Relevant vulnerable groups may include children and young people travelling to school, older adults, pregnant people, people with asthma, COPD, cardiovascular disease or other chronic conditions, low-income households, people living near major roads or industrial areas, outdoor workers, migrants, and residents with limited access to digital tools or official information.

Participants should consider how different groups experience air pollution differently. For example, a child walking to school, a delivery worker cycling all day, an older person living beside a main road, and a young person with asthma may all face different risks. The case should therefore encourage teams to think about exposure patterns, not only pollution levels.

Participation must also be realistic. Some young people and residents may not have time for long meetings, because of student jobs or general work life balance. Target groups may not trust public institutions, may not speak the project language fluently, may not feel confident engaging with technical data or may have a negative attitude towards volunteer work in general. Materials should be accessible, non-technical, and available in relevant languages and formats. Participation should not depend on owning a smartphone, having specialist knowledge, or being part of an existing environmental organisation.

Ethical issues should also be considered. Data collection should not stigmatise specific streets, schools, communities, or housing areas. Teams should avoid framing vulnerable groups only as victims and instead recognise their knowledge, priorities, and lived experience. They should also consider whether a proposed solution could simply shift pollution elsewhere, for example from one street to another.

Most importantly, young people and affected groups should have visible influence over the process. They should not only provide data, stories, or unpaid labour for decisions made by others.

Examples of Existing Solutions

City Trees

An example of an initiative that helps combat air pollution in urban environments is the concept of “City Trees,”. This approach integrates vertical, hydroponic plant systems into city infrastructure to improve air quality. In controlled experiments, plant systems were placed in enclosed environments to measure their ability to absorb particulate matter from the air. The findings demonstrated that when air passes through dense plant canopies, the concentration of particulate matter can be reduced by approximately 25–30%, depending on factors such as plant type and airflow conditions.

Based on these results, vertical plant installations, known as “City Trees”, have been set up in the German city of Dresden. These systems combine environmental engineering with urban greening, using hydroponically grown plants to filter polluted air while also contributing to greener, more sustainable city landscapes.

Biological air purification in indoor environments

An example of reducing urban air pollution is using plant-based air filters indoors. These systems push air through plant roots, where microbes break down harmful pollutants like formaldehyde. Unlike normal potted plants, this active airflow makes them much more effective, improving indoor air quality and creating healthier buildings.

This approach is part of biological air purification, which combines plants and microorganisms to clean air. In systems like biofilters, polluted air passes through root zones or surfaces where microbes convert contaminants into harmless substances like CO_2 and water. More advanced systems, such as algae-based reactors, can even capture CO_2 and release oxygen, helping regulate indoor air and climate conditions. Such systems has already been tested in schools in Sweden. The results indicated a 10% reduction in CO2 levels and slightly higher, more stable temperatures as a result of the green plants.

Byens luft

Byens Luft is an example of how cities can actively work to combat air pollution through digital monitoring and public awareness. Developed by the Copenhagen Municipality, the initiative provides citizens with real-time air quality forecasts, pollution alerts, and health recommendations to help reduce exposure to harmful air pollution. By combining environmental data, technology, and public health strategies, Byens Luft demonstrates how urban initiatives can support cleaner air and healthier living conditions, especially for vulnerable groups such as children, pregnant women, and people with asthma or heart and lung diseases.

Low Emission Zones

Barcelona's Low Emission Zone (ZBE) is an example of how cities can reduce air pollution by restricting access for the most polluting vehicles in urban areas. Introduced in 2020, the initiative aims to improve air quality and protect public health by limiting vehicle emissions during peak hours. The system combines environmental regulation, digital monitoring, and sustainable mobility policies to encourage cleaner transportation and reduce harmful air pollution in the city.

Literature for Further Exploration

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- Danielski, I., Svensson, Å., Weimer, K., Lorentzen, L., & Warne, M. (2022). Effects of Green Plants on the Indoor Environment and Wellbeing in Classrooms—A Case Study in a Swedish School. Sustainability, 14(7), 3777.
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Case 2

Case Question

> ***How might youth transform underused urban spaces into thriving, self-sustaining ecosystems through scalable, low-cost and inclusive solutions?***

Urban Environmental Problem and Intended Impact

Many cities contain neglected or underused spaces such as vacant lots, oversized paved areas, roadside strips, or abandoned land. These grey spaces often increase heat, worsen flooding, reduce biodiversity, and make neighbourhoods feel disconnected or unsafe. At the same time, many residents have too little access to nature, especially vulnerable groups such as low-income communities, children, older adults, and people with limited mobility, who may have fewer opportunities to access safe and nearby green spaces.

These areas could cool neighbourhoods, absorb rainwater, support biodiversity, and create spaces for community life. Solutions should be affordable, easy to adapt, and possible to replicate across many urban settings.

Why this Case Matters

Cities are getting hotter and more vulnerable: Empty, paved spaces make heatwaves and flooding worse.

Many people lack access to nature: This affects wellbeing, health, and quality of life, especially in dense areas.

Small changes can have a big visible impact: Even simple green interventions can transform how a place feels and functions.

Young people are affected but rarely heard: This is a chance to change that and give them real influence.

Communities can lead the change: These spaces offer a clear opportunity for local ownership and action.

Your Solution Could

- **Bring life to grey spaces.** Transform unused land using nature-based solutions. Places like Rooftops, courtyards, vacant lots, parking areas, and worn-down green spaces, could be used for this purpose.

- **Map the spaces most suitable for transformation.** How can we identify spaces where transformation would bring the most benefits?

- **Be community-led.** Involve residents, schools, local groups etc. in planning and care. Community ownership is key for sustainability and success of solutions. A lack of knowledge about solutions and maintenance can also play a role. Design should be human-centred.

- **Use nature-based methods.** Prioritise native plants, shade, habitats for pollinators, permeable surfaces etc.

- **Be low-cost and scalable.** Create simple models that other neighbourhoods can adapt and implement**.**

- **Strengthen belonging and inclusion**. Make spaces attractive, safe, and welcoming for different groups and generations. Spaces could be integrated with social frameworks or event holding to further engage the community.

- **Engage with urban planning systems** and experts to gain the funding needed and reverse the lack of political prioritization, bureaucracy, and disagreements between stakeholders, such as expert allies, architects, builders, etc. Financial and political support are key factors in this project being successful.

Glossary

Nature-based solutions: Approaches that use or support natural systems to address social and environmental challenges. In cities, this may include trees, rain gardens, green roofs, wetlands, meadows, or restored soil.

Pocket park: A small public green space created in a dense urban area, often on a leftover, paved, or underused site.

Rain garden: A shallow planted area designed to collect rainwater from roofs, streets, or pavements and allow it to soak into the ground.

Green corridor: A connected route or chain of green spaces that links parks, streets, waterways, or habitats, allowing people, species, cooling, and ecological processes to move through the city.

Biodiversity: The variety of plants, animals, insects, habitats, and ecological relationships in an area.

Permeable surface: A surface that allows rainwater to pass through into the ground instead of running off into drains or streets.

Ecosystem services: Benefits that people receive from nature, such as cooling, cleaner air, flood reduction, pollination, shade, recreation, and improved wellbeing.

Vulnerable groups: People who face higher risk of harm and may have fewer resources to protect themselves. Vulnerability can be linked to age, health, income, housing, disability, migration status, working conditions, language access, or location.

The Problem

Grey urban areas store heat, increase flood risk, and provide little value for residents or wildlife. In many neighbourhoods, especially lower-income areas, access to quality green space is limited. Without action, cities become hotter, less healthy, and less socially connected.

Lessons Learnt

Small green interventions can have big effects when people help create them. Native plants reduce maintenance needs, while community stewardship increases care and long-term success. The most effective projects are often simple, visible, and local rather than expensive or highly technical.

This case should be approached as a partnership with the local municipality, these spaces are usually their domain and they can either block or support transformative actions.

Contextual considerations and including vulnerable groups

Your solution should consider who currently lacks access to safe, high-quality green space. Vulnerable or easily overlooked groups may include residents in dense neighbourhoods with little tree cover, children and young people with limited outdoor space, older adults who need shade and resting places, people with disabilities or reduced mobility, low-income residents, tenants, migrants, and people living in areas exposed to heat or flooding.

You should consider how different people may use the same space differently. Children may need safe and visible play areas. Older adults may need seating, shade, short walking distances, and clear paths. People with mobility impairments may need step-free access, firm surfaces, and enough space to move safely. Young people may need spaces that feel welcoming rather than overly controlled. Women, girls, LGBTQ+ people, and minority groups may experience public space differently depending on safety, visibility, and social norms.

Your solution should also encourage attention to existing uses of the site. An apparently “empty” space may already be used informally for meeting, resting, walking, informal play, parking, shortcuts, or social activities. These uses should be understood before redesign begins.

Green gentrification is another important consideration. Improving an area can increase attractiveness and investment, but may also contribute to rising rents, privatisation, or exclusion. Teams should consider who benefits from the transformation and whether the space remains genuinely public and accessible.

Ecological choices should be locally appropriate. Inclusion of municipalities, local residents, schools, researchers, businesses, and NGOs are essential for the important Local anchoring. Plant selection, water demand, maintenance capacity, soil conditions, seasonal changes, and biodiversity value all matter. A space that looks good at launch but cannot survive drought, vandalism, or lack of care will not create lasting resilience.It is important that everyone involved gains something from participating. Solutions should be developed in collaboration with those who will use them or be affected by them in their daily lives.

It is also important to highlight that multiple benefits can come from integrating nature into cities. Increased biodiversity, strengthened community and knowledge development can improve well-being and mental health. Urban spaces can be used for learning and recreation, which also strengthens well-being and participation.

Most importantly, young people and affected groups should have visible influence over the process. They should not only provide data, stories, or unpaid labour for decisions made by others.

Examples of Existing Solutions

Barcelona Super Blocks

One example of transforming underused urban spaces into more sustainable and community-focused environments is Barcelona's "Superblocks" (Superilles) initiative. The project converts traffic-dominated streets and paved urban areas into greener, people-centred public spaces by limiting car access and reclaiming space for trees, plants, seating, play areas, and community activities.

By redesigning groups of city blocks, the initiative creates cooler and more liveable neighbourhoods that support biodiversity, reduce air pollution and noise, and encourage walking and cycling. The transformed spaces function as small urban ecosystems that improve environmental quality while also strengthening social connection and local community life.

The model is relatively low-cost compared to large-scale urban redevelopment because it mainly reuses existing streets and public spaces rather than building entirely new infrastructure. Barcelona has also shown that the approach can be scaled across many neighbourhoods, making it a replicable example of how cities can turn grey and underused urban areas into healthier, greener, and more inclusive environments.

De Ceuval Converted Shipyard

De Ceuvel in Amsterdam is an example of how a polluted and underused industrial site can be transformed into a self-sustaining urban ecosystem through low-cost and circular solutions. A former shipyard was converted into a creative and sustainable community space using reused houseboats as offices, studios, and workspaces. Because the soil was heavily contaminated, the project used plants to naturally clean the ground through phytoremediation rather than expensive excavation.

The site was designed to be largely self-sufficient, using solar energy, rainwater collection, composting toilets, and natural wastewater treatment systems. De Ceuvel also includes shared public spaces such as a café and community areas that support social interaction and local entrepreneurship. The project demonstrates how abandoned urban land can be reused in affordable, innovative, and environmentally regenerative ways.

La Petite Ceinture Repurposed Railway Line

La Petite Ceinture in Paris is a former 32.5 km railway line that circles the city inside the périphérique ring road. Originally built in the 1850s to connect Paris' railway stations, it was used for both freight and passenger transport before gradually falling out of regular use.

Today, parts of the abandoned railway have been transformed into public green spaces, walking paths, and urban biodiversity corridors. The project reuses underused infrastructure to create greener and more accessible urban environments while preserving ecological habitats within the dense city. Some sections remain inaccessible because the railway is still officially part of France's national rail network and certain tunnels and tracks continue to serve operational or safety functions.

The transformation of La Petite Ceinture is often highlighted as an example of how cities can repurpose unused infrastructure into low-cost, nature-based public spaces that support biodiversity, recreation, and urban resilience.

‘Adopt a Green Space’

Midlothian Council’s Adopt a Green Space is a community-led initiative that enables local groups to take an active role in caring for public green spaces in Midlothian. Community organisations can formally “adopt” parks, roadside verges, shrub beds, and other green areas, working in partnership with the council to carry out activities such as litter picking, weeding, planting flowers and bulbs, pruning shrubs, and creating wildflower habitats. The programme supports biodiversity, improves the appearance of neighbourhoods, and strengthens local stewardship by giving residents the opportunity to shape and maintain greener, healthier spaces for the benefit of both people and nature.

Literature for Further Exploration

- Barcelona Super Blocks
- De Ceuvel
- La Petite Ceinture
- Adopt a Green Space

Case 3

Case Question

> ***How might youth turn unused urban spaces into community farms and gardens that provide affordable food and create local opportunities for community building?***

Urban Environmental Problem and Intended Impact

Urban food systems are often disconnected from local life. Food travels long distances, prices are rising, and many people have limited access to healthy produce, particularly vulnerable groups such as low-income households, migrants, and people without access to private outdoor space. At the same time, vacant land sits unused while communities experience isolation and fewer shared spaces. The intended impact is to create local food spaces that strengthen both climate resilience and social resilience.

Community farms and gardens should provide fresh, affordable food, reduce waste through circular systems such as composting and food reuse, reconnect people with nature, and create opportunities for learning, volunteering, entrepreneurship, and livelihood development. By combining food production with cooking and taste-focused activities, these spaces can show that locally grown food can be both sustainable and enjoyable. While community gardens cannot replace supermarkets, they can complement existing food systems by making healthy food more affordable and by creating engaging places that bring people together across social and cultural differences.

Why this Case Matters

Food is becoming more expensive and less accessible: Many urban residents struggle to afford healthy food.

Cities rely on fragile global systems: Long supply chains are vulnerable to disruption and climate impacts.

People are disconnected from food production: This case reconnects people with how food is grown and shared.

Unused land is a missed opportunity: Cities already have space that could support food, learning, and community.

Young people are affected but rarely heard: This is a chance to change that and give them real influence.

Your Solution Could

- **Create food communities.** Design shared gardens, growing spaces, food hubs etc., where residents produce food together.
- **Be economically sustainable.** Explore markets, subscriptions, cooperatives, or reinvesting income into the project.
- **Build partnerships.** Work with schools, municipalities, NGOs, housing groups, and local businesses to better integration and maintenance.
- **Connect food and community.** The solution should not only focus on growing food, but also on learning, sharing, cultural exchange, wellbeing, and local relationships for better maintenance.
- **Support skills and livelihoods.** Include training opportunities that help vulnerable groups develop practical skills and pathways to employment or entrepreneurship.
- **Create circular systems.** Minimize waste through composting, food sharing, water reuse, and other regenerative practices.

- **Be practical and replicable.** Keep tools, training, and growing methods simple and accessible. The project should be sustainable long term.

- **Be inclusive.** Ensure physical accessibility for people with different disabilities, and consider the inclusivity of any written material.

- **Consider biodiversity.** Community and food access are the pillars! But biodiversity should also be included by considering native plants. When you encourage people to connect with people growing their own food, and reducing food miles, community, food access and bio diversity can all be strengthened.

Glossary

Urban farming: Growing, producing, and sometimes processing food in urban areas, such as on vacant land, rooftops, courtyards, school grounds, balconies, or community gardens.

Food security: Reliable physical, social, and economic access to enough safe, nutritious, and culturally appropriate food for a healthy life.

Cooperative model: A way of organising a project where members share responsibility, decision-making, risks, and benefits.

Circular system: A system that keeps resources such as water, nutrients, organic waste, and materials in use for as long as possible, while reducing waste.

Community participation: Shared responsibility and decision-making among the people who use, shape, and are affected by a project.

Vulnerable groups: People who face higher risk of harm and may have fewer resources to protect themselves. Vulnerability can be linked to age, health, income, housing, disability, migration status, working conditions, language access, or location.

The Problem

Many cities rely on long supply chains to supply food, which increases carbon emissions and makes cities more vulnerable to disruptions. Healthy food is often expensive, and many urban residents experience food insecurity. Many people in cities are disconnected from how food is grown and produced. In addition, vacant urban land is often left unused instead of being developed into spaces that could support local food production, social interaction, and stronger communities.

Lessons Learnt

Hands-on projects are powerful. When young people grow food themselves, they often gain confidence, practical skills, and stronger environmental awareness, while they build new social connections. Successful gardens usually combine food production with education and shared responsibility. Communal growing plots can encourage people in cities to take agency over growing.

Often successful projects are ones which do not require large commitment, but rather are provided as a low-effort option for people to further their education and food sovereignty.

Contextual considerations and including vulnerable groups

Your solution should clearly consider who has access to healthy food, who has access to land, and who has the time and resources to participate. Vulnerable or easily overlooked groups may include low-income households, young people with unstable work or study schedules, single parents, migrants and refugees, older adults, people with disabilities, residents without private gardens or balconies, and people experiencing food insecurity.

Teams should avoid assuming that everyone can volunteer regularly. Some people may only be able to participate occasionally, attend with children, contribute knowledge rather than physical labour, or receive food without taking part in gardening. Inclusive design should recognise different levels of participation as legitimate.

Physical accessibility is important. Sites should be reachable, safe, and usable for people with different mobility needs. Raised beds, paths, toilets, storage, seating, lighting, and safe tool use may affect who can participate. Language and cultural accessibility also matter. Food preferences, growing traditions, cooking practices, and religious or cultural needs should be respected.

Solutions should also require attention to land and environmental safety. Soil contamination, water quality, ownership, permission to use land, long-term access, and responsibility for maintenance can determine whether a project is viable. If the land is temporary, participants should understand what happens if the site is sold, developed, or reclaimed. Fairness in harvest distribution is central. Teams should consider whether food is shared, sold, donated, exchanged, or reserved for participants, and how decisions are made transparently. They should also consider whether the project depends too much on unpaid youth labour or unpaid community work, especially from people already facing financial pressure. Most importantly, young people and affected groups should have visible influence over the process. They should not only provide data, stories, or unpaid labour for decisions made by others.

Examples of Existing Solutions

St Werburghs City Farm

St Werburghs City Farm is a community-run urban farm and charity in Bristol that connects people with nature, food, and each other. It combines green spaces, food production, education, and social programmes to improve wellbeing, build skills, and strengthen local communities. The farm includes gardens, allotments, conservation areas, and spaces for learning and events, and is open to the public. The organisation runs a wide range of projects, including training programmes, youth activities, volunteering, and social support initiatives. These focus on areas such as mental health, inclusion, and environmental awareness, often targeting disadvantaged groups. It also works with partners and offers space for community-led projects and activities.

The farm is funded through a mix of income sources, including grants from foundations and public funds, donations, crowdfunding, events, and small-scale income from services like space rental and allotments. Funding is often project-based and can be short-term, so the organisation actively works to diversify its income and maintain financial stability. It is run as a registered charity governed by a board of trustees, with a team of staff and many volunteers supporting daily operations. The farm also relies heavily on community involvement, partnerships, and co-created projects to deliver its services and maintain its spaces. The farm is an example of how urban green spaces can be used not only for food production, but also for education, social inclusion, and environmental action.

Lufa Farms

Lufa Farms is an urban agriculture company based in Montreal that aims to grow food where people live and make cities more self-sufficient. The company uses rooftop greenhouses to produce fresh food locally without taking up new land. Using hydroponic farming, recycled water, natural pest control, and energy-efficient systems, Lufa Farms combines sustainable food production with an online marketplace that connects consumers directly to local food.

Since opening its first greenhouse in 2011, the company has expanded into a network of large rooftop farms across Montreal. In addition to growing vegetables and herbs, Lufa Farms operates an online farmers' market, delivers food baskets, and supports food insecurity programs through donations and community initiatives. The company functions as a private business, generating income through food sales, subscriptions, delivery services, and partnerships with local producers, while promoting a more sustainable urban food system.

Haver til Maver

Haver til Maver ("Gardens to Bellies") is a Danish non-profit educational programme that gives children and young people hands-on experience with growing food, cooking, and learning about nature and biodiversity. Founded in 2006 by Danish entrepreneur Søren Ejlersen, the initiative combines school gardens with outdoor education, where participants cultivate their own vegetables, prepare healthy plant-based meals, and explore the connections between food, sustainability, and community. Operating through school gardens across Denmark, Haver til Maver aims to strengthen environmental awareness, practical skills, and healthy eating habits while inspiring children to become active stewards of a more sustainable future.

Incredible Edible

Incredible Edible is a community-led movement that began in Todmorden in 2008 and uses food growing as a way to strengthen local communities, promote sustainability, and inspire social change. Volunteers transform unused public spaces into edible gardens where anyone can grow, share, and harvest fruits, vegetables, and herbs free of charge. The initiative combines practical action with education and local enterprise, encouraging people to reconnect with food, nature, and one another. Since its launch, Incredible Edible has inspired similar projects across the United Kingdom and around the world, demonstrating how small-scale community gardening can contribute to healthier, greener, and more resilient cities.

Literature for Further Exploration

- St Werburghs City Farm. (2026). St Werburghs City Farm: A green urban oasis
- Lufa Farms. (n.d.). About Lufa Farms.
- Haver til Maver
- Incredible Edible

Case 4

Case Question

How can youth keep the most vulnerable groups safe from extreme heat in urban areas?

Urban Environmental Problem and Intended Impact

Extreme heat is one of the fastest-growing climate risks in cities. Dense buildings, asphalt, limited shade, and too little greenery create urban heat islands where temperatures can become far higher than surrounding rural areas. Older adults, children, people with disabilities or chronic illness, homeless people, and low-income households are often most at risk.

The intended impact is to protect people before, during, and after heatwaves. Solutions should reduce exposure to dangerous heat, improve access to cooling and shade, strengthen neighbourhood care systems, and make heat preparedness part of everyday city planning.

Why this Case Matters

Extreme heat is already a deadly risk: Heatwaves are increasing and can be life-threatening, especially in cities, and especially to already vulnerable people.

Not everyone can protect themselves: Some people lack access to cooling, safe housing, or support.

Heat risk is often invisible until it's too late: Better preparation can prevent emergencies.

Simple actions can save lives: Community-based and low-cost solutions can make a real difference quickly.

Young people are affected but rarely heard: This is a chance to change that and give them real influence.

Your Solution Could

- **Identify both high-risk groups and high-risk places.** The solution should consider who is most vulnerable and where heat exposure is most dangerous.
- **Prioritise people.** Consider cooling shelters, emergency support, neighbour check-ins, and access to water.
- **Use nature for cooling.** Such as trees, shade routes, green roofs, and reflective surfaces.
- **Be decentralised and simple.** Consider local cooling kits, mobile support teams, and community-led responses.
- **Improve preparedness.** Being prepared is just as important as having solutions for active cooling.
- **Engage youth.** Involve young people in mapping hotspots, awareness campaigns, and local action.

Glossary

Heatwave: A period of unusually high temperatures, often lasting several days or nights, which can create health risks even when temperatures are not extreme by local standards.

Urban heat island: A situation where urban areas are hotter than surrounding areas because buildings, asphalt, and other hard surfaces absorb and release heat, while vegetation and shade are limited.

Passive cooling: Cooling methods that require little or no energy, such as shade, natural ventilation, insulation, reflective surfaces, trees, and building design that reduces heat build-up.

Cooling centre: A publicly accessible place where people can go during extreme heat to rest, cool down, access water, and stay safe.

Heat stress: The strain on the body when it cannot cool itself effectively. It can cause dehydration, exhaustion, heatstroke, and worsening of existing health conditions.

Vulnerable groups: Vulnerable groups: People who face higher risk of harm and may have fewer resources to protect themselves. Vulnerability can be linked to age, health, income, housing, disability, migration status, working conditions, language access, or location.

The Problem

Heatwaves already cause illness, deaths, disrupted routines, and pressure on health systems. Poor-quality housing can trap heat indoors, making nights especially dangerous. Areas with little greenery and many paved surfaces are often hardest hit, and those with the fewest resources have the least ability to adapt.

Contextual considerations and including vulnerable groups

Your solution should include a detailed vulnerability assessment. Relevant vulnerable groups include older adults, infants and children, pregnant people, people with heart, lung, kidney, or metabolic conditions, people with disabilities, homeless people, people living alone, and low-income households.

It should be taken into consideration that vulnerability is shaped by both health and circumstances. For example, an older person living alone may be at risk because of isolation, not only age. A young outdoor worker may be at risk because of long exposure. A low-income family may be at risk because they cannot cool their home. A migrant household may be at risk if warnings are not available in a language they understand.

Solutions should encourage participants to examine where heat risk occurs most acutely. Streets, playgrounds, bus stops, schools, care homes, workplaces, public transport, and private homes may all become unsafe. Night-time heat is especially important because people need cooler temperatures to recover.

Access to support must also be considered. Some people may not be able to travel to a cooling centre, may not know that support exists, may not trust authorities, or may not receive digital warnings. Information should therefore be understandable, multilingual, and available through trusted local channels.

Participants should also consider infrastructure dependencies and what local authorities need to be consulted. Heat risks can become worse during power cuts, water shortages, transport disruption, or pressure on health services. A strong proposal should therefore think beyond isolated interventions and consider how support systems function under stress.

Heat should be understood as a question of care and dignity. Responses should avoid blaming individuals for not “coping” and instead address the conditions that make people unsafe: poor housing, lack of shade, social isolation, inaccessible information, and unequal access to cooling.

Most importantly, young people and affected groups should have visible influence over the process. They should not only provide data, stories, or unpaid labour for decisions made by others.

Examples of Existing Solutions

Mist Cooling Systems

One example of an existing solution to combat extreme urban heat is the use of mist cooling systems in public spaces. A 2019 experimental study tested overhead mist sprayers designed to reduce temperatures in urban areas during heatwaves, particularly near vulnerable locations such as schools, hospitals, and care homes. The system used fine water sprays released through overhead nozzles, creating evaporative cooling that lowered surrounding air temperatures and improved outdoor comfort. The researchers found that the most effective setup reduced local temperatures by up to 7.4°C and significantly improved thermal comfort for people using the space.

The study also highlighted that these systems can be relatively low-cost, energy-efficient, and easy to install compared to large-scale urban redevelopment projects. In addition to cooling the air, the mist systems were found to help reduce dust and pollutants in the surrounding environment. Because the technology can be implemented quickly and adapted to different urban settings, the researchers identified it as a practical and scalable solution for helping cities protect vulnerable groups during periods of extreme heat.

SMS Heatwave Alerts

In Maribor, the municipality launched a free SMS-based heat warning system that sends residents alerts two days before expected heatwaves, allowing people to prepare, check on relatives, and adjust daily activities.

Be a Buddy Systems

In New York City, the health department launched the “Be a Buddy” programme in 2020 to strengthen community support and protect vulnerable residents during extreme heat. Through the initiative, local organisations in low-income neighbourhoods recruit volunteers to build relationships with older adults, particularly those living alone, without air conditioning, or with chronic physical or mental health conditions. During heatwaves, volunteers check in on these residents to help ensure their safety and wellbeing.

City Sails

The study Benefits of street sun sails to limit building cooling needs in a Mediterranean city examines how urban shading solutions can help prevent excessive heat in cities. The research focuses on the use of textile sun sails installed above streets to reduce solar radiation and lower surrounding temperatures in urban environments. The findings show that shading strategies can significantly improve thermal comfort for residents while also reducing indoor overheating and the need for air conditioning in nearby buildings.

Literature for Further Exploration

- Mist cooling systems: Ulpiani, G., Giuseppe, E. D., Perna, C. D., D’Orazio, M., & Zinzi, M. (2019). Design optimization of mist cooling for Urban Heat Island mitigation: experimental study on the role of injection density. IOP Conference Series. Earth and Environmental Science, 296(1), 12025.
- Mist cooling systems
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- Garcia-Nevado, E., Duport, N., Bugeat, A., & Beckers, B. (2021). Benefits of street sun sails to limit building cooling needs in a Mediterranean city. Building and Environment.

Recommendations and Insights for future work packages

These insights are based on all stakeholder and youth consultations.

Youth Overwhelm and Crisis Fatigue Shape Engagement. Many young people feel overwhelmed by multiple simultaneous crises, including climate change, economic insecurity, and geopolitical instability. Information overload and catastrophic narratives can lead to emotional fatigue or disengagement. Youth motivation increases when climate action feels achievable, local, and capable of producing visible results.

Structural Barriers Limit Youth Participation. Economic and social conditions significantly affect young people's ability to participate in climate action. Housing insecurity, low wages, health issues, and demanding work or study schedules can leave youth in "survival mode," limiting their capacity for civic engagement. Financial and logistical barriers, such as unpaid participation, travel costs, and time commitments, also exclude many young people.

Trust, Agency, and Visible Impact Are Crucial. Youth participation declines when consultation processes feel symbolic or when outcomes are unclear. Engagement becomes meaningful when young people can see how their input influences decisions and produces visible change. Role clarity, peer role models, and tangible results significantly increase motivation.

"Youth Washing" Remains a Significant Risk. A recurring concern is that youth are invited into engagement processes without real authority or decision-making power. This practice, sometimes referred to as "youth washing", undermines trust and highlights the need to move from symbolic engagement toward genuine inclusion in governance and policy processes.

Use accessible and engaging formats. Engagement should extend beyond formal or technical settings by incorporating cultural platforms, creative entry points (e.g., gaming, fashion, food), and physical community spaces rather than relying solely on digital engagement.

Includes the positives. Youth want to be motivated and inspired by positive potential, rather than frightened.

Consider what is in it for them. Youth want to know what benefits there are in participating. They are often busy and overwhelmed, so there needs to be clear motivating factors.

Consider recording videos/presentations. This is more engaging and addresses some accessibility concerns.

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