

### Copenhagen: Europe's most sustainable city?

Copenhagen, the capital city of Denmark, regularly tops the list of the world's most sustainable cities and was awarded the title of European Green Capital in 2019. The climate action plan (2011) for the city stated that the city aims to be a green, smart, carbon-neutral city by 2025. It aims to do this by:

- adding 100 new wind turbines
- reducing both heat and commercial electricity consumption by 20 per cent
- encouraging 75 per cent of all journeys to be by bike, on foot or by public transport
- the biogasification of all organic waste
- installing 60,000 m<sup>2</sup> of new solar panels
- meeting 100 per cent of the city's heating requirements with renewables.

#### Social development

- Only two per cent of employees in Copenhagen work more than 40 hours a week. This allows more time for family, friends, hobbies and recreational activities, all of which are associated with lower stress levels.
- The city has 249 miles of cycle lanes, which makes cycling an easy and safe option. More than half of commuters travel to work or school by bike each day. It is estimated that the residents of Copenhagen have one million fewer sick days simply due to the fact that they cycle so much.



**Figure 9.62** The elevated *Cykelslangen*, or Cycle Snake opened in Copenhagen in 2015. It is a two-way 220-metre bridge. You can get across the harbour in less than a minute, creating a less stressful atmosphere for cyclists, pedestrians and vehicle users alike

#### Economic development

- Copenhagen is the economic and financial centre of Denmark. It is home to a number of international companies and has successful business clusters in IT, biotechnology and pharmaceuticals.
- Copenhagen has some of the highest wages in the world and unemployment rates are low.
- Danes have an entrepreneurial spirit. In Copenhagen they have held on to their independent shops and



**Figure 9.63** Added to its green credentials, Copenhagen regularly tops the lists of the most desirable cities in which to live

cafes. Small boutiques and local coffee shops are the norm rather than global chains.

- Reasonable rents in the city allow young start-up companies to flourish.

#### Environmental management

- The harbour that bisects the city has been transformed from an industrial zone into a cultural and residential hub. Where once 100 overflow channels carried wastewater into Copenhagen harbour after heavy rains, investment in reservoirs and conduits has meant that the harbour water is now so clean that residents can go swimming in it.
- Copenhagen is served by an integrated public transportation network: a driverless Metro, regional trains and buses.
- In 2001, a large offshore wind farm was built just off the coast of Copenhagen at Middelgrunden. It produces about 4 per cent of the city's energy.
- Copenhagen's Finger Plan 2007 includes protection of its green belt and limits urban sprawl through better use of existing city land.
- In 2019, the Amager resource centre opened. It is a waste incinerator building that also incorporates hiking and running trails, a street fitness gym and an 85-metre climbing wall – the world's highest outdoor climbing wall.

#### Urban governance

- As a country, Denmark has one of the highest taxation levels in the world but this provides very generous state welfare provision which reduces inequality.
- The Citizen's Dialogue Project, a publicly financed scheme, involves direct public participation in planning.
- Denmark boasts very high income equality and gender equality and is perceived to be a very fair and egalitarian society.

**Table 9.11** Challenges to and opportunities for building sustainable cities

Main urban trends	Developing countries		Developed countries	
	Challenges	Opportunities	Challenges	Opportunities
<b>Social</b>				
By 2025, urban population will live mainly in small (42 per cent) and medium-sized (24 per cent) cities	Improve access to housing, water and sanitation; improve public infrastructure; foster institutional capacity	Investment in public infrastructure (including transportation); construction of compact buildings in middle-income cities; strengthen links between cities and rural areas	Social cohesion	Investment in compact urban development and decentralisation
Number of urban people living in slums continues to grow	Reduce number of urban poor and disease risk; improve social cohesion; reduce youth unemployment	Investment in universal access to affordable water and sanitation; public transportation, and creation of jobs to reduce growth of slums; employment of the 'youth' dividend in low-income countries.	Reduce urban unemployment due to economic crises (of youth in particular); provide adequate housing in poor neighbourhoods	Strengthening and widening of social safety nets; upgrading investments in social protection for an effective response to crises and their aftermath
Inefficient use of public services (water, electricity)	Improve waste and recycling management; support consumption of local produce; change overconsumption patterns of high-income households	Subsidies to households and small firms to reduce non-saving water systems and waste; incentives to local communities to improve recycling systems	Change overproduction and overconsumption styles; improve waste and recycling management	Investment in retrofitting in buildings of water- and energy-saving devices; upgrading of public infrastructure
Ageing	Create productive employment for older persons	Investment in universal pensions; extension of working age; support for family networks	Fiscal pressure to reduce health costs; improve productivity	Investment in retraining older persons, and extending the working age
<b>Economic</b>				
Inequality and financial fragility	Create policy space for inclusive development; reduce underemployment; promote economic diversification	Investment in green industry, adaptation to climate change, structural economic change (industrial and service 'leapfrogging' for least developed countries); strengthening regional cooperation	Reduce unemployment; boost economic growth; strengthen international cooperation	Investment in green infrastructure; policy coherence and coordination
Food insecurity	Improve access to food; increase productivity	Investment in urban agriculture, local crops, storage facilities; R&D	Reduce food waste	Investment in storage infrastructure; reducing food subsidies; policy coordination
<b>Environmental</b>				
Energy access	Provide access to clean energy and reduce use of 'dirty' energy in poor households (e.g. least developed countries); discourage high energy consumption in high-income households	Investment in capacity development, energy-saving devices, production and use of renewable sources of energy; subsidies and incentives for efficient energy use and water use for middle- and high-income households	Reduce overproduction and overconsumption to sustainable levels	Investment and incentives to produce and use renewable energy sources; decentralisation of energy production
Climate change	Reduce impact on livelihoods; reduce carbon emissions; generate financial resources for adaptation	Investment in health and education infrastructures and facilities; adaptation and mitigation technology and early warning systems; green public transportation; strengthen regional cooperation for green technology transfer	Upgrade disaster risk prevention systems; reduce carbon emissions to sustainable levels	Investment in mitigation, industrial green transformation; retrofitting of buildings; policy coordination

Source: UN/DESA, *Development Policy and Analysis Division*

**Skills focus**

There are several well-documented examples of cities facing challenges. Research one of these cities. Outline the challenges it faces and the methods it is using to outline these challenges.

**Strategies for developing more sustainable cities**

There is no 'one scheme fits all' approach towards achieving sustainability because the challenges faced by individual cities are diverse and depend on their population size, economic status, technological capacities and development priorities. However, some of the key strategies are summarised below:

- **Investment in infrastructure such as roads, water, sewers and electricity and services such as schools and healthcare:** In Brazil, Curitiba's credentials as a sustainable city are well documented. Its integrated bus system is just one part of the Curitiba Master Plan introduced in the 1970s. An extensive network of dedicated bus lanes provides a service comparable to underground or subway systems but at a cost estimated to be about 200 times less. The associated reduction in traffic has led to a significant reduction in carbon emissions.
- **Green investment in low-income countries can help poorer cities 'leapfrog' from high-carbon energy use to a zero-carbon development path:** This could provide employment for the 'youth bulge' within these cities.
- **Investment in the production and use of renewable energy sources, as well as the renovation of infrastructure, retrofitting of buildings and improved electricity and water efficiency:** In the city of Freiburg in Germany, solar investment subsidies are given to residents installing solar panels and 'plus energy' homes have been constructed which create more energy than they consume. Low-energy construction standards have also been introduced in a bid to reduce CO<sub>2</sub> emissions by 40 per cent by 2030.
- **Investment in the reduction of waste production and improvement of waste collection and recycling:** The 'Garbage that is not garbage' scheme in Curitiba promotes recycling through the separate collection of different waste components, while the 'Garbage purchase' programme encourages residents in the favelas to sell their rubbish back to the city in exchange for food, bus tokens and football match tickets. The scheme has helped clean up densely populated areas that the rubbish vans cannot reach.
- **Provision of more 'green' areas:** A study carried out by the European Centre for Environment and Human Health concluded that living in an urban area with green spaces has a long-lasting positive impact on people's mental well-being. Meanwhile, another study in 2019 by Fields in Trust found that parks delivered an estimated £34.2 billion of health and well-being benefits each year.
- **Investment in more sustainable and affordable housing:** Low-carbon housing developments include the experimental BEDZED development and Greenwich Millennium Village in London. Environmentally sustainable, recycled and local materials were used in their construction and the accommodation comprises a mix of social housing and private units.
- **Adoption of a local currency:** Local currencies such as the Bristol Pound serve the needs of local people because they keep money within the local economy. Research by the New Economics Foundation has found that for every local currency pound spent in a local business, £1.73 is generated through the multiplier effect. In contrast, for every pound spent in a chain store, only 35 pence is re-spent in the local economy. Despite research suggesting that the Bristol Pound venture is too small to have a significant local impact, by late 2017, five million Bristol Pounds had been spent.
- **Active participation of different city stakeholders including government, residents and local businesses in urban planning.**
- **Disaster risk reduction:** Schemes such as tidal barrages and early warning systems can help mitigate the impacts of floods, storm surges and other hazards to which some cities are vulnerable.

Finally, it has been argued that greater investment in rural areas is important to reduce the rural-urban migration that has put increasing pressure on cities in the last few decades.

**Review questions**

- 16 Which are the most effective strategies for tackling inequality in urban areas?
- 17 What are the main influences on climate and drainage in a city? How can humans limit their impact on both of these?

**Case study of an urban area: London**



Figure 9.64 Aerial view of the City of London's skyline

London is the capital and most populous city of the UK. In 2019, the Greater London Authority reported that the population had topped 8.9 million. This figure is expected to reach 11 million by 2050. London has a history stretching back to Roman times when it was named Londinium. From then it developed as a port around the navigable River Thames and eventually became the seat of political power and government. Despite leaving the EU, in 2018 the Institute for Urban Strategies ranked London first in the Global Power City Index. This is due to a number of factors:

- Economically, London is a global financial centre with a growing reputation as a technological hub and top rankings for software and multimedia development. Its reputation as an economic powerhouse means that it is particularly successful in attracting direct foreign investment.
- London performs very well globally in terms of the number of people in higher education, the quality of universities and access to libraries.
- More than 300 languages are spoken by the people of London, and the city has at least 50 non-indigenous communities with populations of 10,000 or more. Virtually every race, nation, culture and religion in the world can claim at least a handful of Londoners.
- According to the World Cities Culture Forum, London is seen as one of the most cosmopolitan and tolerant cities in the world, attracting a large diversity of people – from activists to business leaders, intellectuals to fashionistas. The city is also a major centre for art forms including music and dance, while its leading museums and galleries are among the most visited in the world.
- London is one of the most visited cities in the world due to a combination of history, heritage, art and culture.
- The hosting of the 2012 Olympic Games further raised the profile of London as a world city and led to the huge redevelopment of formerly run-down areas.

**Cultural diversity in London**

London is often referred to as 'the world under one roof' because of its multicultural population. Its function as a port has resulted in a long history of immigration and this has led to a rich ethnic and cultural diversity. Many see the arrival of hundreds of West Indian men aboard the *Empire Windrush* in 1948 as the start of mass immigration into the UK. Many of these men were answering adverts offering employment and intended only to stay a few years. In fact, the people of the *Windrush* and subsequent immigrant groups have played a vital role in creating a new concept of what it means to be a Londoner.

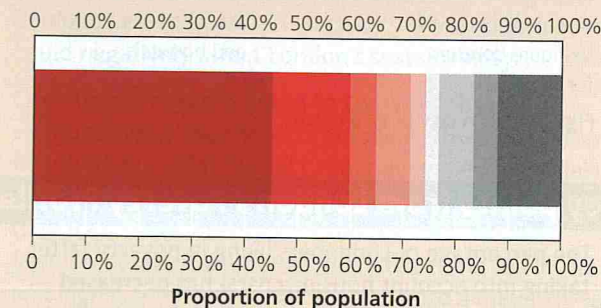


Figure 9.65 Ethnicity in London, 2011

Source: Trust for London & New Policy Institute

In 2015, just over 3.8 million of London's residents (44 per cent) were of a black and minority ethnicity origin. This is expected to increase to 50 per cent by 2038. In spite of some instances of hostility towards immigrant groups, London is regarded as a welcoming city and residents generally recognise the positive social and economic contributions immigrants make to life in the capital.

**Economic and social well-being**

London is the economic powerhouse of the UK and home to a third of the country's entire wealth. In parallel, however, it is also home to some of the country's highest poverty rates, with a reported 2.1 million people living in poverty.

In 2015, the London Fairness Commission reported that for every £1 of wealth owned by the bottom 10 per cent of London households, the top 10 per cent own £172.