*Lydia Scholz*[1]

# Municipal Planning for District Heating in Germany. Municipalities as Key Players in Heating Transition

**Summary:** Germany is driving the transformation of heating systems in the building sector. Heating systems, which are still predominantly based on fossil fuels as primary energy sources, play a key role. The transition to renewable energy systems is seen as an important pillar of the heating system transformation. The focus is particularly on district heating, which could not only lead to zero emissions but also reduce the burden on citizens. For this reason, the German legislator has mandated municipal heating planning before homeowners have to install individual climate-friendly heating systems. Municipalities thus play a key role in the heating transition. This paper discusses the new key planning role of municipalities in providing services of general interest, taking into account the challenges they will face to receive relevant data, to ensure a democratic heat transition and to develop heat plans with limited human and financial resources.

**Keywords**: public services, municipal heat planning, heat transition, services of general interest

## A. Introduction

Germany wants to promote the heating transition and to achieve climate-neutral heating by 2045. This is intended to make a significant contribution to the climate protection target[2], which was agreed at international level

1 Lydia Scholz is Professor of Business Law at the School of International Business, University of Applied Sciences Bremen, Germany. She has studied law and worked in various functions in the Energy Industry in Berlin and Brussels as well as in different universities in Germany and in the UK. Her research activities include energy law, in particular renewable energy law and hydrogen law. Contact: Lydia.Scholz@hs-bremen.de.

2 See Paris Agreement. More than 180 countries worldwide, including the European Union and the Federal Republic of Germany, have ratified the Paris Agreement which aims to limit global warming to 1.5 degrees Celsius compared to the pre-industrial age.

in the United Nations Paris Agreement in 2015.[3] The decarbonisation of the heating sector is a key component to achieve this climate target, as the provision of space heating and hot water accounts for around half of the total final energy consumption and also accounts for 40 per cent of energy-related $CO_2$ emissions in Germany each year.[4] Fossil fuels were still the most widely used primary energy source in 2023. Almost 34 per cent of homes were heated with gas central heating and 23 per cent with oil central heating in Germany.[5]

The goal of a nationwide, climate-neutral heat supply can only be achieved if primary energy consumption can be significantly and permanently reduced through energy efficiency measures, such as the energy-efficient refurbishment of buildings, and if the remaining demand can be satisfied by renewable energy sources. To achieve this, waste heat potential, i.e. the unavoidable heat that is a by-product of industrial processes and is discharged unused via air or water, must be utilised more consistently in future by means of combined heat and power generation. Furthermore, heat from solar thermal energy, geothermal energy and environmental heat must be better integrated into the heating systems.[6]

There is a significant potential for grid-connected heat supply via district heating from industrial waste heat or from natural heat sources such as geothermal energy. However, only 15.2 per cent of district heating is used for heating throughout Germany, with the city states of Berlin and Hamburg standing out with 37.6 per cent and 32.1 per cent respectively.[7]

The German federal government wanted to promote the heating transition in 2023 with significant legislative amendments to the Building Energy Act („Gebäudeenergiegesetz“) by the implementation of the obligation to install or set up only those heating systems in a building which generate at least 65 per cent of the heat with renewable energies or unavoidable waste heat. The German government was heavily criticised by both, the opposition and the society[8] and tried to calm things down with the implementation of the instrument “municipal heat planning”. This planning instrument, which has now been stipulated in the Heat Planning Act

3 Bundesministerium für Wohnen, Stadtentwicklung und Bauwesen (Federal Ministry of Housing, Urban Development and Building).
4 Riechel, Robert/Walter, Jan, p. 8.
5 BDEW (German Electricity and Water Association).
6 Die Bundesregierung (The Federal Government).
7 BDEW (German Energy and Water Association).
8 Riechel, Robert/Walter, Jan, p. 8.

(„Wärmeplanungsgesetz"), aims to provide certainty about the heat supply that can be expected locally.

In this respect, municipal planning represents a strategic planning approach for dealing with the coordination problems caused by the heating transition and for developing a socially and economically viable transformation path to a climate-neutral building stock.[9] It creates an overall picture of the state of the infrastructure for heating, the municipal structures and the energy efficiency of buildings, determines future heat requirements and compares these with the local potential of renewable energy and heat sources. The heating plans thus provide an effective tool for investment decisions, which usually last for several decades due to their long investment cycles and therefore require a long-term strategy aligned with climate protection goals.[10]

The Heat Planning Act finally obliges approximately 11,000 municipalities which exist in Germany to provide heat planning by 2028 at the latest. Different timeframes apply depending on the size of the municipal area or the number of inhabitants in a municipality: For example, large cities with more than 100,000 inhabitants have to submit their heat plan by June 2026; and municipalities with an area of less than 100,000 inhabitants by June 2028. For smaller municipalities with fewer than 10,000 inhabitants, the federal states can decide on a simplified heat planning procedure.[11]

The municipalities thus are at the centre of the heating transition. This article aims to critically analyse the new role of municipalities. First, the overall legal framework that governs municipal heat planning at both, the European Union level and the German federal level will be outlined (B). This will be followed by an overview of the roles of relevant actors including municipalities and stakeholders (C.). On this basis, the new key role of municipalities under the German Heat Planning Act will be analysed with focus on the challenges they face to plan and to provide services of general interest as well as to ensure a democratic heat transition on the one hand, and to manage these tasks with their limited human and financial resources on the other (D.).

9 Riechel, Robert/Walter, Jan, p. 18.
10 Riechel, Robert/Walter, Jan, p. 13, 18.
11 Die Bundesregierung (The Federal Government).

## B. The legal framework for municipal heat planning

Municipal heat planning is a key component in the multi-level system of environmental law at both, European and German level.

### *I. The European legal framework*

The Energy Efficiency Directive (EU) 2023/1791, which amended the existing Energy Efficiency Directive in 2023, provides a common framework for measures to promote energy efficiency throughout the EU by establishing rules for energy efficiency measures in all sectors.[12] Taking into account the principle of "energy efficiency first", the Member States shall jointly achieve a reduction in energy consumption of at least 11.7 per cent by 2030 compared to the EU's 2020 reference scenario.[13] To this end, each Member State shall set an indicative national energy efficiency contribution based on energy consumption that is appropriate to contribute to the Union's final energy consumption target.[14]

The directive also shapes the heating transition: It obliges the Member States to reduce the total energy consumption of all public institutions together by at least 1.9 per cent annually compared to the 2021 level[15] and to increase the renovation rate of these buildings to at least three per cent.[16] In addition, the Member States are required to submit a comprehensive assessment of the heating and cooling supply to the Commission as part of their integrated national energy and climate plans.[17] If these assessments show that there is potential for the use of highly efficient combined heat and power and/or district heating and cooling from waste heat, the Member States must take appropriate measures to develop a corresponding infrastructure for its utilisation.[18] They shall also ensure that regional and local authorities, at least in municipalities with a total population of more than 45,000 inhabitants, develop municipal plans for the supply of heating and cooling.[19] The latter instrument in particular forms the legal framework for municipal heat planning at European level.

---

12 Art. 1 Energy Efficiency Directive.
13 At. 4 Energy Efficiency Directive.
14 Art. 4 (2) Energy Efficiency Directive.
15 Art. 5 (1) Energy Efficiency Directive.
16 Art. 6 (1) Energy Efficiency Directive.
17 Art. 25 (1) Energy Efficiency Directive.
18 Art. 25 (4) Energy Efficiency Directive.
19 Art. 25 (6) Energy Efficiency Directive.

## *II. The German legal framework*

The German legal framework for municipal heat planning is a result of the German Energy Efficiency Strategy 2050 (1.). It consists of the Building Energy Act (2.) and the Heat Planning Act (3.), both of them legislated at federal level.

### 1. The German Energy Efficiency Strategy 2050

Although Germany saves more primary energy each year than the European Union on average, effective measures are needed to achieve the efficiency targets, particularly in the building sector.[20] While annual primary energy consumption in the European Union was reduced by 13 per cent in 2021 compared to 2005 levels, Germany achieved a reduction of 17 per cent in the same period.[21] However, in order to achieve the target of halving primary energy consumption by 2050, there is a need for action in all relevant sectors, especially in the building sector.

The German government thus adopted the Energy Efficiency Strategy 2050 at the end of 2019 and defined targets for the reduction of primary energy consumption for the first time and has since set the course for strengthening Germany's energy efficiency policy.[22] According to this strategy, primary energy consumption in Germany is to be reduced by 30 per cent by 2030 compared to 2008 levels and halved by 2050. The energy efficiency strategy thus also represents Germany's contribution to achieving the targets of the amended Energy Efficiency Directive.

The German energy efficiency strategy bundles the targeted measures in the new National Action Plan on Energy Efficiency.[23] The so-called NAPE 2.0 is focused on the demand side of the energy system and addresses cross-sectoral measures and instruments that are intended to achieve the necessary reduction in final energy consumption in the relevant areas, in particular industry, buildings and heating infrastructure. The building sector plays a key role here, as it accounts for around 35 per cent of final energy consumption and a quarter of greenhouse gas emissions in Germany. At the same time, however, there is also potential to significantly reduce energy consumption

20 Bundesministerium für Wirtschaft und Energie (Federal Ministry for Economic Affairs and Energy), p. 9.

21 Statistisches Bundesamt (Federal Statistical Office).

22 Bundesministerium für Wirtschaft und Energie (Federal Ministry for Economic Affairs and Energy), p. 7 and 9.

23 Bundesministerium für Wirtschaft und Energie (Federal Ministry for Economic Affairs and Energy), p. 9.

in this sector by integrating renewable energies into heating and cooling generation and through energy efficiency measures such as the energy-efficient refurbishment of buildings. In urban areas in particular, local and district heating networks also represent a promising decarbonisation option due to the potentially high connection density, provided they are powered by renewables.[24]

## 2. The German Building Energy Act

The amended Building Energy Act now stipulates that a heating system may only be installed or set up in a building if it generates at least 65 per cent of the heat provided by the system using renewable energies or unavoidable waste heat.[25] However, depending on the number of inhabitants, it is possible to replace or utilise a heating system that does not meet these requirements. The Building Energy Act stipulates in detail that this option is available until 30 June 2026 if the building is located in a municipal area with a registered population of more than 100,000. If 100,000 inhabitants or fewer are registered in the municipal area, there is the option of a free choice of heating system until 30 June 2028. Heat planning thus plays a special role. If there is a heating plan for the municipal area and if the area in question is designated for the construction or expansion of a heating network or as a hydrogen network expansion area, house owners are not obliged to install heating systems that are 65 per cent powered by renewable energies.

## 3. The German Heat Planning Act

The key instrument of heat planning is based on the Federal Heat Planning Act, which came into force in 2024. The term "heat planning" refers to legally non-binding, strategic planning that identifies opportunities for the use of renewable energies and unavoidable waste heat in the heat supply and describes the medium and long-term design of the heating infrastructure for a planned area.[26] The heat plan represents the result of heat planning intended for publication.[27] It has no external legal effect and does not establish any enforceable rights or obligations.[28] However, the findings in

24 Bundesministerium für Wirtschaft und Energie (Federal Ministry for Economic Affairs and Energy), p. 14. 15.
25 Section 71 Gebäudeenergiegesetz (Building Energy Act).
26 Section 3 (1) no. 20 Wärmeplanungsgesetz (Heat Planning Act).
27 Section 3 (1) no. 19 Wärmeplanungsgesetz (Heat Planning Act).
28 Section 23 (4) Wärmeplanungsgesetz (Heat Planning Act).

the heating plan must be taken into account with other public and private concerns when deciding on the designation of an area for the construction or expansion of heating networks or as a hydrogen network expansion area.[29]

The Federal Heat Planning Act provides a standardised nationwide legal framework for heat planning, which has so far been regulated very heterogeneously in the federal states. In addition to the climate protection laws at states' level, in which some states have regulated the obligation to develop heat plans, the states have the choice to manage the task of municipal heat planning.[30] These include incentives for voluntary action by local authorities.[31]

Not all German states make equal use of the opportunities to organise municipal heat planning. While states such as Baden-Württemberg, Schleswig-Holstein and Lower Saxony have already incorporated the heat planning obligation into their state climate protection laws for several years, other federal states have not yet adopted any regulations on municipal heat planning. However, with the Heat Planning Act at federal level, heat planning has now become mandatory for a large number of the 11,000 local authorities in Germany. Areas for which a heat plan has already been developed are exempted from the heat planning obligation under the Heat Planning Act.

The German states must ensure that heat plans are developed for their territory.[32] However, they are also authorised to transfer the obligation to develop a heat plan to municipalities or associations of municipalities on their territory and to designate these as the bodies responsible for planning.[33]

Heat planning is divided into a preparatory coordination phase and four planning phases in which the state or municipality responsible for planning should investigate the suitability of the planned area for supply by a heating network. Areas are unsuitable if they do not have a local heating network or if there is no potential for heat from renewable energies or unavoidable waste heat. Areas in which a future supply via a heating network is not economically viable are also unsuitable.[34]

As part of the inventory analysis, the municipality determines the current heat demand or consumption within the planned area, including the

29 Section 26 (1) Wärmeplanungsgesetz (Heat Planning Act).
30 See Balling, Victora. et al. (2023), p. 16.
31 See Balling, Victoria. et al. (2023), p. 16.
32 Section 4 (1) Wärmeplanungsgesetz (Heat Planning Act).
33 Section 33 (1) Wärmeplanungsgesetz (Heat Planning Act).
34 Sections 13 to 20 Wärmeplanungsgesetz (Heat Planning Act).

energy sources used, the existing heat generation plants and the energy infrastructure facilities relevant to the heat supply.[35] This inventory analysis is followed by the potential analysis, in which the municipality determines the existing potential for generating heat from renewable energies, for utilising unavoidable waste heat and for central heat storage in the planned area in a quantitative and differentiated manner.[36] The municipalities provide the data in so-called heat registers and publish them.[37] On the basis of the suitability test and the potential analyses, the municipality identifies a target scenario that describes the long-term development of the heat supply for the planned area.[38] It divides the area into heat supply areas and presents the most cost-efficient type of heat supply.[39] Finally, the municipality responsible for planning develops an implementation strategy with implementation measures with which a supply of heat generated exclusively from renewable energies or from unavoidable waste heat can be achieved by the target year. The municipality is responsible for realising the implementation measures itself.[40]

## C. The role of municipalities in the heating transition

The phases outlined in chapter B. will be connected with new obligations for German municipalities.

### *I. Heat planning by municipalities*

The addressees of the heat planning obligation by the federal act are first and foremost the federal states. They must ensure that heat plans are developed on their territory. However, the federal states are authorised to transfer this obligation to develop a heat plan to municipalities, associations of municipalities or other legal entities in their territory and to designate these as the institutions responsible for planning.[41] The German Constitution, the German Basic Law, prohibits the federal government from directly transfer-

35 Section 15 (1) Wärmeplanungsgesetz (Heat Planning Act).
36 Section 16 (1) Wärmeplanungsgesetz (Heat Planning Act).
37 Riechel, Robert/Walter, Jan, p. 25.
38 Section 17 Wärmeplanungsgesetz (Heat Planning Act).
39 Section 18 (1) Wärmeplanungsgesetz (Heat Planning Act).
40 Section 20 (1) Wärmeplanungsgesetz (Heat Planning Act).
41 Section 4 (1) and Section 33 (1) Wärmeplanungsgesetz (Heat Planning Act).

ring tasks to the municipalities.[42] This intends to safeguard the financial limits of the municipalities.[43]

The transfer of the obligation to develop heat plans to the municipal level is entirely in line with the principle of subsidiarity, as municipalities are closely connected to citizens and local businesses. They will be able to carry out the planning and strategy process and to implement the identified measures close to those who will be affected by the plans and by the implementation measures, the citizens and local businesses. Following the principle of subsidiarity, the instrument of municipal planning has existed in Denmark since the 1980s. Municipal heat planning has also been carried out in Switzerland for a number of years.[44]

Depending on the size of a municipal area or the number of inhabitants in a municipality, different time frames will apply: For example, the heat plans for municipal areas with more than 100,000 inhabitants are to be drawn up by the end of June 2026 and for those comprising fewer than 100,000 inhabitants by the end of June 2028. For smaller municipalities with fewer than 10,000 inhabitants, the federal states may provide for a simplified procedure.[45] Furthermore, for municipal areas with more than 45,000 inhabitants, there are additional minimum requirements for heat plans resulting from the provisions of the Energy Efficiency Directive.[46]

### *II. Two-stage stakeholder participation*

Heat planning should be organised as a transparent and integrative participatory process. To this end, the Heat Planning Act provides for a two-stage stakeholder participation process: The municipality responsible for planning must involve the public, all authorities and public bodies whose areas of responsibility are affected by the heat planning, as well as the relevant natural and legal persons, in particular the operators of local energy supply and heating networks.[47] In addition, the municipality responsible for planning has the discretion to expand the group of possible stakeholders in the course of optional participation and to adapt it to local circumstances.[48] These stakeholders are important for the heat supply infrastructure, their

42 Article 84 Grundgesetz (German Basic Law).
43 Maaß, Christian, p. 22, 29.
44 Maaß, Christian, p. 22.
45 This has to be in line with Section 22 Wärmeplanungsgesetz (Federal Heat Planning Act).
46 Art. 25 (6) Energy Efficiency Directive.
47 Section 7 Wärmeplanungsgesetz (Heat Planning Act).
48 Schnittker, Friederike/Fründ, Daniel. p. 289, 290.

interests could be affected by heat planning in the planned area. These include potential producers of waste heat, gaseous energy sources or large-scale consumers of heat or gas.

## D. Heat planning as a task of general interest

This chapter discusses the new key role of municipalities in the area of providing services of general interest, taking into account their limited human and financial resources.

### *I. Services of general interest*

Heat planning is a task within the framework of services of general interest.[49] Local services of general interest have characterised the image of municipalities in Germany for more than one hundred years.[50] The constitution guarantees the municipalities the right to regulate all local community affairs within the legal framework,[51] which is known as the concept of "*kommunale Selbstverwaltung*". This includes the provision of services of general interest and in particular the organisation of the provision of these services and its financing.

Municipalities are able to assess the interests of citizens and local businesses and to take local conditions into account when developing heating plans.[52] In addition, municipalities often own large housing stocks and infrastructure facilities, have a large number of rights of way and manage data on building and settlement structures, heat requirements and existing potential for renewable energy and heat sources. The municipalities therefore not only have a central coordinating and controlling function, they also enjoy planning sovereignty at local level.[53]

### *II. Challenges*

With heat planning, municipalities are being assigned a task that they have not previously undertaken in this obligatory form. Considering that the

49 Riechel, Robert/Walter, Jan. p. 9.
50 Knauff, Matthias. p. 80.
51 Article 28 (2) Grundgesetz (German Basic Law).
52 Riechel, Robert/ Walter, Jan. p. 15.
53 Riechel, Robert/Walter, Jan. p. 15.

development of a heat plan takes two to three years[54], municipalities face challenges, which the German Association of Towns and Municipalities "Deutscher Städte- und Gemeindetag" has identified in a survey of its 119 member municipalities in 2023.[55] According to the survey, in which multiple answers were possible, 76 per cent of the municipalities surveyed considered the coordination of the heating concept with the relevant stakeholders to be time-consuming and the biggest challenge. For 70 per cent, a challenge lies in the resulting personnel requirements in local government. 67 per cent found the possible uses of potential and future energy sources uncertain and associated with planning uncertainties. A further challenge for 33 per cent was the lack of data, e.g. energy data on the building stock. For 18 per cent, the advisory services offered to local authorities by the federal and state governments are not yet sufficient. Two key challenges can be derived from this: the need for data and the diversity of players (1.) as well as human and financial resources (2.).

1. Data requirements and diversity of players

A major challenge is seen in the diversity of players, which makes it difficult to obtain and pass on the necessary data.[56]

a. Data procurement

Heat planning requires sufficient data from relevant stakeholders. These include energy supply companies and companies in the housing industry. Due to the very small-scale ownership structure of buildings in Germany and a supply infrastructure for electricity, gas and heat owned and operated by different companies, there is a heterogeneous diversity of actors, which leads to a high level of complexity to receive relevant data. Analysing potential involves the challenge of estimating the potential for saving energy by reducing heat demand in buildings and in industrial or commercial processes. The reason for this is that waste heat potentials have often been unutilised and there is therefore hardly any information on their integration into the heat supply system.

To analyse the current situation, municipalities need access to third-party data, such as that held by energy supply companies and chimney sweeps.

54 Deutscher Städte- und Gemeindetag (German Association of Cities) Berlin and Cologne. p. 3.

55 Deutscher Städte- und Gemeindetag (German Association of Cities) Berlin and Cologne.

56 Deutscher Städte- und Gemeindetag (German Association of Cities) Berlin and Cologne. p. 3.

This is ensured by the right to information in the Heat Planning Act.[57] However, the collection of data is a complex task not only in light of the knowledge required to understand the relevance of the data for heat planning but also in light of the limited human and financial resources.

b. Ensuring a democratic heat transition

Democracy requires a heat transition that takes into account the needs of all groups of citizens. Citizens own buildings, are tenants and consume heat, they thus have to financially bear the infrastructural changes and demand a socially acceptable heating transition.[58] To address this demand, municipalities have to identify the interests of different groups of citizens and to balance these interests in the heat plan.

Furthermore, heat planning does not only require the collection of data but also the provision of information to the citizens and local businesses by municipalities. As the heat transition directly affects the housing and the financial situation of house owners, they have a strong interest in receiving information to align their investment decisions. Municipalities thus have to provide relevant information on demand which challenges them in light of limited personnel resources.

2. Human and financial resources

The task of heat planning can be assigned to the municipalities' own employees or civil servants or to external service providers. Both ways are associated with costs. In the explanatory memorandum to the draft bill, the German government quantifies these costs for those bodies that are to carry out heat planning, i.e. the municipalities. The implementation of heat planning, participation in heat planning and processing when heat plans are first developed will incur costs of around 361 million Euros by 2028. Costs of around 104 million Euros are estimated for the organisation of participation events, around 6 million Euros for the processing of data and around 64 million Euros for the decision on the designation of areas within the meaning of the Building Energy Act. The heating plans must also be updated. This will result in annual compliance costs of around 39 million Euros.[59]

57 Riechel, Robert/Walter, Jan, p. 24.
58 Riechel, Robert/Walter, Jan, p. 13.
59 Die Bundesregierung, (Federal Government). Draft law for heat planning and decarbonisation of the heating networks, p. 6.

Even if the municipality outsources the development of the plans to external service providers, the Federal Government assumes that knowledge needs to be built up within the local authority concerned in order to accompany the heat planning and to stabilise the necessary processes. The Federal Government assumes that around 200 hours are required for the initial preparation of the plan in order to ensure that knowledge is built up.[60]

If external service providers are commissioned, in addition to the costs incurred, there is the challenge of capacity bottlenecks on the part of the external experts. However, this can be countered by the different deadlines depending on the municipal area and the possibility of carrying out joint heat planning for several municipal areas.[61]

In view of the fact that German municipalities are already reaching the limits of their capacity with their existing financial resources and personnel capacities, this is a major challenge.[62] In addition to the immediate task of heat planning, there is a high demand for information and advice from citizens, which can hardly be met by the advisory structures currently on offer.[63]

Those federal states that have already enshrined an obligation for heat planning in their state climate protection laws have also created a legal basis for financial compensation in favour of the municipalities. To cover the costs incurred for heat planning, the municipalities are entitled to financial compensation from the state in accordance with the principle of connectivity.[64] The legal principle, which is intended to ensure the preservation of the financial basis of local self-government[65], states that the administration of tasks and finances must be carried out by the same level of government.[66] The federal government is funding heat planning under the National Climate Initiative's Municipal Guidelines. Until 31 December 2023, eligible applicants could have applied for a funding rate of up to 90 per cent, and

60 Die Bundesregierung, (Federal Government). Draft law for heat planning and decarbonisationof the heating networks, p. 57.

61 Die Bundesregierung, (Federal Government). Draft law for heat planning and decarbonisation of the heating networks, p. 58.

62 Riechel, Robert/Walter, Jan, p. 13.

63 Deutscher Städte- und Gemeindetag (German Association of Cities) Berlin and Cologne. p. 3.

64 Section 34 (2) Klimagesetz Baden-Württemberg (Climate Act Baden-Württemberg), section 7 (9) Energiewende- und Klimaschutzgesetz Schleswig-Holstein (Energy Transition and Climate Protection Act Schleswig-Holstein) and section 20 (6) Niedersächsisches Klimagesetz (Climate Act of Lower Saxony). Maaß, Christian, p. 22, 29.

65 Article 28 (2) Grundgesetz (German Basic Law).

66 Balling, Victoria. et al. p. 19.

financially weak municipalities could even apply for full funding of the eligible expenses for the development of a heat plan.[67] However, municipalities demand more funding for heat planning in order to compensate for the increased financial and personnel costs.

## E. Conclusion

As the municipalities are responsible for planning at the local level, they have a central coordinating and steering role in the heating transition.[68] Geographical proximity and the mandate to provide services of general interest give the municipalities the opportunity to assess the specific concerns of citizens and local business and to better take local conditions into account when developing heating plans.[69] Although the German legislator has assigned the task of municipal heat planning to the federal states, it will be the municipalities that are commissioned by the federal states to develop heating plans. This task poses challenges resulting from the variety of stakeholders who have to provide relevant data and whose interests have to be taken into account. This makes it difficult to obtain information in the mixed situation of energy supply companies and housing companies, but also to provide information to citizens in order to meet the requirements of a democratic heating transition. Against this backdrop, local authorities are increasingly faced with the challenge of balancing the specific interests of the various stakeholders with their own objectives and competencies in order to achieve the goal of climate-neutral heat supply for existing buildings.[70] This is accompanied by a high demand on existing human and financial resources, which can only be met with an appropriate funding syste

*List of References*

Balling, Victoria. et al. Kommunale Wärmeleitplanung. Rechtliche Grundlagen und neue Rechtsansätze zur Aufstellung und Umsetzung kommunaler Wärmepläne. Würzburger Studien zum Umweltenergierecht, Nr. 30 (2023).

BDEW (German Energy and Water Association). Studie: Wie heizt Deutschland 2023? Online [15/10/2024] available: https://www.bdew.de/ energie/studie-wie-heizt-deutschland/.

67 Schwintowski, Hans-Peter, p. 255, 259.

68 On the growing importance of local authorities, see also Scheer, Nina, p. 261.

69 Riechel, Robert/Walter, Jan, p. 15.

70 Riechel, Robert/Walter, Jan, p. 13.

Bundesministerium für Wirtschaft und Energie (Federal Ministry of Economy and Energy). Energieeffizienzstrategie 2050. Online [15/10/2024] available: https://www.bmwk.de/Redaktion/DE/Publikationen/Energie/energieeffiezienz strategie-2050.pdf? blob=publicationFile&v=1.

Deutscher Städtetag Berlin und Köln (German Association of Towns and Municipalities). So läuft die Wärmeplanung in den Städten. Umfrage des Deutschen Städtetages. Online [15/10/2024] available: https://www.staedtetag.de/files/dst/docs/Presse/2023/Umfrage-des-Deutschen-Staedtetages-zur-Waermeplanung-in-den-Mitglieds- staedten.pdf.

Die Bundesregierung (The Federal Government). Entwurf eines Gesetzes für die Wärmeplanung und zur Dekarbonisierung der Wärmenetze, Online [15/10/2024] available: https://www.bmwsb.bund.de/SharedDocs/gesetzgebungsverfahren/Webs/BMWSB/DE/kommunale-waermeplanung.html.

Die Bundesregierung (The Federal Government). Klimaneutrale Fernwärme. Kommunale Wärmeplanung für ganz Deutschland. Online [15/10/2024] available: https://www.bundesregierung.de/breg-de/aktuelles/ waermeplanungsgesetz-2213692.

Knauff, Matthias. Die Kommunen als Träger der Daseinsvorsorge. WiVerw 2011, p. 80.

Maaß, Christian. Wärmeplanung: Grundlagen einer neuen FachplanungZUR 2020, p. 22.

Riechel, Robert/Walter, Jan. Kurzgutachten Kommunale Wärmeplanung. Texte 12 (2022). Umweltbundesamt. Online [15/10/2024] available: https://energieportal-brandenburg. de/cms/fileadmin/medien/dokumente/waermeplanung/texte_12-2022_kurzgutachten_kom- munale_waermeplanung.pdf.

Scheer, Nina. Wachsende Bedeutung von Kommunen für Klimaschutz. KlimR 2022, p. 261.

Schnittker, Friederike/Fründ, Daniel. Der bundeseinheitliche Rechtsrahmen der Wärmeplanung, NVwZ 2024, p. 289.

Schwintowski, Hans-Peter. Das Rechtliche Konzept der Kommunalen Wärmeplanung. EWeRK 2023, p. 255.

Statistisches Bundesamt. Europäischer Green Deal. Klimaneutralität bis 2050. Online [15/10/2024] available: https://www.destatis.de/Europa/DE/Thema/GreenDeal/GreenDeal.html#7986 92.

### *Legislation:*

Directive (EU) 2023/1791 of the European Parliament and of the Council of 13 September 2023 on energy efficiency and amending Regulation (EU) 2023/955 (recast), OJ L 231, 20/09/2023, p. (Energy Efficiency Directive)

Gebäudeenergiegesetz of 8 August 2020 (Federal Law Gazette I p. 1728), amended by Article 1 of the Law of 16 October 2023 (Federal Law Gazette 2023 I Nr. 280) (Building Energy Act)

Grundgesetz für die Bundesrepublik Deutschland (Federal Law Gazette III, 100-1) amended by Article 1 of the Law of 19. December 2022 (Federal Law Gazette I S. 2478) (German Basic Law)

Paris Agreement. Online [15/10/2024] available: https://unfccc.int/process-and-meetings/the-paris-agreement.

Wärmeplanungsgesetz of 20 December 2023 (Federal Law Gazette 2023 I Nr. 394) (Heat Planning Act)