

---

# The Contribution of Local Action to the overall National and Global Climate Transition

---

Summary.....	2
1. Introduction.....	3
2. Interaction between administrative levels.....	5
2.1 Implementing and innovating climate action.....	5
2.2 Challenging climate action.....	6
3. Municipalities' climate contribution.....	6
3.1 The role of municipalities in climate action.....	6
3.2 Greenhouse gas reduction.....	7
3.3 Climate adaptation.....	12
4. The value of local initiatives.....	14
4.1 Contextualisation.....	14
4.2 Added value.....	15
4.2 Legitimacy.....	15
Bibliography.....	17

## Summary

In recent years, municipalities and cities around the world have increasingly adopted local climate action plans that systematise their contribution to reducing greenhouse gas emissions and adapting to the consequences of climate change. This is also the case in a Danish context, where almost all municipalities are expected to have adopted a climate action plan in accordance with the Paris Agreement by the end of 2023.

Municipal climate action does not take place in a vacuum, but in interaction with national and international actors that set the overall framework for directions and opportunities for climate action, which the municipalities implement, innovate and challenge. The decentralisation of important tasks to Danish municipalities means that in several areas, they have mandate to translate political leadership and agreements into concrete climate action. In addition, as local, geographically defined entities, municipalities can develop new, innovative climate solutions on a smaller scale, based on local challenges and resources. Finally, municipalities can also challenge national and global targets and through local leadership, help raising the bar for what is considered possible and necessary in the green transition.

This paper reviews the various roles that municipalities can take and based on the two major climate challenges, greenhouse gas reduction and climate adaptation, how Danish municipalities are key actors in the transition. The implementation of national ambitions and international commitments often takes place at the local level where municipalities have a role and regulatory responsibility for important citizen-oriented tasks. The local contribution to national efforts can facilitate a transition that is more contextually adapted, linked to added value and with a greater degree of democratic legitimacy.

Municipal climate action takes place in a dynamic cooperation with national initiatives and between local administrations and other relevant actors. By integrating municipal and regional climate initiatives into the overall national and international transition, local efforts can to a greater extent contribute to accelerating the Danish transition.

## 1. Introduction

Science clearly stresses an urgent need for significant reductions in greenhouse gas emissions from human activities. The IPCC's Sixth Assessment Report from 2023 states that global greenhouse gas emissions must be reduced by 43% by 2030 compared to 2019 if the 1.5-degree target of the Paris Agreement is to be kept alive; however, the currently adopted climate actions are still insufficient to fulfil this global ambition (IPCC, 2023a: 57, 92). Also in a Danish context, the adopted political agreements within the climate area are insufficient to fulfil the national target of a 70% reduction in 2030 (Klimarådet, 2023: 116-117; Danish Energy Agency 2023a: 10). At the same time, the consequences of climate change that we can no longer avoid will create a need for us to adapt to the changing climate in a number of areas through long-term and deep transformations of society (IPCC, 2023a: 57).

Current global and national efforts are therefore not equivalent with the reductions and societal transformation required to avert the worst consequences of climate change. Every action count and everyone is needed in climate action.

*"Our world needs climate action on all fronts - everything, everywhere, all at once."  
António Guterres (IPCC, 2023b).*

Around the world, many actors at all levels have recognised the message and taken responsibility for climate action. In recent years, the number of climate targets and climate action plans set by cities, municipalities and other local governments has increased to such an extent that in absolute terms they can make a significant difference to global CO<sub>2</sub>-emissions:

- C40 Cities has 96 megacities as members with almost 600 million inhabitants and 900 million in their sphere of influence (including those living and working in major urban areas). This means they can influence up to 36% of global GDP. C40 Cities members have now completed more than 1,000 high-impact actions such as expanding the ultra-low emission zone in London or helping one million homes in Beijing replace coal-fired boilers with cleaner alternatives (C40 Cities, 2022: 5, 7-8).
- ICLEI - Local Governments for Sustainability - founded in 1990 was among the first international organisations of local governments concerning environment and climate. ICLEI now has 2,500 members and is active in more than 125 countries (ICLEI, 2023).
- GCoM - Global Covenant of Mayors for Climate & Energy - is the largest global alliance of local governments. It has more than 12,000 members with 1.1 billion inhabitants and annual greenhouse gas emissions equivalent to the road transport of the US, China, France, Mexico, Russia and Argentina combined (GCoM, 2023).
- The EU's Net Zero Cities which is a centrepiece of the EU's fit for 55 plan. 112 cities have been selected to participate in the mission of '100 climate-neutral and smart cities' by 2030, which will act as experiments and ensure the rest of Europe's cities follow suit by 2050 (European Union, 2022).

In a Danish context, the focus on local climate action has also taken a significant upswing. By the end of 2023, almost all municipalities are expected to have climate action plans certified by C40 Cities as compliant with the Paris Agreement<sup>1</sup>. Danish municipalities have taken up the challenge to an extent

---

<sup>1</sup> The vast majority have developed these plans through the DK2020 project, where Realdania, KL and the five regions have supported in collaboration with CONCITO and C40 Cities.

that provides an opportunity to shed light on how municipal climate action can contribute to strengthening the quality and pace of national and global climate action.

This paper unfolds how Danish municipalities can contribute to climate action through their various roles and capabilities – and how they are already doing so in several areas. Firstly, the interaction between the different Danish administrative levels in the public administration will be outlined and secondly the municipalities' contribution to both greenhouse gas reduction and climate adaptation will be elaborated. Finally, a number of arguments are summarised regarding the value of local action in the transition for both citizens and society as a whole. The purpose of the paper is to highlight the importance of an active local contribution to climate action in a Danish context and to provide a basis for better integration of Danish municipal climate action within national and international systems.

In both the development of the municipalities' climate action plans (DK2020) and in the following implementation phase (Klimaalliancen), the think tank CONCITO serves as a knowledge partner in collaboration with C40 Cities, and through this role will help ensure that decision-makers in both municipalities and regions are equipped with the latest climate knowledge and that the climate action plans are adjusted to the climate-related realities.

#### **Textbox 1: What is a local administration?**

Local governments are geographically defined entities with directly democratically elected political bodies and supporting administrations that provide leadership and services to their communities. They have a degree of autonomy and decision-making power within their geographical area, which is regulated by national laws and authorities (Betsill & Bulkeley, 2000: 3; Bulkeley & Kern, 2006: 2238). In Denmark, there are two levels of local administrations – municipalities and regions.

#### **Box 2: What is a local climate action plan?**

A local climate action plan is one or more politically passed documents that demonstrate how a city or local authority will realise its objectives to tackle climate change (C40 Cities, 2020: 4). As part of the DK2020-project, Danish municipalities have developed climate action plans that fulfil the C40 Cities' standard for climate planning, the Climate Action Planning Framework. The climate action plans must fulfil the Paris Agreement's objectives of climate resilience and climate neutrality by 2050, a fair and equitable distribution of added value and a broad involvement of key actors in the local transition.

## 2. Interaction between administrative levels

As in most other countries, the Danish public sector is divided into more levels of administration with a division of tasks and responsibilities between the national, regional and local levels. Compared to other countries, however, a large number of tasks are handled at the local level in Denmark, with municipalities being a central part of the public sector (Blom-Hansen et al., 2019: 117). A significant part of the tasks directly related to citizens – especially in the welfare area – are decentralised to the municipalities, while the state is responsible for setting the overall framework (ibid.).

In the literature, a range of arguments can be identified for decentralising tasks to local administrations, which is the level closest to the citizens. These include the fact that decisions affecting citizens' daily lives are made as close to the citizens as possible, contribute to strengthen democratic legitimacy and citizens' trust in the political system (ibid.: 119). At the same time, political and administrative proximity enables municipal tasks to be adjusted to local preferences and needs within the municipality's boundaries (ibid.: 120).

Over time, Danish municipalities have been given more and more tasks. With the latest municipal reform in 2007, the municipalities' task portfolio increased significantly as they took over several tasks from the former counties (amter) (Ministry of Economic Affairs and the Interior, 2014: 21). In addition to more welfare tasks, the municipalities were also given a number of tasks within public transport and roads as well as nature, environment and planning. For example, the municipalities were given responsibility for local bus services, construction and maintenance of localised roads, as well as responsibility for the physical planning of municipal areas and guidelines for urban and rural development (Ministry of the Interior and Health, 2005: 24). The municipalities are also responsible for parts of groundwater, nature and environmental protection, as well as water, heating and waste management services. Most recently, the Planning Act, which regulates municipalities' spatial planning, was amended in 2023 so that climate is included in the purpose clause in line with the environment, nature and growth and development (L 36 A as adopted). Therefore, municipalities are now also explicitly required to take climate considerations into account when planning for the municipality's physical land use.

However, municipalities are not required to plan for e.g. greenhouse gas reduction locally. The development of climate action plans at the municipal level is thus an optional task that can link and frame the areas where their task solution makes them key players in the transition, while also pointing to areas where they can support and drive the transition locally.

### 2.1 Implementing and innovating climate action

As in all other administrative areas, municipalities' climate efforts take place in cooperation with regions, the state and the EU. The state and the EU frame the municipalities' room for manoeuvre through general regulations and directives, but international climate agreements and national climate laws often require local implementation efforts before the regulations have a concrete effect. Here, municipalities can play a crucial role as agents of change, and in collaboration with the other levels, municipalities can contribute to climate action in various ways:

- Municipalities can contribute to the **implementation** and realisation of national agreements and targets. Municipal administrations are the level where the implementation of many impactful climate actions takes place (C40 Cities, 2023). Here, municipalities are a kind of executing entity for nationally and internationally agreed climate agreements. Of course, this

can happen with different levels of local autonomy to adapt and tailor initiatives to suit the local context.

- Municipalities can contribute as a laboratory for **innovating** climate solutions. Local governments have the opportunity to experiment and test new kinds of technologies, policies, methods and ideas on a smaller scale (Broto, 2017: 9; Hansen & Agger, 2023: 292; Fitzgerald & Lenhart, 2016), which can also be transferred and scaled up to other contexts. Here, municipalities can be frontrunners by developing and testing new solutions adapted to local resources and competences.

Assuming that both the state and municipalities have sufficiently ambitious climate targets and a constructive and open approach to cooperation, an engine for the implementation of climate initiatives can be built, with local experiments and pilot projects that can be scaled up once the recipe has been fine-tuned. Similarly, an efficient organisation of municipal climate planning enables a rapid and targeted roll-out of national and international climate initiatives.

## 2.2 Challenging climate action

However, if there is insufficient national action on the climate challenge, local action can also be viewed from a different perspective – as a form of catalytic activism. Local administrations can often act faster than states and are often emphasised as being less constrained by bureaucracy and party politics (Elgendy, 2023; Florida, 2019). By taking the lead on the climate agenda, municipalities can help create space for more ambitious climate action nationally.

Through active climate action, municipalities have the potential to **challenge** national ambitions and raise the bar for what is considered achievable in climate action. For example, if municipalities, through their climate action plans, transform the energy sector faster than what is assumed in the national forecasts or get a better grip on the transformation of the transport sector, it can push for greater ambitions nationally (Grimstrup, 2023).

The same argument is often used to explain why Denmark should act on climate change when we are also a member of the EU, and it can be said to generally apply to global climate negotiations. C40 Cities, ICLEI and GCoM have for a long time used local climate goals to push for higher ambitions in the international climate negotiations by integrating national and local contributions.

## 3. Municipalities' climate contribution

Municipalities can contribute to the transition in a wide range of areas both directly and indirectly through their various roles and instruments. In the following sections, the four different roles of municipalities in relation to the transition will firstly be presented, after which the opportunities for municipalities to contribute to reducing greenhouse gas emissions and adapting to climate change will be unfolded.

### 3.1 The role of municipalities in climate action

The different competences and opportunities of Danish municipalities in climate action can be illustrated through four different roles (EA, 2023: 27; Danish Energy Agency, 2013: 32).

- Municipalities can act as a **company** through the operation of its own institutions such as nursing homes, kindergartens, cultural institutions, home care and administrations where they can directly influence the transition. Emissions from municipalities' operations and own activities only account for less than 5% of Denmark's total greenhouse gas emissions (EA, 2023: 28; KL,

2023a: 114), but still municipalities can directly reduce greenhouse gas emissions through e.g. their procurement policy, vehicle fleet, construction and operations, while at the same time helping to create a market for sustainable solutions. Municipal infrastructure and procurement decisions can catalyse change in key sectors across the country (C40 Cities, 2023), especially if the shift towards greener alternatives happens across municipalities.

- Municipalities can act as an **authority** in areas where they have regulatory tools at their disposal. This applies, for example, to physical land use planning through municipal and local plans, heating planning, waste planning, water supply and environmental authorisations. As an authority in these areas central to the transition, municipalities can promote the transition. For example, through local plans, a municipality can set requirements for less resource-intensive construction, including the choice of materials, size, energy efficiency and water supply, as well as surface solutions for rainwater management (Danish Energy Agency, 2013: 36)
- Municipalities can act through the role of **supplier** in the areas where they supply citizens with utilities and provide services. This includes water, wastewater management, district heating, district cooling, city gas, public transport, urban infrastructure and in some cases electricity.
- Finally, municipalities can act as a **facilitator** for the transition in areas where their direct influence is limited. As an inspirer and opinion former, municipalities can indirectly influence emissions from actors such as citizens, businesses and organisations that live or act in the municipality's geographical area. This role can be unfolded through partnerships with e.g., businesses and educational institutions, dialogue with citizens and developers or activation of local communities.

Municipalities typically have the greatest influence through their role as a company and the least in their role as a facilitator, but conversely, they can affect the largest emissions as a facilitator. It is therefore important for municipalities to bring all these roles into play if they are to support the overall transition in the society. In the following sections, we exemplify how municipalities can contribute to reducing greenhouse gas emissions and adapting society to the consequences of climate change.

### 3.2 Greenhouse gas reduction

Municipalities' contribution to the reduction of greenhouse gas emissions can be exemplified within the different main sectors, energy and industry, agriculture, transport and waste and wastewater.

According to the Danish Energy Agency's "Klimastatus- og fremskrivning 2023", Denmark emitted a total of 46.2 million tonnes of CO<sub>2</sub> e in 2021 (Danish Energy Agency, 2023a: 6). Distributed across sectors, emissions originated from the agricultural sector<sup>2</sup> (15.9 million tonnes CO<sub>2</sub> e), the energy and industry sector<sup>3</sup> (14.5 million tonnes CO<sub>2</sub> e) and the transport sector (12.2 million tonnes CO<sub>2</sub>e), while waste and other emitted 3.1 million tonnes CO<sub>2</sub>e-

The climate projection shows that with the inclusion of adopted policies, Denmark's total greenhouse gas emissions in 2030 are expected to fall to 29.0 million tonnes of CO<sub>2</sub> e (ibid.). The expected reductions are primarily driven by reductions in the energy and industry sectors, which are expected to decrease by 10 million tonnes of CO<sub>2</sub> e, while more limited reductions are expected in the transport

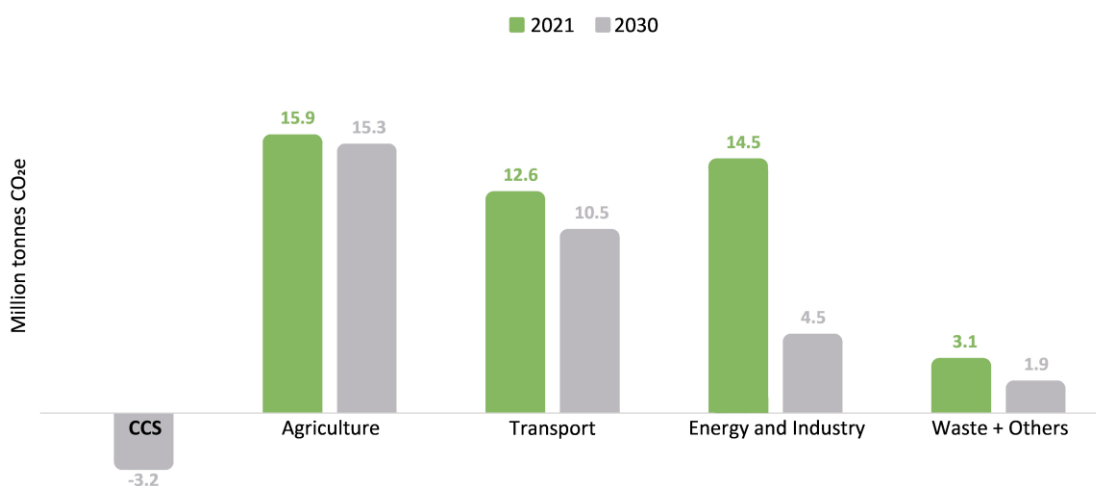
---

<sup>2</sup> In the Danish Energy Agency's calculations, this category consists of emissions from agricultural processes, agricultural land and forests, the sector's energy consumption, horticulture and fisheries (Danish Energy Agency, 2023a: 15)

<sup>3</sup> The category 'energy and industry' is based on the following categories from the Danish Energy Agency's calculations: 1) electricity and district heating, 2) manufacturing and construction, 3) households, 4) production of oil, gas and renewable fuels. Households are included as the majority of this sector consists of emissions from individual heating.

and agriculture sectors of 2.1 and 0.6 million tonnes of CO<sub>2</sub> e, respectively. The sectoral emissions in 2021 and 2030 are summarised in the figure below.

**Figure 1.** Different sectors' share of total Danish net CO<sub>2</sub> e emissions in 2021 compared to the expected in 2030.



Source: Danish Energy Agency, 2023a

To realise these expected reductions in 2030, it is crucial that already decided national initiatives and targets across the various sectors are **implemented**, in which the Danish municipalities plays a central role. At the same time, climate projections show that there is a significant reduction deficit of 5.4 million tonnes of CO<sub>2</sub>e compared to the 70% target of the Danish Climate Act in 2030 (Danish Energy Agency, 2023a: 10). This is also highlighted in Klimarådets status report from 2023, which states that with the government's planned initiatives (in 2022), it is not clear how the 70% target will be achieved by 2030 (Klimarådet, 2023: 116-117). This indicates that there is a need for new initiatives where municipalities can contribute with solutions that **innovate, challenge and expand** the existing targets and initiatives across sectors in order to increase the Danish reduction contribution and fulfil national and international obligations.

### 3.2.1 Energy and industry

Reducing emissions from the energy and industrial sector is crucial to realising the expected decrease in emissions by 2030. These reductions are tied to the conversion of electricity and heat production from fossil fuels to renewable energy (RE). This requires a significant expansion of RE plants, which is also reflected in political ambitions in this area.

Municipalities have for instance a key role in implementing these ambitions by identifying favorable areas for the production of land-based solar and wind energy. As authorities in the planning sector, municipalities are responsible for screening and designating areas for technical facilities through municipal and local plans, thereby catalysing the installation of renewable energy facilities. This is also



reflected in the municipalities' own climate action plans, where an analysis of the municipalities' CO<sub>2</sub> reduction contribution to the 70% target in 2030 shows<sup>4</sup> that the energy sector plays a major role in the municipalities' reduction efforts. In 2030, municipalities expect to reduce by 16.3 million tonnes of CO<sub>2</sub>, which corresponds to 112% compared to the base year<sup>5</sup> and thus an expected negative emission in the energy sector (EA, 2023: 24–25). Of this, 92% comes from the phasing out of fossil fuels, while the remaining consists of the production of green fuels (e.g., ptx) and storage of CO<sub>2</sub> (CCS/CCU).

Municipalities are also important actors in realising reductions in the heating sector. As heating authorities, the municipalities, in collaboration with relevant utility companies, are responsible for the overall heat planning in the municipality's geography and for approving projects that, for example, expand the district heating network and enable citizens to convert their heat supply (Danish Energy Agency 2013: 34). As the owner of approximately half of the district heating companies (Cevea, 2016: 8), the municipalities also have a responsibility to convert their district heating plants so that the local district heating supply is based on renewable energy sources. This is also reflected in the municipalities' climate action plans, where all municipalities focus on the conversion of individual oil and gas boilers to district heating or heat pumps. There are currently 460,000 oil and gas boilers in Denmark, collectively emitting more than 2 million tonnes of CO<sub>2</sub> annually (KL, 2023a: 118). Overall, 25% of Danish buildings used for residential purposes are heated with oil or gas, which is expected to be reduced to 12% by 2030 (Danish Energy Agency 2023a: 26). This means that there are significant reductions to be made by 2030, and municipalities are crucial for ensuring the transition to take place.

**Figure 2.** The distribution of Danish homes' primary forms of heating in 2022 and the expected distribution in 2030 in percentage.



Source: Danish Energy Agency 2023a

<sup>4</sup> The analysis conducted by EA Energy Analyses for CONCITO maps the DK2020 climate plans for 92 municipalities that had submitted their climate action plans by August 2023 (EA, 2023: 13). Therefore, not all Danish municipalities' targets are included when referring to the municipalities' climate action plans in this analysis.

<sup>5</sup> The base year is the starting point for the municipalities' calculations. In their climate action plans, the municipalities have used different base years (from 2017-2020) depending on the time of preparation of the plans and the availability of data (EA, 2023: 7).

As the country's largest property owners, the municipalities themselves also have significantly many buildings. Together, the municipalities own 45,000 properties with a total of 31 million metres<sup>2</sup> (FRI, 2016: 65). Through the procurement, construction and operation of these units, municipalities can both reduce emissions directly and at the same time demonstrate a more sustainable path for other building owners in the municipality. In terms of heat supply, 4,241, with approx. 2.9 million m<sup>2</sup> of the municipal buildings are heated with either natural gas or oil (KL, 2023b: 3). According to municipal reports on [plandata.dk](http://plandata.dk), the municipalities expect to convert the municipal heat sources to either district heating (64.5%) or other individual heat sources such as heat pumps (35.5%).

### **3.2.2 Transport**

Reducing emissions from the transport sector by 2030 requires a transition of road traffic, which accounts for the vast majority of Denmark's transport emissions (Danish Energy Agency, 2023a: 34). Municipalities can help reduce these emissions through a number of different initiatives that both contribute to the electrification of road traffic and reduce citizens' demand for driving.

Municipalities can contribute to the electrification of road traffic by supporting citizens' conversion to electric vehicles and by converting the municipal car fleet themselves. The municipalities' climate action plans show that most municipalities focus on electrifying public transport, converting waste collection vehicles and replacing the municipal car fleet with electric vehicles (EA, 2023: 29). For example, through their procurement policy and bus operations, municipalities can set requirements for the vehicles that deliver services to the municipality's institutions and citizens. Through their own vehicle fleet, municipalities can demonstrate the relevance of electric cars and directly contribute to the reductions. The share of low-emission cars<sup>6</sup> in the municipal car fleet in 2023 is 16.8%, which is more than double compared to 2021, when the car fleet consisted of 7.9% low-emission cars (The Danish Car Importers, 2023). However, with 83.2% fossil fuels in the municipal fleet, there is still a lot of work to be done to convert the municipalities' own vehicles and secure reductions in the field,

However, the municipalities' car fleet represents only a small share of the total Danish road transport and thus a small share of the transport sector's emissions, which is why the municipalities' role in supporting the citizens' transition is important to achieve significant reductions. In 2022, municipalities were authorised to tender for and co-finance publicly accessible charging stations on municipal land. This means that municipalities can now contribute to the roll-out of charging infrastructure and thereby increase the incentive for citizens to switch to electric vehicles. This is also reflected in the municipalities' climate action plans, where 86% of municipalities are working on initiatives that support good charging infrastructure and parking options for electric vehicles (EA, 2023: 29).

Reductions in emissions from the transport sector can also be achieved by reducing the need to drive and by changing citizens' transport habits. Through various local initiatives such as urban planning, investments in public transport, improvements to cycling conditions and campaigns, municipalities can promote modal shifts. These initiatives can help change citizens' transport habits, especially in larger cities, so that private car use is replaced by walking, cycling, public transport and car-sharing/carpooling.

---

<sup>6</sup> The Danish Car Importers' survey counts electric, plug-in hybrid and gas/hydrogen as low-emission cars, but since plug-in hybrid and gas/hydrogen-powered cars make up less than 1% of the car fleet, electric cars account for the majority of low-emission cars.

An example in the transport area is Odense Municipality, which, as part of its climate efforts, has adopted a green mobility plan that aims to achieve a reduction of 100,000 tonnes of CO<sub>2</sub> from transport by 2023. This will be achieved through a number of different initiatives that are gradually being rolled out, including speed reductions for cars in parts of the municipality, strengthening cycling and public transport, traffic calming in urban districts and efforts to increase the proportion of electric cars in Odense's car fleet. Initially, a number of "opening moves" and experiments will be launched in 2023 to test the various measures on a smaller scale and gain practical experience with them in order to subsequently assess the use of the tools (Odense Municipality, 2023).

### **3.2.3 Agriculture**

Part of the agricultural sector's emissions originates from agricultural land use, where the cultivation of carbon-rich lowland soil accounted for approximately 10% of Denmark's total emissions in 2020. In the climate projection from 2023, emissions from agricultural land use are expected to decrease from 5.1 million tonnes of CO<sub>2e</sub> in 2021 to 3.7 million tonnes of CO<sub>2e</sub> by 2030, which is primarily due to the extraction of lowland soil (Danish Energy Agency, 2023a: 17). Municipalities can have a key role in implementing extraction efforts. They can facilitate projects, enter into dialogue with local landowners and strengthen the administrative processing of projects. This is also reflected in the municipalities' climate action plans, where 72% of the municipalities are working on initiatives related to extracting of lowland soils (EA, 2023: 30). The municipalities included in the above-mentioned mapping expect to support the removal of 62,100 ha of lowland soil by 2030 (ibid.), which corresponds to approx. 1/3 of Denmark's total cultivated lowland area.

Afforestation and the establishment of permanent plant cover are in many cases expected to reduce greenhouse gas emissions by sequestering CO<sub>2</sub> from the atmosphere and are therefore important tools for reducing emissions associated with land use in the long term. As planning authorities, municipalities have the power to designate both desired and undesired areas for afforestation through municipal plans and to approve private applications for afforestation areas. In addition to approving private afforestation projects, municipalities can also choose to reforest their own areas. The municipalities thus have the opportunity to influence climate action directly by establishing municipally owned forests and indirectly by designating and approving areas for private forests.

### **3.2.4 Waste and wastewater**

The waste sector, which includes the treatment of waste and wastewater from households, the service sector and industry, emitted approximately 2.3 million tonnes of CO<sub>2e</sub> in 2021, which is expected to be reduced to 1.7 million tonnes of CO<sub>2e</sub> in 2030 (Danish Energy Agency, 2023a: 72). As owners of waste companies and authorities in the area, municipalities have a high degree of influence in reducing the sector's emissions through increased waste sorting, increased recycling of food waste and separation of plastic waste from waste incineration. As an authority, municipalities are obliged to prepare waste management plans and supervise companies' compliance with the rules (Ministry of the Environment, 2021b: 34). In addition, municipalities can reduce waste volumes through active waste prevention. Through their citizen-centred position in society, municipalities can inform and communicate about reuse and circular economy.

In addition, municipalities are often owners of the wastewater companies that treat wastewater from households and service industries. There are good opportunities to reduce greenhouse gas emissions from wastewater treatment through, for example, biogas production, which several municipalities have initiated.

### **3.3 Climate adaptation**

Danish municipalities also play a significant role in climate adaptation efforts, where they can contribute to adapting society to the current and future effects of climate change.

According to DMI's climate atlas (2023), the Danish climate will become warmer and wetter in the future due to rising temperatures as a result of climate change. This is expected to result in more and longer heat waves, heavier rainfall, higher water levels and more storm surges (DMI, 2023). These climate hazards will affect municipalities differently depending on their geographical vulnerability. The physical geography and location of municipalities means that they are affected by different climate hazards, and in addition, the individual citizens in the municipality are not equally resilient to the climate hazards they are exposed to.

In the following, the municipalities' engagement in climate adaptation will be explored based on the various climate hazards resulting from climate change, including rainfall, sea level, watercourses, near-surface groundwater, warm spells and heatwaves and lastly drought.

#### **3.3.1 Rainfall**

In the future, increased precipitation is expected in the winter, spring and autumn months, while the summer months will be characterised by longer periods without precipitation, and when precipitation does occur, it is often in the form of heavier rain and more frequent cloudbursts (DMI, 2023). Municipalities have an active role in rainwater management, both through their role as an authority, but also as co-owners of wastewater companies. The municipalities prepare a wastewater plan, which forms the framework for rainwater management in the municipality. The wastewater companies are responsible for managing rainwater events to the service level specified in the wastewater plan. The companies must prioritise construction tasks and maintenance of existing facilities and sewers.

As an authority, the municipalities fulfil a number of different tasks: In addition to being responsible for drawing up wastewater plans, the municipalities must ensure that new buildings and facilities are not threatened by flooding through guidelines in municipal and local plans. They must also process and issue discharge permits and connection permits for private individuals and developers' rainwater management projects and issue orders for e.g. separate sewerage.

This is also reflected in the municipalities' climate action plans<sup>7</sup>, where all municipalities are working on initiatives related to rainfall (CONCITO, 2023: 31–32). These measures are wide-ranging, but the five most frequently mentioned measures in the plans are separate sewerage, rainwater basins, retention facilities, information and dialogue, and cloudburst roads (ibid.: 33).

#### **3.3.2 Sea level**

Danish storm surge projections are characterized by expected sea level rises and more storm surge events, leading to an increased risk of flooding and a need to protect the Danish coasts (DMI, 2023).

---

<sup>7</sup> The analysis of climate adaptation in the municipalities' climate action plans is based on 90 municipalities' plans and the background documents that have formed the basis for the municipalities' DK2020 certification. The analysis was prepared by CONCITO in collaboration with Niras (CONCITO, 2023: 13)

Municipalities also have a central role in coastal protection. With the amendment of the Coastal Protection Act in 2018, the authority to make decisions on coastal protection was gathered with the municipalities (Ministry of the Environment, 2021: 16). This means that municipalities must now assess and approve coastal protection projects based on various parameters (ibid.: 5). In addition, municipalities can play a facilitating role for citizens when planning specific coastal protection projects and in general information about flood and erosion prevention.

The analysis of the municipalities' climate adaptation plans shows that all Danish coastal municipalities are working on initiatives related to risk management of seawater. The majority of these coastal municipalities focus on coastal protection in their climate action plans through measures such as dikes, locks or flood walls, warning and preparedness, as well as information and direct dialogue with citizens (CONCITO, 2023: 33).

### **3.3.3 Watercourses**

Danish watercourses are also expected to experience rising water levels as a result of climate change, which could result in localised flooding around the country (C2C CC, 2023). Municipalities are watercourse authorities, which means that they are responsible for maintaining all public watercourses in accordance with the watercourse regulations (Ministry of the Environment, 2023a). For private watercourses, however, it is the individual landowner who is responsible for maintenance.

75% of municipalities have specified measures related to adaptation of watercourses in their climate action plans with 53% specifying concrete measures. The majority of these measures relate to construction projects (water retention in wetlands and delaying water upstream of urban areas) and communication with citizens (CONCITO, 2023: 33).

As these watercourses are connected across municipal boundaries, it often requires coordinated efforts between municipalities.

### **3.3.4 Near-surface groundwater**

The groundwater table has risen to one metre in several places over the last 30 years. This rise is expected to continue in the future due to increased rainfall and rising sea levels because of climate change, which can result in localised flooding (Ministry of the Environment, 2023b: 4).

Today, it is the individual landowners who are responsible for solving challenges with high groundwater levels on their properties. But with the national 'Climate Adaptation Plan 1' from October 2023, it is now planned that the municipalities also will be the authority in this area and enable wastewater companies to implement collective solutions in the municipality's geography (ibid.). Thus, in the future, municipalities are also expected to play a crucial role in adapting to high groundwater levels. In the municipalities' climate action plans, the most frequently mentioned measures are information and dialogue, while few mention the use of perched groundwater, ditches, system drainage/third pipe and groundwater drainage (CONCITO, 2023: 33).

### **3.3.5 Warm spells and heatwaves**

Climate change is also causing higher average temperatures, which are expected to result in more and longer heatwaves in Denmark (DMI, 2023). Here, urban areas are particularly vulnerable compared to rural areas, as they absorb more sunlight and have less vegetation for cooling (NIRAS, 2022: 20).

Municipalities have the opportunity to contribute to adaptation efforts by integrating cooling measures into spatial planning, entering into dialogue with building owners about cooling measures and launching information campaigns targeted at the municipality's citizens (ibid.: 29). Through urban planning, municipalities can, for example, shade streets or establish water stations to cool the city's residents. Municipalities also have a major role to play in protecting their vulnerable groups, including children and the elderly, during extremely hot days, including in municipal care centers.

Warm spells and heatwaves are a relatively new climate hazard in a Danish context, which also reflects in the municipalities' climate adaptation plans with around half of them indicating measures in their plans. The analysis of the action plans shows that concrete measures include warning and preparedness, information and dialogue, and trees in the city (CONCITO, 2023: 33).

### **3.3.6 Drought**

The number of dry days and the length of dry periods are also expected to increase by 2100 (NIRAS, 2023: 7), which could potentially have negative consequences for both agriculture and nature.

Municipalities can address challenges associated with drought through direct measures, such as reducing the risk of fire and water resource scarcity through bans against watering and burning (ibid.: 19–20), and by issuing short-term permits for water extraction from existing groundwater wells. Similarly, municipalities can address the challenges more indirectly through information and dialogue with organisations and landowners, which can improve and educate them about preventive measures as well as challenges and solutions associated with droughts. The analysis of the municipalities' climate action plans shows that half of them have specified measures for drought, where it is especially the more indirect measures that the municipalities currently focus on in their climate action plans (CONCITO, 2023: 33).

## **4. The value of local initiatives**

In addition to the fact that municipalities, with their different roles and competences, are key actors in the transition, there are also arguments claiming that local climate action in itself has a special value.

### **4.1 Contextualisation**

Climate action at the local level implies a more contextualised approach, which can potentially contribute positively to the transition. Firstly, several of the emission sources to be transitioned are part of complex systems that are regulated locally or where relevant solutions depend on local conditions. For example, the conversion of the heat supply depends, among other things, on how close the buildings are to each other and what heat sources are available in the area. Whether it is suitable to pursue a collective or individual solution will largely depend on these factors.

. Similarly, the consequences of climate change are often localised and very different in relation to the country's geography and citizens' vulnerability, which is why the solutions used in adapting to climate change are particularly context-specific (Nielsen, 2022: 32). Municipalities possess the local knowledge and proximity that gives them an important role in identifying local adaptation needs and managing them.

At the same time, many of the solutions that will be effective in the transition are more dispersed or contextually dependent in nature. Renewable energy sources are more dispersed and diffuse than fossil fuels (Smil, 2010: 112), which is why there is a need for flexible energy systems that can both collect and

store energy and at the same time utilise energy sources where they are. In a way, the same can be said for sustainable transport systems, where the choice of technological solutions depends on the local context. For example, whether cycling or public transport is a sensible solution depends on the context, including the municipality's infrastructure, geographical location and citizens.

#### **4.2 Added value**

Local climate action may also have a better opportunity to understand the potential for linking climate action with other local development needs (Marsden & Gudmundsson, 2023: 14; Corfee-Morlot et al., 2009: 13). In the municipalities' climate action plans, they are working on identifying the added value that can arise in connection with local climate action. By linking the climate transition with, for example, job creation, noise reduction or the creation of nature and better urban spaces, the value of climate action can be increased through synergy effects (Nielsen, 2022: 31-32; Bulkeley, 2015: 7). One example of this is the potential for synergies between biodiversity and climate in lowland soil sequestration projects. The removal of carbon-rich low-budget soils can simultaneously restore and re-establish nature and thereby strengthen biodiversity, especially if efforts are focused on the areas with the greatest potential for restoration and biodiversity (DCE, 2023: 36-37),

Added value from climate action can also be in the form of positive economic externalities. For example, financial savings in connection with energy efficiency improvements in households and municipal buildings and the creation of new business opportunities when investing in renewable energy (Nielsen, 2022: 31-32; Bulkeley, 2015: 7).

These opportunities to link climate action with other natural, social and economic development goals and needs are incredibly context-specific and thus difficult to manage at a national level. At the same time, it is essential to ensure support for climate action that it is linked to concrete, local benefits as much as possible (C40 Cities, 2023). For example, as the owner of utility companies and as an authority, the municipality can establish construction projects based on the needs of the local community, which are functional and at the same time bring recreational value to the surroundings of the facility. An example in the field of water supply is the climate project '*sØnæs*' in Viborg municipality, which functions as a water treatment plant, climate protection and at the same time is a city park designed with various facilities for the citizens of the municipality (Viborg Municipality, 2023).

Similarly, the consequences of climate change also affect different parts of the country differently, such as possible job losses, decreasing property values and the like. Municipalities can therefore also contribute to local management of these challenges to achieve a fair and equitable distribution of the benefits of the transition.

#### **4.2 Legitimacy**

Municipalities are the administrative level that is closest to and in the most dialogue with citizens. A general principle that can also be emphasised in climate and climate adaptation policy is the principle of subsidiarity - that political and social issues must be addressed and managed at the institutional level that is closest to the citizens in order to ensure democratically legitimate interference in citizens' lives (Bulkeley, 2015; Collier, 1997: 39-40). This is because local administrations, by virtue of their direct contact with citizens, have a greater insight into the local needs of society. In addition, through their local knowledge, in-depth insights and understanding of local needs, municipalities can gain greater trust and legitimacy among local stakeholders (Madsen and Hansen, 2019: 25). This can lead to greater understanding and acceptance of political decisions and implementations in climate action that may be unpopular or make everyday life difficult for citizens.

Municipalities also have the opportunity to increase support and legitimacy for climate actions through involvement and local ownership. Despite strong general support for climate policy actions among the population, there is sometimes a high degree of local resistance to important initiatives in the transition, such as the expansion of solar cells, wind turbines and biogas plants, taxes on food, transport and regulation of buildings. Several studies indicate that involving citizens in the process is crucial to achieving acceptance and support for critical solution components in climate action (Jørgensen et al., 2020; Borch et al., 2020). The proximity of municipalities and direct dialogue with citizens is an important factor in creating a connection between citizens and the political level. DeltagerDanmark/Teknologirådet describes this as the "participant effect", which refers to the fact that through involvement and participation in political processes, citizens gain a greater understanding of the background for the green transition and ownership of decisions, which leads to a greater willingness to accept potentially unpopular and intrusive decisions (DeltagerDanmark, 2021).

Citizen involvement and local ownership also form an essential part of municipalities' climate action plans. Thus, municipalities are taking on a large part of the responsibility for this task.



## Bibliography

Betsill, M., & Bulkeley, H. 2003. *Cities and Climate Change* (1st ed.). Routledge.

<https://doi.org/10.4324/9780203219256>

Blom-Hansen, J., Munk Christiansen, P., Pallesen, T., & Serritzlew, S. 2019. *Offentlig forvaltning: et politologisk perspektiv*. Hans Reitzel.

Bulkeley. 2015. *An urban politics of climate change: experimentation and the governing of socio-technical transitions*. Routledge. <https://doi.org/10.4324/9781315763040>

Bulkeley, H., & Kern, K. 2006. Local Government and the Governing of Climate Change in Germany and the UK. *Urban Studies*, 43(12), 2237–2259. <https://doi.org/10.1080/00420980600936491>

Broto, V. 2017. Urban Governance and the Politics of Climate change. *World Development*, 93, 1–15. <https://doi.org/10.1016/j.worlddev.2016.12.031>

C2C CC. 2023. Åer og vandløb – måske den mest komplicerede klimatilpasning.

<https://www.c2ccc.eu/om-c2c-cc/Signaturfortaellinger/aer-og-vandlob--maske-den-mest-komplicerede-klimatilpasning/>

C40 Cities. 2020. *Climate Action Planning Framework*. New York, NY 10017.

<https://c40.my.salesforce.com/sfc/p/#36000001Enhz/a/1Q0000001mw6/Dn5yZGRzu3uSpVrzflmulOgU1tqq4jpfIEDfJnTGUM>

C40 Cities. 2022. *C40 Annual Report 2022*. [https://www.c40.org/wp-content/uploads/2023/03/C40-Cities-Annual-Report-2022\\_Published-Online-31-Mar-2023.pdf](https://www.c40.org/wp-content/uploads/2023/03/C40-Cities-Annual-Report-2022_Published-Online-31-Mar-2023.pdf)

C40 Cities. 2023. *Why city action is critical in the fight against climate change*.

[https://www.c40knowledgehub.org/s/article/Why-city-action-is-critical-in-the-fight-against-climate-change?language=en\\_US](https://www.c40knowledgehub.org/s/article/Why-city-action-is-critical-in-the-fight-against-climate-change?language=en_US)

Cevea. 2016. *Kommunernes comeback som forsyningselskaber – Indsigter fra reformer af forsyningssektoren i Europa – studier, cases og læringspunkter om prisudvikling og (gen)kommunalisering*. København V.

Collier, U. 1997. Local authorities and climate protection in the European union: Putting subsidiarity into practice? *Local Environment*, 2:1, 39–57, <https://doi.org/10.1080/13549839708725511>

CONCITO, 2023. *Klimatilpasning i danske kommuners klimahandlingsplaner*

Corfee-Morlot, J.; L. Kamal-Chaoui, M.G. Donovan, I. Cochran, A. Robert & P.-J. Teasdale (2009) *Cities, Climate Change and Multilevel Governance*. OECD Environmental Working Papers, No. 14, OECD Publishing.

DCE. 2023. *Prioritering af biodiversitet ved udtagning og genopretning af kulstofrige lavbundsletter*. Videnskabelig rapport fra DCE - Nationalt Center for Miljø og Energi nr. 544. ISBN: 978-87-7156-762-5.

<https://dce2.au.dk/pub/SR544.pdf>

Danish Energy Agency. 2013. [https://ens.dk/sites/ens.dk/files/Varme/varme-regulering/strategisk\\_energiplanlaegning\\_kommuner-2012.pdf](https://ens.dk/sites/ens.dk/files/Varme/varme-regulering/strategisk_energiplanlaegning_kommuner-2012.pdf)

Danish Energy Agency. 2023a.

[https://ens.dk/sites/ens.dk/files/Basisfremskrivning/kf23\\_hovedrapport.pdf](https://ens.dk/sites/ens.dk/files/Basisfremskrivning/kf23_hovedrapport.pdf)

DeltagerDanmark. 2021: Borgerinvolvering i kommunernes grønne strategier.

<https://deltagerdanmark.dk/borgerinvolvering-i-kommunernes-groenne-strategier/>

DMI. 2023. Klimaatlas. <https://www.dmi.dk/klimaatlas/>

EA Energianalyse. 2023. Analyse af kommunernes CO<sub>2</sub>-reduktionsbidrag til 70%-målsætningen i 2030. København K. <https://realdania.dk/publikationer/faglige-publikationer/analyse-af-kommunernes-co2-reduktionsbidrag-til-70-maalsaetningen-i-2030-september-2023>

Elgendy, K. 2023. Unleashing urban power: How cities can reshape climate governance.

<https://climatechampions.unfccc.int/unleashing-urban-power-how-cities-can-reshape-climate-governance/#:-:text=Cities%20are%20where%20climate%20battles,to%20play%20in%20climate%20adaptation.>

Energiforum. 2023. Samsø får Danmarks bedste ladeinfrastruktur.

<https://www.energiforumdanmark.dk/nyt/2023/samsø-far-danmarks-bedste-ladeinfrastruktur/>

European Union. 2022. EU Missions, 100 climate-neutral and smart cities.

<https://netzerocities.eu/wp-content/uploads/2023/01/eu-missions-KI0122329ENN.pdf>

Fitzgerald, J., & Lenhart, J. 2016. Eco-districts: can they accelerate urban climate planning?

Environment and Planning. C, Government & Policy, 34(2), 364–380.

<https://doi.org/10.1177/0263774X15614666>

Florida, R. 2019. Are Local Politics As Polarized As National? Depends on the Issue. Bloomberg.

<https://www.bloomberg.com/news/articles/2019-04-24/local-politics-aren-t-as-polarized-as-national-politics>

FRI. 2016. State of the Nation 2016. ISBN: 87-88086-99-2.

[https://www.frinet.dk/media/1087/fri\\_state-of-the-nation\\_2016\\_web.pdf](https://www.frinet.dk/media/1087/fri_state-of-the-nation_2016_web.pdf)

GCoM. 2023. Who we are. <https://www.globalcovenantofmayors.org/who-we-are/>

Grimstrup, J. 2023. Klimaet og det individuelle ansvar. Pov.international, 1. august 2023.

<https://pov.international/klimaet-og-det-individuelle-ansvar/>

Hansen, & Agger, A. 2023. Copenhagen CO<sub>2</sub> neutrality in 2025? A polycentric analysis of urban climate governance in Copenhagen 2006–2020. Environmental Policy and Governance, 33(3), 288–300.

<https://doi.org/10.1002/eet.2030>

ICLEI. 2023. About us. [https://iclei.org/about\\_iclei\\_2/](https://iclei.org/about_iclei_2/)

InnovateUK. 2022. Accelerating Net Zero Delivery. Unlocking the benefits of climate action in UK city-regions. [https://www.ukri.org/wp-content/uploads/2022/03/IUK-090322-](https://www.ukri.org/wp-content/uploads/2022/03/IUK-090322-AcceleratingNetZeroDelivery-UnlockingBenefitsClimateActionUKCityRegions.pdf)

[AcceleratingNetZeroDelivery-UnlockingBenefitsClimateActionUKCityRegions.pdf](https://www.ukri.org/wp-content/uploads/2022/03/IUK-090322-AcceleratingNetZeroDelivery-UnlockingBenefitsClimateActionUKCityRegions.pdf)

IPCC. 2023a: Sections. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core

Writing Team, H. Lee and J. Romero (eds.)). IPCC, Geneva, Switzerland, pp. 35–115, doi: 10.59327/IPCC/AR6-9789291691647:  
[https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC\\_AR6\\_SYR\\_LongerReport.pdf](https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_LongerReport.pdf)

IPCC. 2023b. UN / GUTERRES IPCC REPORT.  
<https://www.unmultimedia.org/avlibrary/asset/3022/3022200/>

KL. 2023a. Kend din Kommune – Brug nøgletal i styringen 2023. København S. ISBN 978-87-93950-86-3. <https://www.kl.dk/media/2a4pt32e/kend-din-kommune-2023.pdf>

KL. 2023b. Udfasning af olie- og naturgasfyr i kommunale bygninger. København S.  
<https://www.kl.dk/media/j5rnqf2n/udfasning-af-olie-og-naturgasfyr-i-kommunale-bygninger.pdf>

Klimarådet. 2023. Statusrapport 2023 (1067 København K) ISSN: 2794-3712.  
[https://klimaraadet.dk/sites/default/files/node/field\\_file/Klimaraadet\\_statusrapport23.pdf](https://klimaraadet.dk/sites/default/files/node/field_file/Klimaraadet_statusrapport23.pdf)

KU. 2020. Gevinster ved kommunal skovrejsning. <https://ifro.ku.dk/debatindlaeg/debatindlaeg-2020/gevinster-ved-kommunal-skovrejsning/>

L 36 A som vedtaget: Folketingstidende 2022-23, tillæg C, L 36 A som vedtaget.  
<https://www.folketingstidende.dk/samling/20222/lovforslag/L36A/index.htm>

Madsen, & Hansen, T. 2019. Cities and climate change - examining advantages and challenges of urban climate change experiments. *European Planning Studies*, 27(2), 282–299.  
<https://doi.org/10.1080/09654313.2017.1421907>

Marsden, G. & H. Gudmundsson. 2023. Aligning Transport Decarbonization across policy levels – a comparative review of countries. København.  
<https://concito.dk/files/media/document/Aligning%20Transport%20Decarbonisation%20across%20levels%2011.04.pdf>

Ministry of Domestic and Health. 2005. Kommunalreformen – kort fortalt (1216 København K). IBSSN: 87-7601-149-6. <https://im.dk/media/7296/kommunalreformen-kort-fortalt.pdf>

Ministry of the Environment. 2021. Kommune med kystansvar – Forvaltning af kystbeskyttelsesloven.

Ministry of the Environment. 2021b. Hvad gør din kommune for at mindske affaldsmængderne?  
<https://www.dn.dk/vi-arbejder-for/baeredygtighed/cirkulaer-okonomi/hvad-gor-din-kommune-for-at-mindske-affaldsmaengderne/>

Ministry of the Environment. 2023a: Vedligeholdelse af offentlige og private vandløb.  
<https://mst.dk/borger/natur-og-fritid/natur-og-biodiversitet/naturplejegyden/naturplejegyden-plattformen/vedligeholdelse-af-offentlige-og-private-vandloeb>

Ministry of the Environment. 2023b: Regeringens udspil til Klimatilpasningsplan 1.  
<https://mim.dk/media/236250/regeringens-udspil-til-klimatilpasningsplan-1.pdf>

Ministry of Economic Affairs and Domestic. 2014. Kommuner og Regioner – Opgaver og finansiering. ISBN: 978-87-92856-44-9. <https://im.dk/media/7297/kommuner-og-regioner-opgaver-og-finansiering-juni-2014.pdf>

Nielsen, H, 2022. Climate Change and Sustainable Development Governance, pp. 30–47 i D. Russel og N. Kirsop-Taylor (red.) *Handbook on the governance of sustainable development*. Edward Elgar Publishing.

NIRAS. 2022. Håndtering af tørke, hede og vind i kommunernes klimatilpasning.

The Danish Car Importers. 2023. Kommunernes bilflåder 2023.

<https://www.bilimp.dk/kommunernes-bilflaader-2023/>

Odense Kommune. 2023, Grøn Mobilitetsplan.

Planinfo. 2023. Skovrejsning. <https://planinfo.dk/plantemaer/natur-miljoe-og-landskab-mv/skovrejsning>

Samsø Kommune. 2020. Samsø Klimahandlingsplan 2020. <https://energiakademiet.dk/wp-content/uploads/2022/03/samsoe-klimaplan-dk2020.pdf>

UNFCCC, 2023. In: UN Climate Conference 2023: Synthesis reports. Technical dialogue of the first global stocktake. Synthesis report by the co-facilitators on the technical dialogue. UNFCCC Secretariat, United Arab Emirates. FCCC/SB/2023/9. <https://unfccc.int/documents/631600>

Viborg Kommune. 2023. sØnæs ved Viborg Søndersø. <https://viborg.dk/demokrati-og-indflydelse/udvikling-og-planer/udvikling/vi-udvikler-natur-og-klimaprojekter/soenaes-ved-viborg-soendersoe/>

Aarhus Kommune. 2023a. Skovrejsning i Aarhus Kommune.

<https://endelafloesningen.aarhus.dk/skovrejsning/>

Aarhus Kommune. 2023b. Grønne indkøb. <https://aarhus.dk/virksomhed/leverandoer-til-os/aarhus-kommunes-indkoebs-og-udbudspolitik/groenne-indkoeb>