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## 24 Integration of Heat Consumers into Green Heating Networks – Municipal Control Instruments

**Summary:** Municipalities have a range of urban planning instruments at their disposal to integrate as many heat consumers as possible into a green 'local heating network'. This paper first out-lines the various instruments available within the framework of a development plan and highlights the limits arising from the constitutional protection of existing buildings (Article 14 of the Basic Law). It then describes how an urban development contract can increase the density of connections to a local heating network, though with the caveat that the municipality is always dependent on the willing participation of potential contract partners with this approach. Finally, the paper considers the implications of an obligation to connect to and use a municipal heating network, examining the requirements that must be met as well as the advantages and disadvantages of this option.

### 24.1 Background

QUARREE100<sup>1</sup> is a research project investigating the efficient energy supply of urban districts. The project aims to upgrade the energy system and refine plans for urban development in an existing district of roughly 500 inhabitants, which occupies an area of approximately 20 hectares in Heide, Schleswig-Holstein. An energy concept that was developed for this purpose focuses on the construction and operation of a 'local heating network' to supply households in the district (existing buildings and new buildings). Most of the heat is to be generated by large heat pump systems, and the electricity required to operate the system is to be produced, to the greatest extent possible, in the district. To this end, the plan calls for the installation of photovoltaic systems on as many roofs as possible in the district; these systems will supply the produced electricity directly to the heat generation systems. The transport is to take place

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1 The full title of the project is 'QUARREE100 – Resilient, integrated and system-serving energy supply systems in existing urban neighbourhoods with full integration of renewable energies'. For more information, visit <https://www.ikem.de/en/quarree100/> (Accessed 24 May 2022). Additional details are available on the project website: <https://quarree100.de/> (Accessed: 24 May 2022).

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via an electrical operating network that is being developed specifically to supply power to the technical systems within the heating network.

The number of households that are connected to and cover their heating needs from the 'local heating network' is significant not only for the purposes of cost-effective network operation, but also for the realisation of the project's full climate change mitigation potential.<sup>2</sup> It was therefore necessary to examine the municipal control instruments available in the community to integrate as many consumers as possible into a local green heating concept. This paper considers the potential of three such instruments: urban land-use planning (24.2), the urban development contract (24.3) and the introduction of provisions that make connection and usage compulsory under public law (24.4).

## 24.2 Urban Land-use-Planning

Because urban land-use planning specifies the spatial structure for heat generation, distribution and consumption as well as the relevant technical requirements, it can be used to unilaterally control heat planning. The German Building Code (Baugesetzbuch, BauGB)<sup>3</sup> entitles the municipality to make corresponding representations or designations for its municipal area, both in the land-use plan [*Flächennutzungsplan*] in accordance with § 5 BauGB and in the development plan [*Bebauungsplan*] in accordance with § 9 BauGB. The land-use plan does not have any direct legal effects, however;<sup>4</sup> it serves only to control land use in the municipality and, accordingly, contains coarse-meshed representations. The type of land use is therefore presented only in general terms (cf. § 5 (1) (1) BauGB). More detailed representations for the purpose of controlling heat usage would be beyond the scope of the land-use plan; differentiated control is thus reserved for the development plan, as a binding plan for urban land use. The following discussion will therefore focus on the development plan.

The building planning instruments available to municipalities have steering effects that vary in scope depending on whether the district's structures are existing buildings or new constructions. This difference is due to the freedom of ownership provided for under Article 14 of the Basic Law (GG), as well as to the resulting protection of existing buildings granted under building law. This protection enables the specific use allowed within the parameters of a permit or the eligibility for a permit to continue regardless of any disadvantageous changes later made to the law, provided that a structure has been legalised by the permit or has been lawful under the provi-

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2 (Schäfer-Stradowsky/Doderer, 2018, margin no. 14).

3 Building Code (Baugesetzbuch) as published on 3 November 2017 (Federal Law Gazette I p. 3634).

4 (Jaeger, 2021, margin no. 12).

sions of material law for a minimum period of time.<sup>5</sup> The owner of a legally approved building or – if the building project did not require a building permit – of a physical structure that is temporarily lawful under material law is therefore not obligated to comply with subsequent changes to the law, such as alternative requirements in the development plan. This right of the owner is called the ‘passive grandfathering’ [*passiver Bestandsschutz*].<sup>6</sup> The protection of existing buildings under building law goes even further: ‘active grandfathering’ [*aktiver Bestandsschutz*] entitles the owner to carry out measures to maintain, repair or modernise to ensure functional use, even if such measures would no longer be permissible under the applicable building law.<sup>7</sup> These measures are permitted only if the physical structure of the building remains intact, however.<sup>8</sup> This protection only applies to existing buildings; when constructing a new building, owners are generally required to observe the municipal requirements for planning buildings.

### 24.2.1 Requirements in the General Development Plan – Prohibitions and Restrictions on Use

In the framework of a development plan, the municipality can impose (binding) regulations on the type and extent of building use, the areas of land that can be developed and the local traffic areas (cf. § 30 (1) BauGB). The possible content of the provisions of a development plan is conclusively regulated by § 9 BauGB.<sup>9</sup>

In order to secure the purchase of heat in the district by property owners, the municipality can, for example, designate areas in the development plan where certain air polluting substances may not be used, or may be used only to a limited extent, in order to protect against harmful effects on the environment, in accordance with § 9 (1) (23) (a) BauGB. ‘Harmful environmental impacts’ are immissions which, due to their nature, extent or duration, are likely to cause hazards, significant disadvantages or significant nuisance to the general public or to the district (§ 3 (1) of the Federal Immission Control Act, BImSchG). Article 3 (4) BImSchG defines ‘air pollutants’ as any change in the natural composition of the air, especially through smoke, soot, dust, gases, aerosols, fumes or odorous substances. The requirements specified in § 9 (1) (23) (a) BauGB are primarily applied in the form of prohibitions or restrictions on the use of certain heating fuels,

5 (Beckmann 2014); BVerwG, decision of 16 December 1988, ref.: 4 NB 1/88 (Mannheim), NVwZ 1989, 664 (665).

6 (Beckmann 2014); BVerwG, decision of 16 December 1988, ref.: 4 NB 1/88 (Mannheim), NVwZ 1989, 664 (665).

7 (Beckmann 2014); BVerwG, decision of 16 December 1988, ref.: 4 NB 1/88 (Mannheim), NVwZ 1989, 664 (665).

8 (Beckmann 2014).

9 (Spannowsky, 2021, preceding margin no. 1).

such as coal, oil or wood.<sup>10</sup> A general exclusion of masonry heaters or fireplaces is not possible.<sup>11</sup> Although its wording addresses both new and existing buildings, the requirement only directly affects new buildings and conversions, as well as significant extensions of existing buildings, since, as noted above, existing buildings are unaffected by later changes to the requirements in the development plan.

If a requirement is set pursuant to § 9 (1) (23) (a) BauGB, the municipality must ensure that the prohibition or restriction of use is possible with state-of-the-art technology and economically reasonable for the property owner.<sup>12</sup> This means, in particular, that the heat supply must be ensured by other means – for example, by local or district heating – in the area covered by the development plan. In this case, the energy suppliers have an obligation to contract, and are obligated to conclude the corresponding contracts with the property owners.<sup>13</sup> The property owners, however, are not obligated to connect to and use a specific heat supply; the purchase of heat is not compulsory.<sup>14</sup> Compulsory connection and usage can only be established by municipal ordinance (see Section 24.4 below).<sup>15</sup>

In addition, the municipality can only make requirements in the development plan for reasons related to urban development. Other reasons – such as objectives to increase energy-efficient consumption of certain heating fuels or pursue general environmental goals, such as a reduction in greenhouse gas emissions – are not sufficient.<sup>16</sup> In addition, § 9 (1) (23) (a) BauGB prohibits requirements that are intended to grant competitive advantages to certain energy supply companies through an expansion of their customer base.<sup>17</sup> Reasons related to urban development must include a reference to land law. This condition is satisfied if, for example, the aim of a ban or restriction on the use of individual heating fuels is to provide certain areas – such as hillside locations, health resorts or local recreation areas – with special protection from air pollution.<sup>18</sup> The municipality may also impose a requirement of this kind if it is interested in improving the air quality in its municipal territory.<sup>19</sup>

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<sup>10</sup> (Spannowsky, 2021, margin no. 93).

<sup>11</sup> (Spannowsky, 2021, margin no. 94.4).

<sup>12</sup> (Spannowsky, 2021, margin no. 95).

<sup>13</sup> (Spannowsky, 2021, margin no. 95.1).

<sup>14</sup> (Spannowsky, 2021, margin no. 95.1).

<sup>15</sup> (Spannowsky, 2021, margin no. 95.1).

<sup>16</sup> BVerwG, NVwZ 1989, 664.

<sup>17</sup> (Söfker, 2021, margin no. 191).

<sup>18</sup> (Spannowsky, 2021, margin no. 95).

<sup>19</sup> BVerwG, NVwZ 1989, 664 (664).

## 24.2.2 Requirements in the General Development Plan – Measures for the Use of Renewable Heat

§ 9 (1) (23) (b) BauGB entitles the municipality to designate certain areas as requiring specific structural or technical measures for the generation, use or storage of electricity, heating or cooling from renewable energies or combined heat and power (CHP) in new constructions. Property owners may therefore be obligated to take certain measures.<sup>20</sup> In the context of heat usage, for example, this may involve the technical installation of a connection to a heating network.<sup>21</sup> The wording of § 9 (1) (23) (b) BauGB refers only to new buildings, however, and property owners are not obligated to use renewable energies or CHP. This provision also requires reasons related to urban development (see Section 24.2.1 above).

The option to establish requirements that is granted by § 9 (1) (23) (b) BauGB is distinct from the regulations of energy law, some of which impose an obligation to use renewable energies or CHP.<sup>22</sup> Of particular relevance here is the German Building Energy Act (Gebäudeenergiegesetz, GEG),<sup>23</sup> which prescribes for all new buildings that are heated or cooled using energy – with the exception of the buildings cited in § 2 (2) GEG – a proportional obligation to meet heating and cooling needs with renewable energies or through alternative measures (local and district heating supply, CHP). Depending on the input material, the usage obligation can range from 15–50% (see §§ 35 ff. GEG). If the intended share of renewable energies is already covered by the provisions of the GEG, a requirement in building planning law may be unnecessary. Because one of the tasks of urban land-use planning is to contribute to climate change mitigation and to the use of renewable energies (cf. § 1 (5) (2) BauGB), however, the GEG does not prohibit such a requirement.<sup>24</sup>

## 24.2.3 Other Instruments of Building Planning Law

The project-related development plan, which is prepared in accordance with § 12 BauGB, is a useful instrument for municipalities that seek to leave the concrete project planning to the developer, establish planning requirements that go beyond those specified in § 9 BauGB, and/or have the developer bear the costs. In contrast to the general development plan, the project-related development plan is intended to establish more of a cooperation between the municipality and the developer than a unilateral control of land use. A

<sup>20</sup> (Söfker, 2021, margin no. 197a).

<sup>21</sup> (Söfker, 2021, margin no. 197e).

<sup>22</sup> (Söfker, 2021, margin no. 197a).

<sup>23</sup> Act on the Saving of Energy and the Use of Renewable Energies for Heating and Cooling in Buildings (Building Energy Act, GEG) of 8 August 2020 (Federal Law Gazette I p. 1728).

<sup>24</sup> (Söfker, 2021, margin no. 197a).

‘project and development plan’<sup>25</sup> is initially prepared by the developer and later becomes part of the development plan (cf. § 12 (3) (1) BauGB). Because the municipality is not bound by the regulatory options prescribed in § 9 BauGB and the Federal Land Utilisation Ordinance (Baunutzungsverordnung, BauNVO)<sup>26</sup> (cf. § 12 (3) (2) BauGB), it has more options to design provisions. In addition, an implementation agreement obligates the developer to realise and bear the costs of the project and to implement it within a certain time period.<sup>27</sup>

Recourse to redevelopment law (§§ 136 ff. BauGB) as a limited special right<sup>28</sup> is also possible. §§ 136 ff. BauGB permits redevelopment measures to be implemented as uniform, coordinated, comprehensive measures in the relevant district.<sup>29</sup> This grants the municipality far-reaching powers to intervene in the rights of those affected by redevelopment,<sup>30</sup> which are intended to ensure that the measures are carried out quickly. In addition, § 164a BauGB permits access to urban development funds to finance the redevelopment measures. However, the municipality may only take urban redevelopment measures if there are existing deficits in urban planning and if the planned measures are intended to substantially improve or redesign the affected area (§ 136 (2) BauGB). § 136 (2) and (3) BauGB specify the conditions under which deficits in urban planning exist.

Construction measures, as defined in § 148 BauGB, are one of the central instruments for carrying out redevelopment.<sup>31</sup> In this respect, § 148 (2) (1) (5) BauGB provides for the construction or expansion of plants or facilities for the use of heat from renewable energies or CHP. This also includes the connection to a heating network. The municipality can thus integrate heat consumers into green heating networks through appropriate construction measures. However, a construction measure of this kind does not justify a usage obligation on the part of the owner.<sup>32</sup>

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25 (Busse, 2021, margin no. 3).

26 Building Use Ordinance (Baunutzungsverordnung) as published on 21 November 2017 (Federal Law Gazette I p. 3786), last amended by Art. 2 of the Building Land Mobilisation Act (Baulandmobilisierungsg) of 14 June 2021 (Federal Law Gazette I p. 1802).

27 (Busse, 2021, margin no. 3).

28 (Schmitz, 2021, margin no. 1).

29 (Schmitz, 2021, margin no. 4 ff.)

30 (Schmitz, 2021, margin no. 12).

31 Cf. § 146 (1) BauGB.

32 (Mitschang/Reidt, 2022, margin no. 137), on a formulation in § 9 (1) (23) (b) BauGB that is similar to § 148 (2) (1) (5) BauGB.

## 24.3 Urban Development Contracts

Municipalities can increase the density of connections to a local district heating network by specifying requirements for the construction, connection and use of heat from the corresponding district heating network in an urban development contract.<sup>33</sup> In contrast to requirements under building planning law, urban development contracts can also apply to existing buildings.

This instrument – which usually involves cooperation with private parties ('public-private partnership')<sup>34</sup> – has numerous advantages. First, the municipality is not bound by the catalogue of provisions in § 9 (1) BauGB<sup>35</sup> and can establish rules that would not be permissible in a development plan,<sup>36</sup> while at the same time taking into account the specific features of individual cases.<sup>37</sup> Second, urban development contracts can play a significant role in speeding up the procedure, as they allow for an agreement on deadlines for the implementation of the building project.<sup>38</sup> And third, private parties can be obligated to bear the costs of certain climate change mitigation measures that could not have been financed from the municipal budget.<sup>39</sup>

Due to freedom of contract and disposition, urban development contracts are always based on voluntariness, i.e. the parties involved decide whether to enter into an urban development contract. This increases the acceptance and durability of the planned projects.<sup>40</sup> It also means, however, that the municipalities cannot force parties to enter into an urban development contract and that the decisive factor is the (generally economic) attractiveness of the project to potential contract partners. The negotiating power will therefore lie with the municipality if demand is high and the use and implementation of measures is economically attractive to private investors.<sup>41</sup>

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<sup>33</sup> § 11 (1) (2) (4) BauGB.

<sup>34</sup> Although contracts between municipalities are also conceivable, in practice the focus is on cooperative forms of action between municipalities and persons under private law.

<sup>35</sup> (Kahl/Schmidtchen, 2013, p. 179).

<sup>36</sup> (Sparwasser/Mock 2008).

<sup>37</sup> Federal Ministry of Transport, Building and Urban Affairs, *ImmoKlima*, p. 65, BT-Drs. 13/6392, p. 38; (Kahl 2000).

<sup>38</sup> (Mainka, 2018, p. 58).

<sup>39</sup> Because it lowers public spending, the urban development contract has become one of the most important planning instruments when budgets are tight. In some cases, municipalities only draw up or amend development plans after the beneficiaries of such plans have entered into a contract that secures a corresponding assumption of costs and regulates the full or partial assumption of subsequent burdens. For further discussion on this topic, (Reidt, 2022, margin no. 3), (Mainka, 2018, p. 59). On the economic advantages of urban development contracts and various strategies to mobilise building land for municipalities, see also *Baulandmobilisierung und städtebauliche Verträge*, DStGB documentation no. 9, Deutscher Städte- und Gemeindebund.

<sup>40</sup> (Mainka, 2018, p. 59).

<sup>41</sup> (Reidt, 2022, margin no. 4).

In practice, requirements for a climate-friendly heat supply are therefore often linked to a municipal land-purchase agreement.<sup>42</sup>

### 24.3.1 Energy-Related Subject Matters of Contracts

The central regulation applicable to urban development contracts is § 11 BauGB, which does not contain an exhaustive list of contract types and subjects.<sup>43</sup>

The subject matter of contracts related to the climate-friendly supply of heat is regulated in § 11 (1) (2) (4) BauGB. This section was expanded with the 2011 revision of the BauGB, known as the ‘climate agreement’; it now expressly includes the construction and use of systems and facilities for the generation, distribution and use of heat from renewable energies or CHP. The amendment clarified that the installation and use of renewable energy systems can be the subject of agreements related to individual buildings and to community systems and heat grids; this is akin to a contractual obligation to connect and use.<sup>44</sup> Corresponding contractual designs are used in practice and have been recognised for some time.<sup>45</sup>

### 24.3.2 Reasonableness

The services agreed upon by the parties must be reasonable under the overall circumstances.<sup>46</sup> This requirement stems from the principle of proportionality and requires the economic value of the performance to be commensurate with the consideration.<sup>47</sup>

The overall circumstances of the individual case must be taken into account, i.e. there must be a comprehensive assessment of the resulting burdens, as well as the advantages for the private contractual partner,<sup>48</sup> including the profitability of the investments made by the developer and the increase in property value resulting from municipal planning. Factors that must be considered include the commitment period, the ability of the plant operator to operate the plant profitably,<sup>49</sup> and the potential for the additional costs incurred to be considerably higher than the energy costs that would otherwise be customary on the market.<sup>50</sup>

42 (Kahl/Schmidtchen, 2013, p. 187f.)

43 The use of the words ‘in particular’ in § 11 (1) (2) BauGB indicates that the list is not exhaustive.

44 (Hehn, 2015, p. 339).

45 (Kahl/Schmidtchen, 2013, p. 188f.)

46 § 11 (2) (1) BauGB reads: ‘Contractually agreed obligations must be reasonable under the overall circumstances.’

47 (Hendricks, 2006, pp. 45ff.) (Reidt, 2022, margin no. 75).

48 (Reidt, 2022, margin no. 75).

49 (Mainka, 2018, p. 80).

50 (Mainka, 2018, p. 80).



### 24.3.3 Prohibition(s) of Coupling

In addition, a contract may not obligate the contracting party to do something to which the contracting party would have been entitled even without this obligation (prohibition of coupling).<sup>51</sup> This would be the case, for example, if there were already a claim to the granting of a building permit.

In addition, performance and consideration must have a direct material connection to each other.<sup>52</sup> This means that there must be a causal connection between the planned project and the costs to be assumed, which is especially an issue in follow-up cost agreements pursuant to § 11 (1) (2) (3) BauGB. For example, the project developer can only be required to assume costs arising from the specific construction project.

Finally, with regard to the content of urban development contracts, a municipality may not, by virtue of its discretion over the planning process, make its decisions dependent on the developer's consideration. § 1 (3) (2) BauGB also explicitly states that there is no entitlement to the preparation of urban land-use plans and urban development ordinances and that such an entitlement cannot be justified by a contract.

### 24.3.4 Reasonableness of General Terms and Conditions (GTC) and the Requirement of Written Form

If the urban development contract is a contract under civil law or if the contract at least contains elements of civil law (usually in the case of urban-planning references), the law pertaining to GTC [*AGB-Recht*] must be observed.

In addition, urban development contracts must be in writing. If a simultaneous real estate transaction is associated with the contract, notarial certification is also required.

### 24.3.5 Implementation Agreement (Project-Related Development Plan)

As noted in Section 24.2.3, for new-build projects on private land, the municipality can enter into an urban development contract in the form of an implementation agreement for the project-related development plan (§ 12 BauGB), which obligates the municipality to carry out the urban planning process for the project and for the development measures. In addition, the developer is obligated to complete the project, bear its costs, and

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<sup>51</sup> § 11 (2) BauGB reads: '(2) An agreement on a service to be rendered by a contracting party is impermissible if that party would be entitled to the consideration even without the agreement.'

<sup>52</sup> (Hendricks, 2006, pp. 39ff.)

implement it within a certain period of time. As a result, an implementation agreement can specify all of the obligations related to climate change mitigation that are permissible in urban development contracts under the terms of § 11 BauGB. Accordingly, the implementation agreement may establish binding regulations for implementing the energy-related aspects of the project. If a project developer is interested in preparing the project and the development measures, the municipality can specify conditions for the construction and operation of a 'local heating network' in the implementation agreement for the project-related development plan.

It must be taken into account that the implementation agreement between the developer and the municipality must be concluded prior to the adoption of the ordinance by resolution, and thus prior to the resolution on the project-related development plan pursuant to § 10 (1) BauGB.

### 24.3.6 Urban Redevelopment

Urban development contracts can also be concluded in connection with the granting of a permit under redevelopment law if doing so eliminates grounds for refusal.<sup>53</sup> Accordingly, within the framework of a redevelopment area, the municipality can also contractually obligate an owner who applies for the approval of a construction project in a redevelopment area to connect to a climate-friendly district heating network source and to consume heat.

### 24.3.7 Land-Purchase Agreements

A concept award is a suitable procedure for the sale of land if the decision to sell is not based on the highest price bid and if the municipality seeks to influence the building project and make its decision dependent on factors such as the fulfilment of ecological and/or social criteria. State, federal and European legal requirements must be taken into account.

In municipal land sales, a municipality can also create an easement that obligates the purchaser of the land to meet heat demand with energy from a climate-friendly source (e.g. a local district heating network).

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<sup>53</sup> § 145 (4) (3) BauGB.

## 24.4 Compulsory Connection and Usage

Municipalities can also increase the density of connections to a local district heating network by making connection and usage compulsory under public law. This always requires the enactment of a municipal ordinance (district heating ordinance). Under the terms of a district heating ordinance, all properties located in the area that is subject to the ordinance must connect to the district heating network and use the district heating network to meet their heating needs in full.<sup>54</sup> In principle, this requirement applies to both new and existing buildings, though with restrictions for existing buildings due to the principle of proportionality. During the implementation process, it may be necessary to comply with special tendering obligations from cartel law or public procurement law.

Municipalities in Schleswig-Holstein can base the enactment of district heating ordinances on authorisation granted by either a state law<sup>55</sup> or a federal law.<sup>56</sup>

### 24.4.1 Enactment of a District Heating Ordinance Based on GO Schleswig-Holstein

In addition to the formal requirements that must be taken into account, the following material requirements must be met in order to enact a district heating ordinance based on § 17 (2) of the Municipal Code of Schleswig-Holstein (GO Schleswig-Holstein).<sup>57</sup>

#### – District heating ordinances serve global climate change mitigation goals

As a ‘public institution’ [*öffentliche Einrichtung*], the district heating supply must serve ‘the protection of health and the protection of the natural foundations of life’,<sup>58</sup> i.e. must contribute to significantly reducing a district’s greenhouse gas emissions and to mitigating the effects of climate change.

According to the case law of the Higher Administrative Court of Schleswig (OVG Schleswig) and the Federal Administrative Court, this is assumed to apply not only in the case of local improvements (e.g. through a reduction in emissions from individual combustion plants), but also in order for the district heating supply to serve global climate change mitigation goals in accordance with the purpose of the ordinance.<sup>59</sup> It

<sup>54</sup> (Buchmüller 2017).

<sup>55</sup> § 17 GO Schleswig-Holstein.

<sup>56</sup> § 109 GEG in conjunction with § 17 (2) GO Schleswig-Holstein.

<sup>57</sup> The formal requirements in GO Schleswig-Holstein that are generally applicable to the enactment of ordinances must be observed.

<sup>58</sup> § 17 (2) (1) GO Schleswig-Holstein.

<sup>59</sup> While the OVG Schleswig still required a greenhouse gas reduction of 40% (OVG Schleswig, decision of 5 January 2005, ref. 2 LB 62/04, para. 79; BVerwG, NVwZ 2006, 690 (692)), the OVG Magdeburg recently only required more than a ‘trivial effect’ (OVG Magdeburg, BeckRS 2018, 13014 para. 53).

is therefore important that ‘global climate change mitigation’ is explicitly mentioned as the purpose in the district heating ordinance.<sup>60</sup>

– **Compulsory connection and usage is demonstrably suitable for global climate change mitigation**

It is also necessary for a relevant climate change mitigation effect (greenhouse gas reduction) to be produced that represents an improvement over the (continued) operation of individual heating systems by the property owners,<sup>61</sup> and for evidence to be provided that demonstrates the climate change mitigation effect associated with a central district heating supply.<sup>62</sup>

If this is the case, there is an ‘urgent public need’ for the enactment of a district heating ordinance if the district heating supply is cost-efficient, and its operation guaranteed, only if utilisation is high – due to compulsory connection and usage – as this is the only way that the district heating supply can also exert its mitigating effect on climate change.<sup>63</sup>

– **District heating supply by public institution**

In addition, the district heating supply must be operated as a ‘public institution’,<sup>64</sup> i.e. the district heating supply must be under municipal ownership and dedicated to a public purpose.<sup>65</sup>

The provisions of GO Schleswig-Holstein permit tasks to be transferred to private third parties, such as an energy supply company organised under private law, only if an operating agreement grants the municipality a strong influence (takeover, self-entry, co-determination and veto rights) over the district heating supply.<sup>66</sup> In the design of the operating agreement, the decisive factor is whether the municipality can also legally enforce its proposals against the private operator.<sup>67</sup>

– **Proportionality of compulsory connection and usage**

Because compulsory connection and usage infringes upon fundamental rights – in particular those of heat consumers residing in the area subject to the ordinance<sup>68</sup> – the

<sup>60</sup> BVerwG, NVwZ 2004, 1131 (1131 f.).

<sup>61</sup> OVG Schleswig, BeckRS 2005, 25866.

<sup>62</sup> This evidence can be provided, for example, in the form of an expert opinion.

<sup>63</sup> For a detailed discussion of this argument, see OVG Schleswig, BeckRS 2005, 25866.

<sup>64</sup> § 17 (2) (1) GO Schleswig-Holstein.

<sup>65</sup> (Dehn/Wolf 2019, p. 206).

<sup>66</sup> (Dehn/Wolf 2019, p. 207).

<sup>67</sup> OVG Magdeburg, BeckRS 2018, 13014, para. 26f.

<sup>68</sup> Affected rights include the freedom of ownership established by Article 14 GG, the general freedom of action established by Article 2 (1) GG and – in comparison to properties not subject to the ordinance – the principle of equal treatment established in Article 3 (1) GG. There may also be an infringement on the occupational freedom protected by Article 12 (1) GG if energy producers and suppliers lose potential heat customers (e.g. natural gas customers with gas boilers) due to compulsory connec-

district heating ordinance must, for reasons of proportionality, provide for transitional regulations for existing buildings,<sup>69</sup> general hardship regulations, and (limited) exceptions for more climate-friendly individual heat supplies.<sup>70</sup> § 17 (3) (2) GO Schleswig-Holstein also requires district heating ordinances to provide for transitional periods.

### 24.4.2 Enactment of a District Heating Ordinance Based on the GEG

Although it ultimately makes little difference whether the district heating ordinance is based on § 109 GEG or on § 17 (2) (1) GO Schleswig-Holstein, the main advantage of authorisation based on § 109 GEG is that, according to the case law of the Federal Administrative Court, it is considerably easier to demonstrate that compulsory connection and usage is suitable for climate change mitigation.<sup>71</sup> Rather than an expert opinion (see Section 24.4.1), proof that the district heating supply meets the requirements of § 44 GEG (formerly No. VIII of the Annex to the Renewable Energies Heat Act (EEWärmeG)) is sufficient evidence of the suitability for climate change mitigation. It is therefore advisable that municipalities in Schleswig-Holstein base provisions for compulsory connection and usage on § 109 GEG in conjunction with § 17 (2) (1) GO Schleswig-Holstein.

### 24.4.3 Tendering Obligations of the Municipality

If municipalities decide to enact a district heating ordinance, there may be tendering obligations arising from cartel law or public procurement law, depending on the form of the contractual relationships. Tendering obligations may pertain to:

- the granting of rights of way for the laying of district heating pipelines under public roads and paths (concession or permit agreement) and
- the operation of the district heating supply if a private party takes this over for the municipality (operating agreement).

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tion and usage. Such interference can be justified, however, by considerations related to climate change mitigation.; (Kahl/Schmidtchen, 2013, p. 313).

<sup>69</sup> It is clearly proportionate if existing buildings are only subject to compulsory connection and usage if the heating system is replaced voluntarily. (Hehn, 2015, p. 371).

<sup>70</sup> In some cases, claims for exemption for particularly energy-efficient buildings are also under discussion; (Kahl/Schmidtchen, 2013, p. 321).

<sup>71</sup> BVerwG, decision of 8 September 2016, ref. 10 CN 1.15.

#### 24.4.4 Advantages and Disadvantages for Operators

For operators, the main advantage of compulsory connection and usage is that this requirement secures district heating sales. Because of this dominant market position, however, competition authorities monitor this situation especially carefully to protect against excessive pricing and abusive practices.<sup>72</sup>

In addition, the strict conditions for compulsory connection and usage significantly restrict the operator's economic freedom of choice.

A compulsory connection to district heating can also reduce acceptance of the heat supply among future district heating customers.

### 24.5 Key Findings and Outlook

This analysis of consumer integration into green heating networks produced the following key findings:

No obligations to purchase heat can be established at the level of urban land-use planning. However, the municipality can impose prohibitions and restrictions on the use of air-polluting substances for new and existing buildings (§ 9 (1) (23) (a) BauGB) and require property owners to take measures to promote the use of renewable heat when constructing new buildings (§ 9 (1) (23) (b) BauGB). In the case of existing buildings, it is always necessary to take into account the limitations prescribed in Article 14 GG for the protection of existing buildings. As a result, urban land use planning plays only a supporting role alongside other measures and has a limited steering effect.

The regulatory options available within the framework of an urban development contract go beyond what is possible with urban land use planning. With the help of this instrument, the municipality can establish requirements for a local district heating network, the connection to it, and the use of the heat from it (cf. § 11 (1) (2) (4) BauGB). However, it cannot force parties to enter into such a contract; the principle of freedom of contract applies. In practice, a contract is concluded only if it is of (economic) interest to potential developers and investors. In principle, urban development contracts can refer to climate change mitigation measures in new buildings as well as in existing buildings. It is particularly important that owners of existing buildings perceive there to be sufficient (economic) incentives to implement such measures, however, given the protection granted such buildings under building law.

Furthermore, a municipality can introduce a municipal ordinance (district heating ordinance) imposing an obligation to connect to and use district heating. All properties in the area subject to the ordinance must then meet their heating needs with district heating. In principle, this requirement applies to both new and existing build-

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<sup>72</sup> (Buchmüller 2017).

ings, though with restrictions for existing buildings due to the principle of proportionality. Municipalities in Schleswig-Holstein can base the enactment of district heating ordinances on authorisation granted by state law (§ 17 (2) (1) GO Schleswig-Holstein) or federal law (§ 109 GEG in conjunction with § 17 (2) (1) GO Schleswig-Holstein). The main advantage of compulsory connection and usage is that this requirement secures district heating sales; however, the operating agreement concluded with the municipality significantly limits the operator's economic freedom of choice. There is also a risk that the obligation will reduce acceptance of district heating among 'compulsory customers'.

Based on these findings, a combination of urban planning instruments that responds to local conditions appears to be a promising approach for integrating as many heat consumers as possible into the local heating network. A provision in the development plan prohibiting the use of certain heating fuels (§ 9 (1) (23) (a) BauGB) could, for example, be supplemented by a municipal district and heating ordinance. This would allow the municipality to control the heating fuels used and the connection to a heat network in the neighbourhood.

In Heide, the city in which the QUARREE100 research project is located, the City Council recently voted to exclude fossil fuel use from future development plans (§ 9 (1) (23) (a) BauGB).<sup>73</sup> This does not, of course, alter the fact that every development plan requires a case-by-case assessment. But the city of Heide has set itself the goal of becoming climate-neutral by 2045 and aims to adapt its urban land-use planning accordingly.

Furthermore, Rüdersdorfer Kamp in Heide, the neighbourhood that is to receive an upgraded energy supply in the course of the QUARREE100 project, is to be designated as an urban redevelopment area. This will allow access to urban development funds to finance the necessary redevelopment measures (§ 164a BauGB).

The introduction of a municipal district and heating ordinance is an instrument that the City of Heide will consider only if it proves to be economically necessary and reasonable.

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<sup>73</sup> (Heide 2022).

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