

POLICY BRIEF



Driving changes in cities

Municipal decarbonising in good company
And with a bit of money

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HIGHLIGHTS

This policy brief describes the four key “soft practices” that are conducive to the implementation of impactful initiatives in any municipality.

The four good practices bind together environmental and social action. They limit the risks faced by the various stakeholders in cities by promoting acceptance and supporting long-term engagement.

This provides fertile ground for attracting investment, including by citizens themselves.

This brief summarizes the results of the systematic analysis of initiatives implemented in eighteen Danish cities that are proactively engaged in their decarbonization plans.

It concludes by presenting concrete examples of the practices in the municipalities studied.

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- Cities, where final energy consumption is closely linked to economic and social issues are expected to scale up their efforts in the decades to come in order to accelerate the sustainable energy transition.
 - On the bright side, technological innovation has opened up new paths, and the Overton window for urban decarbonization has moved. Local decision-makers need to move with this window to avoid “mindset lock-in”.
 - The most committed cities have established several soft measures that reflect their proactive attitudes towards addressing issues with the energy transition.
 - These measures are the key to facilitating good practices that set the stage for boosting expertise and stakeholder engagement and limiting the risk to investors. They include the following measures:
 - 1. Strive to improve collaboration**
 - 2. Engage in dialogue**
 - 3. Activate the regulatory change**
 - 4. Engage local communities through innovative funding**
 - These four ready-to-use conditions are cross-cutting, low-cost catalysts to accelerate the sustainable transition.
 - As countries become more and more committed to the fight against climate change, this policy brief is addressed to a growing number of cities beyond Denmark’s borders.
 - Last but not least, these measures can be replicated in any municipality, regardless of its carbon footprint and the challenges it faces.



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MUNICIPAL DECARBONIZATION: A QUESTION NO LONGER IF, BUT HOW

With the Climate Change Act of June 2020, Denmark set out its objective to achieve a 70% reduction in its greenhouse gas emissions by 2030 compared to the 1990 level. This is the main milestone before the country becomes a net-zero emitter in 2050. By 2021, Denmark had managed to reduce its emissions by 38%. This represents a major achievement, but it also stresses the difficulty ahead.

The great challenge of the coming decades will be to get society as a whole on board, a consideration that places cities even more at the forefront of the decarbonization effort. Cities represent 70% of global CO₂ emissions, and the Paris Agreement appeals to them to participate fully in the climate transition. In ambitious cities like those within the C40 network, 40% of the Paris Agreement targets can be delivered. Nevertheless, the stakes and difficulties of the energy transition at the city level remain colossal, and **taking action largely depends on the will and capabilities of key local actors, energy planners, local politicians, businesses and of course citizens to make things happen.**

The dissemination of good practices is pivotal to avoid constantly reinventing the wheel and accelerating action. Today, 96 of the 98 Danish municipalities have developed strategic energy planning to reduce their carbon emissions and have thus acquired considerable know-how in this area. This makes them a good starting point for investigating and spreading existing good practices to accelerate local decarbonization plans.

Given the uniqueness of cities in respect of their energy mix, needs and economic wealth, the compilation of "technical" measures reflecting specific decarbonization strategies is poorly suited to outlining replicable practices. However, practices that fall within the domain of "supporting action" can be replicated and can serve as enablers of better planning and of the development and implementation of high-impact applied projects.



This policy brief describes four key "soft practices" that are conducive to the implementation of impactful initiatives.

These best practices are defined as such because they simultaneously address three main success criteria for achieving a strong impact. They are:

- **cross-cutting** in addressing multiple concerns that go beyond decarbonization
- **low cost**, if not **free**, clearing the way for financing decarbonization
- a **catalyst** by providing the foundations to accelerate the process of decarbonization attracting investment.

This policy brief also highlights a missing link for local actors in fully succeeding with their decarbonization plans. This gap should be filled by **national authorities.**

METHOD

The analysis combines two bottom-up methodological approaches to collecting and categorizing the framework conditions at play in the transition efforts of committed Danish municipalities.

1

We use as a **benchmark the first fourteen Danish municipalities to implement strategic energy-planning** projects between 2014 and 2015. This analysis captures the non-technical difficulties faced during the planning and implementation phases of the projects and describes the means and solutions used to address them.

2

The findings were substantiated through **in-depth interviews with the municipal planners of Roskilde, Holbæk and Lyngby-Taarbæk in Denmark**. It is worth noting that, rather than pointing out success stories that are specific to a city, our meeting with these city planners uncovered good practices that are the direct result of their committed attitude to this field.

The conclusions presented here are therefore applicable to any city or town, wherever it is, whatever its size, and wherever it starts from.



4 PRACTICES ENABLING MUNICIPAL DECARBONIZATION #1

Despite their limited financial resources and knowledge in areas that require a high level of multidisciplinary expertise, **local planners and decision-makers are on the front line of this titanic task.** It involves recasting energy systems and local modes of consumption and engaging in large-scale investments, often with benefits only over the long-term, while maintaining their cities' economic and social functions.

The detailed study of in-field operating experiences in recent years shows that, despite the differences in their economy and energy mix, all municipalities that are actively engaged in the fight against climate change share a common characteristic: their leaders have all put in place a proactive policy to support their plans of the energy transition and to attract investment. This includes:

The tables at the end of this brief give concrete examples to illustrate the best practices.

1. Support collaboration



If you ask your city's energy planners what **is the biggest challenge they face in planning energy-transition projects, they will probably say: "the lack of funding". Fortunately, the story does not end there,** and cities committed to their decarbonization plans have put in place a series of measures to get around the problem, at the heart of which lie **collaborative actions.**

Collaboration mitigates the effect of limited resources by pooling expertise and supporting knowledge-sharing. For example, a lack of experience with new planning fields may lead to poorly understood problems and solutions. To offset that risk, great efforts have been made to activate collaboration **through networking and knowledge-exchange events** at two distinct

levels: **between cities** involved in decarbonization activities, and **between the city and its ecosystem of local stakeholders.**

One of the main arguments for municipalities to engage in the energy transition is that it boosts the local economy. Including local businesses at the earliest stage of the discussions is also a good way of connecting the labour-force needs of a given energy-transition project with local know-how.

Finally, building knowledge, expertise and strong local collaborative networks is a counterweight to the short-term political strategies that some local politicians may have. By avoiding short-term strategies, the risk of being locked in to the use of undesirable technology is limited.

4 PRACTICES ENABLING MUNICIPAL DECARBONISATION #2 & #3

2. Engage in dialogue



Now, if you ask energy planners what makes project implementation challenging, they are likely to answer “the lack of buy-in”. A wide spectrum of actors may fail to accept green-energy projects, from residents who may suffer disturbances, to local businesses that may rely on established energy arrangements.

All the studied cities have initiated education and information programmes to support acceptance and have launched forums for dialogue and communication to foster citizens’ engagement. Such initiatives range from communication activities, for example, through press releases, to near-citizens’ initiatives, such as workshops and conferences where local representatives and cities’ stakeholders meet and discuss local energy plans and expectations.

The creation of energy communities around common values and the sharing of energy resources at the initiative of local planners or local decision-makers are other means of encouraging adhesion to and active participation in sustainable transition actions.



3. Activate the regulatory tool and public intervention



Another barrier sometimes put forward by city planners is regulation. **Regulatory barriers increase the risk for project developers and investors**, and often slow down transition projects.

Cities can rarely decide the rules of the game when it comes to regulatory frameworks. However, they can provide hands-on experience, as well as facilitating project planning and development by bending some of the rules that present an obstacle.

For example, cities can facilitate permissions by **updating their permission procedures**, or they **can facilitate experimentation** by applying to the relevant authorities to establish free regulatory zones to attract projects.

Such **regulatory “sandboxes”** are increasingly being used to create a temporary regulatory environment in which existing regulation is adjusted or lifted to test new measures and gain expertise.

4 PRACTICES ENABLING MUNICIPAL DECARBONISATION #4

4. Foster innovative funding with high social impact



Innovative funding concerns both how the municipality is subsidising local action and how outside investment is attracted to the city. The latter is explained in further detail on the following page.

A key point that emerges from city planners is that limited resources do not necessarily mean limited results. Use of the financial tool can serve as a trigger for other important achievements in cities in building on the domino effect. The key is to identify projects that combine high environmental and social impacts.

The dimensions of the social and energy transition are intertwined. Failing to take this into account can result in crises of confidence in climate policies, especially when measures impact disproportionately on some of the society's most vulnerable actors.

Conversely, using transition measures as a lever for social inclusion and equity is likely to provide a fertile ground for citizens' engagement and impactful actions in the future.

In earmarking budgets or addressing split incentives to serve projects with high social incidence, such as energy efficiency in buildings, cities give themselves the means to address the social and energy transition aspects at the same time.

Another means of fostering engagement in combining the social and energy agendas is to use new forms of participatory decision-making and action. For example, representative citizens of a city or district should be given an opportunity to propose the solutions they consider most appropriate in meeting their needs and in offering funding solutions.



From missing link to missing money

Our dialogue with city planners confirmed that funding difficulties are commonly shared concerns.

However, in a context in which the European Green Deal and the Danish Climate Agreement are supported by substantial budgets to fund CO2 reduction projects, this "missing money" for the transition in cities suggests a certain institutional void.



A missing link: bridging the gap between the energy transition in cities and the available funding

The energy changes announced for this decade and beyond have resulted in major funding programmes to support RD&D and applied projects. However, effective access to these funds depends on the capacity to seek them out.

This challenge sometimes results in a two-speed transition between municipalities, depending on their size and level of expertise, especially in respect of cross-cutting technical issues, and available resources.

To address this, a new institutional body could be created and nested within existing national organizations, possibly along the lines of the model used for the Danish Energy Agency and Local Government Denmark (**see BOX**), with a mandate to inform, advise and connect actors, and to support the search for funding from existing programmes.

Beyond reducing inequalities between cities, ensuring equivalent support for the acquisition of funds would contribute to increasing the number of projects and consortia competing against each other, which would in turn raise the quality level and the impact of the projects being financed.

Another argument in favour of the establishment of this new actor is that it would further strengthen the link between national energy road-maps and concrete actions and help steer local decarbonization initiatives.

CONCLUSION

Why does it matter?

Technology options are no longer limited by technological development. While this is positive, a new type of challenge may arise: mindset lock-in. Local stakeholders may be unaware of the new opportunities being brought about by the energy transition, or they may be poorly equipped to seize them. Solving this issue requires a friendly nudge, from a visionary mayor to a government mandate.

This study reveals a common thread running through all the good practices: they all stem from a proactive and voluntary mindset on the part of city planners and local authorities.

Although the four soft practices discussed in this brief are not in themselves tools for achieving decarbonization, they establish favourable conditions for anchoring impactful energy-transition projects.

The good practices bind environmental and social action together, and they limit the risks faced by the various stakeholders in cities by promoting acceptance and supporting long-term engagement.

This results in a fertile ground for attracting investments, including from the citizens themselves.

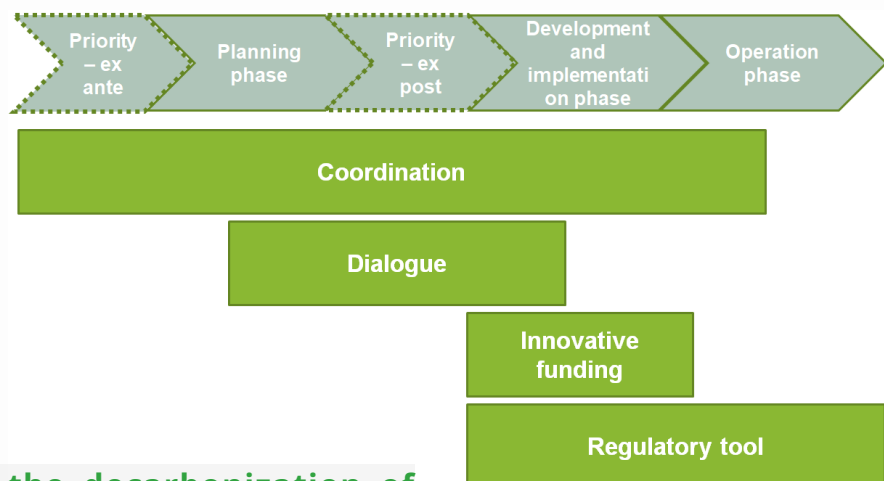
These synergy effects show that the decarbonization of cities is first a matter of priority, then of funding.

On this last point, a consultation between public authorities and representatives of cities is desirable to deploy the necessary means to channel available investment funds for the energy transition down to the cities.

Using the prism of chronology to observe the effect of the good practices shows a new side to the story and stresses which practices affect which step in the implementation of decarbonization plans in cities.

What stands out is that each of these good practices has a beneficial effect on several stages of the implementation of actions and that, by extension, they benefit all the actors that are active at each stage.

Priority may arise at two phases. Ex ante, there is a pre-existing priority as seen, for example, in contemporary Danish cities, where the question of energy transition has become not if but how. Ex post, the priority for the energy transition only arises when discovering it during a phase of broader planning. One example is the US military, which found the energy transition to be a strategic priority.



Note to our European neighbours and beyond

The Danish example highlights the power of inclusive decision-making and the benefits of thinking out of the box in order to come up with innovative rules of the game. But although cities have the power to conduct a wide range of facilitation activities, it is necessary to have a clear institutional basis first.

In the mid-2010s, the Danish government created the framework for Strategic Energy Planning (**SEP, see BOX**) as the institutional and technical basis of the construction of local transition policies. This framework included support from a dedicated government agency (DEA) and Local Government Denmark (KL). These linked municipal decarbonization projects, national energy road-maps and energy planning. Establishing this framework implies start-up costs and comes with its own share of organizational and institutional hurdles.

The process of SEP in Denmark encountered several bumps in the road, derived from the shifting of political priorities both locally and nationally. Learning from this, it is important to create a stable framework for the long-term transition. From the electricity system, we can take the equivalent, where the system must be able to sustain operations, despite parts of it falling offline. In municipal energy transitions, this must be done vertically (internationally, nationally and municipally) AND horizontally (between municipalities, NGOs and local stakeholders), e.g. through binding agreements and long-term targets.

BOX

The Strategic Energy Planning framework

Danish municipalities are encouraged to develop their Strategic Energy Planning (SEP). The goal of SEP is to assist city planners in the conversion of cities' energy systems so they become more efficient and less carbon-intensive.

Local Government Denmark (KL) and the Danish Energy Agency (DEA) have developed a framework, guidelines and methodology for SEP development and implementation, and they also act as direct intermediaries between the state and the municipalities. KL lobbies to make the role of the municipalities clearer and to give them more decision-making power through suitable legislation and provide a feedback loop from the municipalities to the state regarding e.g. legislative barriers to achieving the energy transition. The DEA provides technical-economic support to develop transition scenarios and support coordination between national energy road-maps and local strategies.

Virtually all Danish SEP projects received guidance from the DEA and have established cooperative relationships with KL.



Examples of good practices

1. **Support collaboration** to compensate for possible limited knowledge and competence



Networking and knowledge exchange between cities:

- The launch of the SEPs Nordjylland, Midtjylland, Syddanmark, Fyn, Hovedstaden and Sjælland, immediately introduced horizontal modes of collaboration at the earliest stage of SEP implementation. Networking and knowledge-exchange events took place between two or more municipalities involved in strategic energy planning.
- Hjørring Municipality established a permanent network with two municipalities with semi-annual meetings hosted by district heating plant operators.
- Cross-municipal projects, such as Energy Across and DK2020, were developed to enable knowledge-sharing and coordinated action to address common regulatory challenges and support across municipal cooperation.

Networking and knowledge exchange within cities:

- Høje Taastrup got its top hundred most energy-consuming companies to perform audits to assess their potential for renewable solar and surplus heat utilization and to build collaboration programmes to improve energy efficiency.
- Project STEPS-Erhverv implemented courses and seminars to increase the interactions between municipalities and businesses regarding energy efficiency and developed a joint action plan to prioritize energy-saving efforts by business.
- Sønderborg Municipality formulated its heat plan in dialogue with district heating and gas utilities, local industry and major demand centres (housing associations) to support information-sharing.
- Lyngby-Taarbæk municipality leads an initiative in the benchmarking of larger buildings to enable comparison among similar buildings. This may help building managers and owners share experiences and good practices.

Examples of good practices

2. Engage in dialogue to address the lack of buy-in from local actors



Education and information programmes:

- Høje Taastrup engaged companies and communities through energy-saving agreements that informed them of their energy consumption.
- Project STEPS-Erhverv published guides and studies for energy efficiency in businesses and set up a website where businesses can find inspiration and tools with which to reduce their carbon footprint.
- Central Jutland established energy-efficiency counselling and campaigns for households to invest in individual heat pumps.

Forums for dialogue and communication through near-citizens' initiatives:

- Høje Taastrup engaged citizens and communities in organizing an "Energy Renovation Party" to raise awareness of the potential for energy efficiency.
- Randers implemented "Energy Days" organized in the form of a meeting/gathering of local house-owners to discuss and share first-hand experiences in improving energy efficiency improvement. Energy Days were carried out in collaboration with an independent NGO energy consultancy and were followed with a detailed energy assessment of individual homes by an advisor involving energy checks and interviews.

Energy communities:

- Copenhagen's "Sol Over Byen" (Sun over the city) project. This newly launched project analyses the social benefits of energy communities and the governing and collaborative role of municipalities in supporting them. In this way, more citizens may become involved in energy transition initiatives.

Examples of good practices

3. **Activate the regulatory tool to limit risks**



Updating permitting procedures:

- Lyngby Taarbæk is considering altering its permissions for PV panels on public rooftops. Streamlining permissions was a suggestion initially raised by the Energy Across initiative, which suggested that associated municipalities draw up a PV strategy for larger roof areas and marginal spaces close to highways.

Facilitate experimentation:

- With the multiplication of pilot projects in cities, regulatory exemptions are becoming a tool available to local authorities in applying to the competent authorities to accelerate and support RD&D. These derogations from existing rules have the effect of lifting the regulatory barriers for a given period, e.g. to test new business models or technical solutions. They reduce the risks for the partners involved and inform society about the outcomes of the tested solutions.

Examples of good practices

4. Foster innovative funding with high social impact



Split incentive (and snowballing away from the split incentive):

- Holbæk municipality initiated analyses of low-temperature DH and of how it would perform in the current building-stock. Such initial feasibility studies, which may be too costly or difficult to organize for other stakeholders, can help map potential paths.
- Lyngby-Taarbæk utilizes knowledge from cross-municipal planning projects to facilitate experience-sharing between building managers and owners, and provides subsidies, e.g. of 50%, for energy reviews of buildings.

Participatory decision-making and action:

- Roskilde has a yearly environmental pool for projects that can inspire others. The pool is worth DKK 100,000 (13,000 Euros) and is approved by the City Council of Roskilde Municipality. Local associations, institutions, companies, organizations, citizens and citizen groups are invited to formulate a project with the aim of improving climate and the environment. No funds are provided for routine operations, and salaries and applicants must provide approximately 50% co-financing, possibly in the form of manpower.
- The Roskilde Climate and Environment Committee also offers an annual amount of DKK 200,000 (26,000 Euros) to support Roskilde Municipality's Strategic Climate and Energy Plan by enabling projects and creating strategic collaborations on climate between companies, knowledge institutions and associations. There is a focus on supporting projects that combine the climate agenda with, for example, health, waste, transport, biodiversity and food.

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