The wave of remunicipalisation of energy networks and supply in Germany – the establishment of 72 new municipal power utilities

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Keywords

policy-making, transition, strategy, business strategy, municipal utilities, target, local energy policies, local authorities, local activities, remunicipalisation

Abstract

After a wave of privatizations in the end of the 1990s, the electrical power supply of many municipalities in Germany has been returned into public hands. Many municipalities discover chances and possibilities for local action, which arise with remunicipalisation. The local policy-makers realize that remunicipalisation offers the opportunity of implementing an independent energy policy at local level which is critical in creating a transformation to a sustainable energy system based on energy efficiency and renewable energies. The municipal ownership allows a strong governance towards more political influence in the local energy market. In addition, there is a clear opinion of the population: 81 % of citizens surveyed say they trust their local municipal utility, compared to only 26 % who say they trust corporations (VKU-Survey, 2010). In summary, there are many good reasons for local politicians to establish their own municipal utilities. The payback for municipalities is tangible when the local utility focuses on reliably providing affordable energy rather than on increasing its returns. The new municipal power utilities stimulate competition and contribute to the renewal / restructuring of the traditional energy market.

The founding of 72 municipal utilities since 2005 leads us to ask for the reasons. The study reviews the German trend towards municipal ownership of local utilities, assessing their performance based on 10 targets related to the energy transition, climate protection, and the local economic impact:

1. Achieving environmental objectives and organization of the local "Energiewende".
2. Higher local added value.
3. Harnessing tax regulations for improving municipal services.
4. Improving the income situation of the city.
5. Democratization of supply and stronger orientation towards the common good (public value).
6. Creating and protecting good jobs.
7. Acting in social responsibility in energy supply.
8. Expansion of eco-efficient energy services.
9. Harnessing customer relations and public image.
10. Materialising synergies with other sectors.

Based on expert opinions, the study finds out that the likelihood of these targets being reached is "high to very high". The aim of this article is to provide a compact and basic understanding of the possible reasons for the phenomenon of remunicipalisation.

Introduction

Germany's energy sector was dominated by regional (largely private sector owned) energy companies for a long time while the municipal companies held a noticeable share of the local markets The German legislation meant to liberalise the energy market had a paradox effect. It triggered a wave of company mergers which resulted in the emergence of the "Big Four"

(RWE, E.on, EnBW and Sweden's State owned Vattenfall), whereas the share and role of the municipal energy companies began to shrink. At that time, many analysts predicted "demise of the German municipal energy companies" (Wollmann 2011, p. 899). For years now the energy sector in Germany has been characterized by numerous launches of municipal utility companies, not only in big centres like Hamburg and Berlin, but also in rural areas. After many years when privatisation and outsourcing were the dominant trends across the public services, the phenomenon of founding new municipal power utilities can be understood as a countermovement to the paradigm of privatisation that had dominated the 1980's and 1990's. (e.g. Hall 2012 p. 3; Busshardt 2014 p. 3). Politics and economic policy has been increasingly dominated by neo-liberalism. This process has been driven by political, legal, and fiscal factors. There is now increasing evidence, particularly in the municipal water and energy sector of trends in the opposite direction (Hall 2012 p. 3). According to this new trend, many local authorities realized their appreciation for public- or citizen-value-interests. In addition to that the energy transition (Energiewende) offers plenty of new opportunities in energy supply on a local stage. Since nearly all existing grid concessions in the energy sector are up for renewal in the period up to 2016, about two thirds of all German cities and towns are considering buying back both electricity generators and the distribution networks (Hall 2012 p. 4). The founding of own utilities is the first important step to pursue this strategy to exploit the full potential of a local energy policy.

In the light of the above, 72 municipal utilities in the electricity sector that were newly founded since 2005 have been observed. In their study the Wuppertal Institute points out that the most important objectives linked to remunicipalisation (or recommunalisation) can be accomplished. This is because towns and cities are more and more going to assume a key role in the energy transition. By having their own municipal utility companies they have the chance to advance the ecologically beneficial and climate-friendly reconstruction of energy supply. But yet there are critics who doubt the chances of intensified remunicipalisation.

Figure 1 shows municipal utilities that were established in clusters between 2005 and 2013, all of which are in the western parts of Germany. In the east, the wave of municipal takeovers largely took place in line with the German reunification in the 1990s.

Against this background, it is interesting to assess the prospects of success of newly founded municipal power utilities. Therefore this article focuses on the two questions: (1) What were the motives for local politicians to establish new municipal power utilities? and (2) Is the achievement of targets likely?

The current state of research into the topic of remunicipalisation of public services is far from being extensive (Busshardt 2014, p. 3). Therefore we chose a heuristic analysis to get a better understanding regarding the underlying causes and actors within the political system. The Wuppertal Institute identified the 10 most important targets of a remunicipalisation. In each case, an assessment is made whether a target achievement is possible. The accessibility of the goals is subsequently evaluated by six external experts from research and practice. The contexts of justification used by the authors is based on many years of specialized experience in numerous studies and public utility projects and operates on the basis of a three-year research partnership with 13 German municipal utilities (INFRAFUTUR 2008). In the estimates for the target accessibility the authors also assume that public utilities are key actors in a fundamental structural change in energy supply. The municipal distribution grid plays an important role for the integration of more renewable and other local energies like the electricity produced from cogeneration. Therefore, it is assumed that the distribution networks of municipal power utilities are the backbone of a turnaround in energy policy towards sustainable energy systems (Coalition agreement of the German government 2013, p. 42). Municipal utilities are thus the central force for the transformation process in the German energy sector.

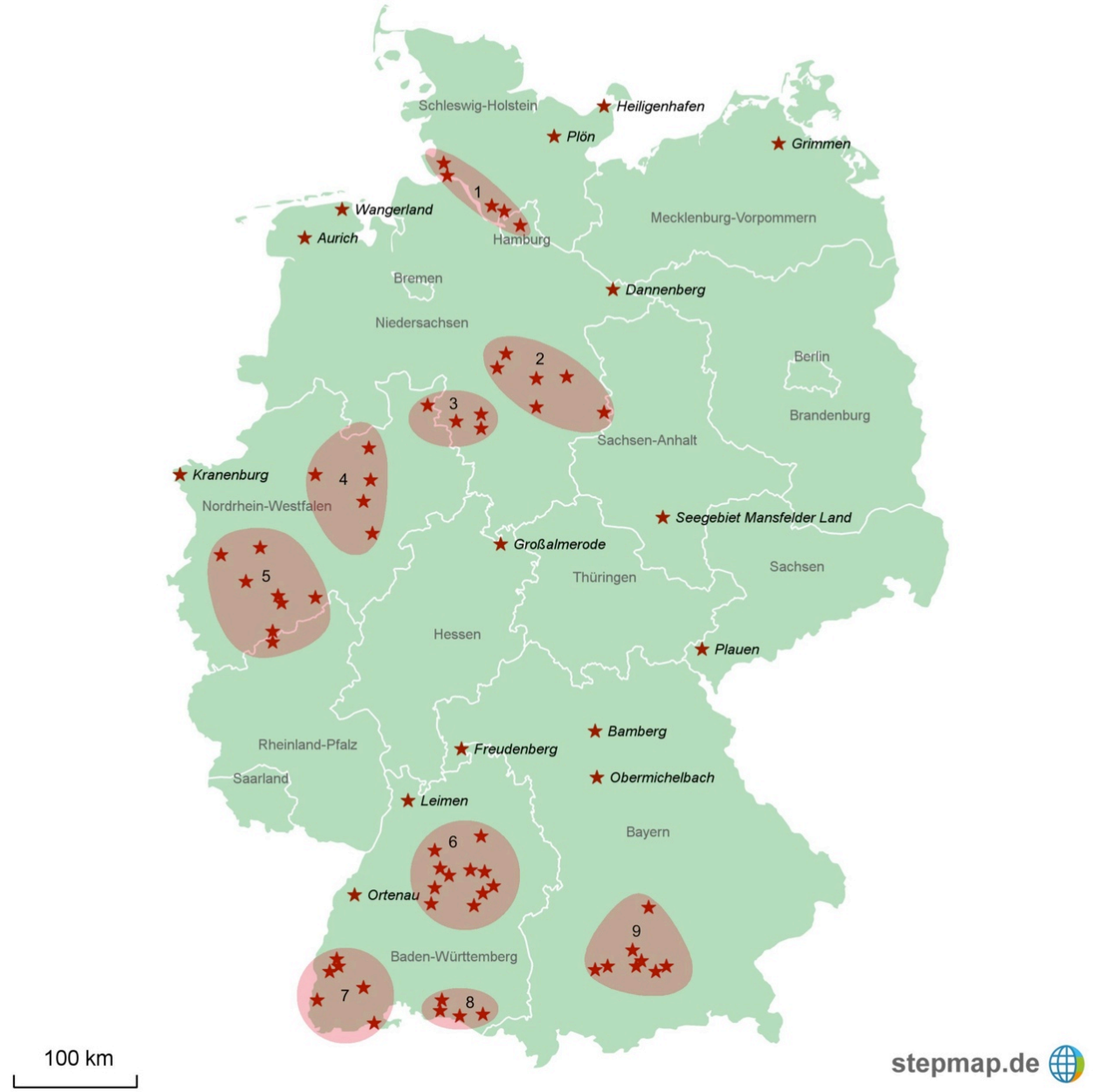
The scientific consideration takes into account the federalist structure of the Federal Republic of Germany. Here the municipalities and their energy companies have been attributed important tasks in the context of the multilevel governance system which is also guaranteed by law (the guarantee of municipal self-administration is part of the German constitution). The project "Energiewende" is therefore in need of a polycentric Governance.

Definitions and object of investigation

Defining the term "remunicipalisation", thus specifying its constituent elements, is necessary to delimitate the phenomenon from others such as nationalisation. The authors use a comprehensive definition of the term "remunicipalisation". Remunicipalisation refers to the "reverse" process when functionally privatized ("outsourced") functions and services are turned back ("insourced") into municipal operation or materially (asset) privatized facilities are "bought" back and return to public/municipal ownership, be it entirely or partially (Wollmann 2013, p. 4).

Municipal power utilities are usually not just the local grid operator. They are characterised by a commercial involvement along the entire value chain and have as their main activity generation, transmission, distribution, trading and supply of energy. Another investigation approach chosen by Putz & Partner however, reduced the holistic view of remunicipalisation to the field of the local network operation (see Putz & Partner 2013). In this article, operations at various levels of the value chain are assumed. The reason for this is that almost all municipal power utilities in Germany operate in different businesses along the value chain.

Due to the liberalisation of the energy market in Europe, network operation is separated from electricity generation (unbundling). Therefore energy grid operating is a central field of its own right within the energy market today. However, according to the so-called "de minimis" rule small companies do not have to separate network operations and energy supply in different companies. That's why many newly founded municipal utilities do not fall under restrictions of unbundling. Small grid operators just have to provide discrimination-free access and keep separate accounts for their grids and for other activities (unbundling of accounts). The unbundling for these companies is not legally obligatory. The de minimis rule applies to approximately 80 % of all existing public utilities in Germany (Sandau, 2009).



Legende: ★ Neugründungen — Cluster

Cluster 1 Hamburg Schleswig
Stadwerke Brunsbüttel
Stadtwerke Uetersen
Energie Rellingen
Gemeindewerke
St. Michel Energie
Hamburg Energie

Cluster 2 Großraum Hannover
Gemeindewerke Wietze
Gemeindewerke Wedemark
Stadtwerke Elm-Lappwald
Stadtwerke Gifhorn GmbH
Gemeindewerke Uetze
Gemeindewerke
Peiner Land

Cluster 3 Region Wolfsburg
Stadtwerke Springe
Stadtwerke Weserbergland
Netzgesellschaft Hessisch
Oldendorf
Mindener Stadtwerke

Cluster 4 Ostwestfalen - Münsterland
Stadtwerke Harsewinkel
Wadersloh Energie
Gemeindewerke
Bad Sassendorf
Hochsauerland Energie
Gemeinsame Stadtwerke
Münsterland

Cluster 5 Rheinland
Stadtwerke Mettmann
Stadtwerke Korschenbroich
Stadtwerke Pulheim
Stadtwerke Rösrath Energie
Stadtwerke Lohmar
Ahrtal-Werke
Stadtwerke Waldbröl
Energie + Wasser für Wachtberg

Cluster 6 Stuttgart-Nekar
Energieversorgung Mainhardt
Wüstenrot
VES Sersheim
Stadtwerke Ditzingen
Stadtwerke Stuttgart
Remstalwerk
Stauferwerk
Energieversorgung Bad Boll
Energieversorgung Lenningen
Gemeindewerke Ammerbuch
Gemeindewerke Plüderhausen
Stadtwerke Böblingen

Cluster 7 Schwarzwald
Stadtwerke Emmendingen
Energieversorgung Denzlingen
Gemeindewerke Umkirch
Energieversorgung Titisee-Neustadt
Stadtwerke Müllheim Staufen
Regionalwerk Hochrhein

Cluster 8 Bodensee
Gemeindewerk Allensbach
Hagnauer Gemeindewerke
Regionalwerk Bodensee
Gemeindewerke Sipplingen

Cluster 9 Region München
Stadtwerke Pfaffenhofen
Stadtwerke Landsberg KU
Gemeindewerke Windach KU
Energieversorgung Olching
Regionalwerk Würmtal
Energieversorgung Putzbrunn
Gemeindewerke Gräfelfing
Gemeindewerke Oberhaching

Figure 1. Map of 72 new municipal power utilities in Germany.

With remunicipalisation of local electricity and/or gas distribution grids, municipal utilities usually aim to be a player along the entire value chain: from procurement to production, supply and network operation at all stages. The German municipal power utilities are usually local multi-utility companies and almost all public service obligations can be pursued through them.

Assessment for target 1: Achieving environmental objectives and organization of the local "Energiewende"

There are many experiences with policy options of municipal utilities (see, e.g., projects such as INFRAFUTUR 2008). It is shown that strategies to implement the local "Energiewende" and climate protection strategies, fit well with the economic interests of local municipal utilities. The goal of "Achieving environmental objectives and organization of local 'Energiewende'" can thus be achieved with a high probability.

With this target the following sub-objectives have been defined:

- Strong implementation of local energy savings.
- Enhanced development of the local potential for renewable energies.
- Expansion of decentralized combined heat and power (CHP).
- Establishment of a rural-urban network to realize the potential of renewable energies.

With these sub-goals, the basic pillars of a sustainable local energy policy are presented. Municipal power utilities engage significantly more strongly in the expansion of renewable energies than the four large private energy companies.

The overall share of renewables in electricity generation of municipal utilities averages around 12 per cent. Compared to this, the renewable energy share of the big 4 energy companies RWE, E.ON, Vattenfall and EnBW is approximately 5 per cent of the installed power generation capacity (trend:research 2013). The proportions of installed renewable energy capacity of Vattenfall is 1.8 % and RWE 3.5 %. The proportions of E.ON (11.2 %) and EnBW (19.1 %) are slightly better (Bontrup/Marquardt 2015, p. 193).

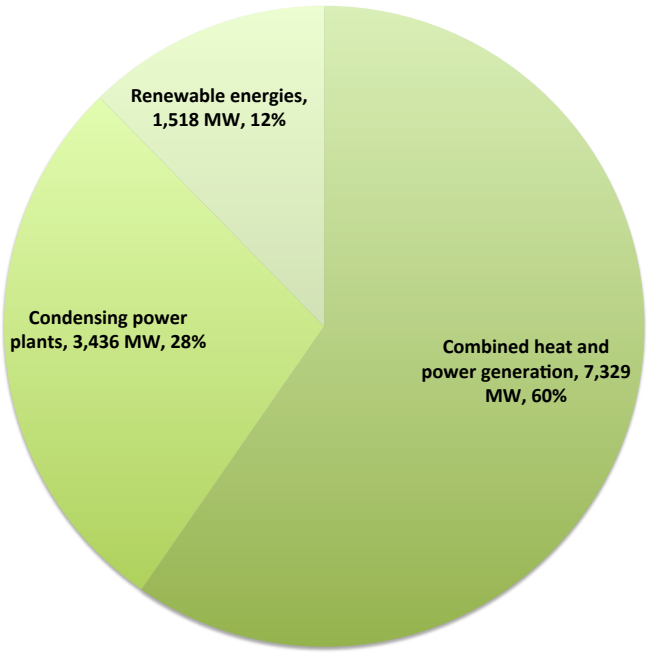


Figure 2 Capacity for electricity generation by the German municipal power utilities in 2012. Source: VKU 2013.

Assessment for target 2: Higher local added value

Achieving the goal "Improvement of local added value" is most likely assessed for the following reasons:

Municipal utilities usually award numerous contracts to local companies (e.g. construction and installation enterprises) and are hence seen as a local source of revenue (see also target 6). One of the reasons for this is that municipal power utilities are typical SMEs that award contracts in the form of lots with smaller orders. Therefore regional firms can compete for these contracts and are also increasingly successfully applying for tenders. The big 4 power companies or their regional subsidiaries, however, get jobs done through their own supra-regional business units or external large companies active at supra-regional level.

Contract works by municipal utilities with other companies and strategic partners include, for example, construction or civil engineering, repair and maintenance of network infrastructure and local power plants. Furthermore, they make contracts with local companies regarding the procurement of office supplies, furniture, equipment, etc. and the requirement of services such as cleaning and room care services. The big 4 power companies usually have only a few number of regional offices they need services for. RWE for example has only 76 local branch offices in Germany (website RWE). Overall, municipal utilities lead to a significant increase in contracts with local companies. As a result, new jobs in the region will be created.

By the local development of renewable energy utilities through integrated companies the city can realize additional revenue (Renewable Energy Law, rental income, business tax revenue). Furthermore, the cooperation with local partners in the market leads to an increase in the regional value added (e.g. for biogas production with farmers). The decentralized development of local cogeneration in all sectors (industry, commerce, trade and services, public buildings and private homes) will lead to more positive value-added and employment effects in the future. The German Association of Local Utilities (VKU) informs that public utilities made a total investment of 8,126 million Euros in 2011. Last but not least municipal utilities create numerous jobs through their business as a local employer and generate multiple effects on additional revenue for their municipality and local economy. The big 4 power companies invest especially in large projects, such as off-shore wind farms, which are financially prohibitive for small private investors.

Assessment for target 3: Harnessing tax regulations for improving municipal services

Local experiences prove that municipal utilities efficiently work in the field of electricity grid and sales and, thus, achieve positive financial results. Municipalities that have their own utilities, (usually a holding company with subsidiaries) can

bring together various branches in a consolidated financial statement. Local public utilities simultaneously ensure that cities and municipalities have sociopolitical room for manoeuvre. The profits earned in the energy supply are returned to the municipality, thus relieving the burden on the towns and municipalities which, as a result, can also offer other important infrastructures and services, for example the operation of local public transport or public swimming baths. In addition, the municipalities can significantly reduce their tax burden in this way (securing of tax unity across entities). The surpluses discharged from the energy business help to fund other important municipal tasks. For example losses by a municipal public transport company can be offset against profits generated by the energy supply. Without this possibility, the public transport would nationwide lose a revenue of around 1.4 billion euros annually, which would lead to a substantial increase in the cost of public transport.

Summarising the above, it can be said that municipal multi-sector utilities will create local benefits for the local budget rather than global benefits for the federal budget. From the point of view of the affected cities, the financial plight of many municipalities justifies this action to improve and secure municipal services of general interest in times of financial crisis.

Therefore, the achievement of this target is very likely.

Assessment for target 4: Improving the income situation of the city

The income from the operation of municipal enterprises is diverse. Many aspects are effective for the financial situation in municipalities. In addition to the revenue from the concession fee, especially (local) business taxes, revenue from the distribution of profits, fees and contributions is financially effective. Due to the fundamental influence on municipal budgets, financial aspects play an important role for the decision to found new municipal power utilities.

In 2011 the University of Leipzig published the study "Renaissance der Kommunalwirtschaft – Rekommunalisierung öffentlicher Dienstleistungen" ("Renaissance of municipal services – municipal ownership of public services"). The core of this study is a local survey in which 102 municipalities took part. The survey was addressed to all municipalities with more than 20,000 inhabitants, who have privatized (or partially privatized) their utilities over time and currently think about a remunicipalisation (response rate 14.59 per cent). Almost half of the municipalities with a budget deficit (48.5 percent) are planning a remunicipalisation. Therefore it is clear that financial arguments play a prominent role in such decisions (University of Leipzig 2011, p 10).

If a new municipal utility has acquired the concession, it will have to buy the network from the former concession holder. The determining factor for the calculation is the capitalised earnings method. The network fees are regulated by law (incentive regulation) and generate a reasonable return on the capital between 6 and 8 %. The long-term interest rates on corporate debt are significantly lower than the returns on investment. The purchase of the existing distribution network is a profitable and low-risk investment. Therefore it is easy to make a credit agreement. The German state-owned KfW Bank offers a special loan program for investments in municipal infrastructure. As Germanys largest promotional bank, KfW Group supports change and encourages forward-looking ideas in Germany, Europe and throughout the world. Municipal utilities (a majority must be in the ownership of the community) can get the local distribution grids financed by means of a low-rate KfW-loan at terms similar to a public authority loan.

Further, the realization of cost advantages by electricity generated in local CHP plants has financial benefits, because it reduces the dependence on electricity procurement from suppliers. The extension of the municipal economic power and heat generation and the development of local supply networks make it possible to reduce the dependence on transmission systems (VKU 2010, p. 11).

The achievement of this target is therefore likely.

Assessment for target 5: Democratization of supply and stronger orientation towards the common good (public value)

Municipal utilities make a significant contribution to the local public good and, in addition, also represent a locational advantage for business. This is a result of a SWOT analysis made in the framework of the three-year research partnership INFRAFUTUR between 13 municipal companies of the supply, sewage, and waste sectors with the Wuppertal Institute, the association of municipal companies (VKU) and the VKU's working group for rational use of energy and water (ASEW). Accordingly, it is the great strength of municipal utilities that the success of economic activity directly benefits the local community and does not flow into other regions. For public utilities, the citizen value is much more significant than the shareholder value.

In contrast to large power companies municipal utilities offer many opportunities to promote the democratization of local power supply and allow the citizens to participate in the company's success. The following participatory possibilities can be used by municipal utility:

- Intensive communication and disclosure of the strategy to the citizens.
- Financial participation by the use of innovative financial instruments (e.g. climate savings bonds, construction of citizens' solar systems, citizens' fund and involvement of (especially established) co-operatives in the ownership structure).
- Involvement/engagement in "Local Agenda 21" projects.
- Strong local political influence in the supervisory bodies.
- Profits from the local energy supply are predominantly to the benefits of one's own citizenship.

The two most important reasons for municipal decision makers to establish own utilities and to start a remunicipalisation, are found in the "maintenance of municipal influence" and in the effective performance of "general interest (target achievement) by the public sector" (see Figure 3) (University of Leipzig, 2011, p. 13 ff.).

Because of the fact that many cities are in a poor fiscal situation, municipalities are looking for new solutions for being able to offer a citizen-friendly range of services in future. For local decision makers this is also a measure against disen-

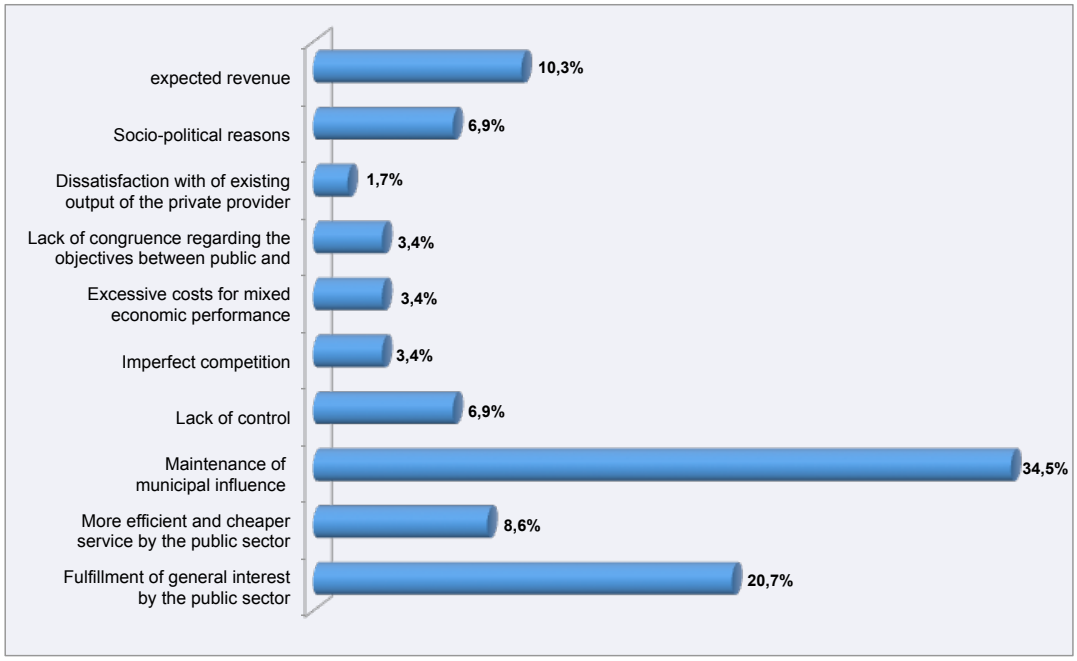


Figure 3. Reasons for remunicipalisation of energy supply. Source: University of Leipzig (Universität Leipzig 2011, p. 17).

chantment with politics. About a quarter of the respondents from the University of Leipzig municipalities considers the issue of "shares to citizens" a possible way to obtain municipal infrastructures. Even citizens fund (9.4 per cent) and citizens advisory councils (6.3 per cent) in municipal enterprises play a role in the democratization and participation (University of Leipzig 2011, p. 15).

The complete achievement of this target is therefore very likely.

Assessment for target 6: Creating and protecting good jobs

Municipal utilities are major source for local employment. In 2008, some 70,000 people in Germany were directly employed by them. Overall, their training rate is well above the German average. The city of Hannover conducted a study in order to count the direct and indirect employment effects of local companies. The result is impressive. Jobs in the local energy sector have a significant multiplier effect. Wherever feasible and legally possible, the company provides supply contracts to local and regionally based businesses. According to the VKU, on average 80 per cent of the contract volume remain in the region (VKU 2010, p. 11). Each person employed by the "Stadtwerke Hannover" (the municipal utility of Hannover) may, on average, support 2.12 jobs dependents. In sum, the study concludes that more than 9,000 jobs in the region have been induced by the public utility of Hannover (Stadtwerke Hannover 2009, p. 13). The regional value created in Hanover through the model funding program of "enercity proKlima fund" is annually about 46.7 million Euros and leads to an employment effect of 757 person each year (Pestel Institute 2011, pp. 19f.). Municipal utility companies thus improve the job situation in their cities considerably. Its revenues help to strengthen the regional economy by creating jobs and investing in the region. The Pestel Institute has examined the regional value added effects and regional employment effects of public utilities for several municipal power companies[1]. One example is the result for the public utility of Solingen. The Pestel Institute came to the conclusion that out of each euro the customers spent for energy and water, 55.2 cents flow back into the local economy. Through a national supplier, it would have been only about 26.5 cents (Solinger Tageblatt 2012). In Duisburg, the result is similar: 29 cents of every euro spent by the municipal utility remain in the region while it would be only twelve cents in the case of a foreign utility company (Stadtwerke Duisburg 2013). If there is a strong commitment of municipal utilities in the field of climate protection, local job opportunities are even higher. Both the development of renewable energy and a commitment to increase energy efficiency lead to the result that additional jobs are created (INFRAFUTUR 2008, pp. 126 f.). A proof for this thesis are the results of the evaluation of the enercity proKlima fund (see above).

Therefore, the achievement of this target is very likely.

Assessment for target 7: Acting in social responsibility in energy supply

Social responsibility can be distinguished between the internal and external responsibility. Internally, it is about assuming a commitment to employees and externally to take over responsibility for the customers. The perception of an internal social responsibility becomes apparent, for example, in the creation of more vocational training courses than needed in the company. Another example would be the implementation of family-friendly workplaces, which may encompass a variety of measures, such as a pro-active creation of part-time jobs or

1. An overview can be found at: http://www.pestel-institut.de/sites/0801171416160.html.

establishing a company kindergarten and support for employees after parental leave (INFRAFUTUR 2008, p. 235). From the employee's perspective, the spatially localized activities of a municipal utility usually have advantages over nationally operating companies. The big companies do by far not have local branches in all communities. The big 4 are distinguished, however, by the fact that they usually pay salaries well above standard wages. In addition, they give their employees a variety of privileges. The fear of losing the privileges of employees is quite comprehensible (Berlo/Wagner 2013, p. 50). It is a reasonable interest to keep the existing privileges. A remunicipalisation can therefore lead to conflicts with the union concerned. The referendum in Hamburg even led to a dispute within the relevant trade union[2] (Berlo/Wagner 2013, p. 50f.).

External social responsibility is seen in the support of community involvement towards local initiatives (INFRAFUTUR 2008, p. 236) and especially towards the customers. Energy companies have a special responsibility because electricity and heat are among the basic needs. Electricity and gas providers have a higher social responsibility as compared to a supermarket. The reason for this is that they have a supply contract with the customers. A supermarket is not responsible for a person starving. However, if someone dies of cold in his or her apartment because the power company has ceased the supply, a direct relation to the company is obvious (Wagner 2013, p. 240). Through the newly developed "smart grid technology", social aspects of energy supply can be better realized than in the past. Energy poverty in Germany is a relatively new subject of investigation. According to a survey of the German Network Agency (Bundesnetzagentur), in 2013 the supply of electricity was actually interrupted to 321,539 households. Warnings of electricity supply termination were issued to roughly 5.7 million private households (Bundesnetzagentur/Bundeskartellamt 2013, p. 134). Therefor public utilities have developed many ideas to reduce energy poverty in recent years. In Cologne, more than 660 smart meters were installed. If a customer's electricity bill is not paid, he or she will still get a small amount of power which is enough to operate the heating pump and the lighting. Another example is found in Olpe. Customers of the municipal utility do not have to be afraid of a power cut-off. Instead of an electricity interruption, customers concerned may get a prepaid-counter without additional cost. This is an appropriate measure in efforts to reduce energy poverty. In addition, many local/municipal public utilities have special advisory services and support programs for low-income households. Many good examples with projects implemented by municipal utilities and the big four energy suppliers to protect economically disadvantaged groups at risk of 'fuel poverty have been compiled by Kopatz (2013).

The achievement of this target is likely.

Assessment for target 8: Expansion of eco-efficient energy services

In order to achieve the goals of energy policy at the local level, public utilities can align their business strategy on the principles of a quality competition. It does not make sense for a local utility company to engage in price competition with low cost companies. Municipal utilities can gain competitive advantage when they manage to help their customers to have a low energy bill. This can be done by targeted energy services (such as energy supply or performance contracting, or subsidies for energy-efficient appliances). Such deals create a win-win situation with benefits for the customers and the municipal utilities. The municipal utilities are increasing their reliability as a customer-oriented company and can improve their customers' loyalty. Customers receive incentives and support to reduce their annual energy bill. In practice, it can be observed that many public utilities offer eco-efficient energy services to their customers. A survey of the association VKU led to results shown by the Figure 4.

The quality competition is characterized by further benefits for public utilities, which is becoming increasingly important due to the so-called 'energy transition' (INFRAFUTUR 2008):

- Stronger consideration of renewable energy.
- Communication of long-term core objectives (vision statement) for annual reports and image brochures.
- Definition of climate protection targets and criteria for the development of renewable energy and local CHP as part of a sustainability strategy.
- Strengthening the competitiveness of local businesses by providing eco-efficient energy services for cost savings.

The achievement of this target is likely.

Assessment for target 9: Harnessing customer relations and public image

In the competitive environment, the following opportunities have emerged for local/municipal utilities in recent years:

1. The numerous customer contacts are a comparative competitive advantage over other energy service providers who do not have the same variety (electricity, gas, water, heat, etc.).
2. The continuity and intensity of customer contacts.

Therefore, local utilities can implement the energy efficiency targets and CO_2-reduction potential at local or regional level more comprehensively and efficiently. Furthermore, municipal utilities can achieve a significant contribution to customer loyalty and improve customer satisfaction by energy services. This is another advantage in quality competition. In addition, from the perspective of the local stakeholder a wide range of energy services is a locational advantage. Many municipal utilities use their local presence and public responsiveness in daily life by:

- Establishing a local customer service centre.
- Collaboration with actors, institutions, unions, societies and associations to foster the implementation of the local energy transition.
- Implementation of locally adapted solutions and services.
- Timely troubleshooting.

2. The United Services Union (ver.di).

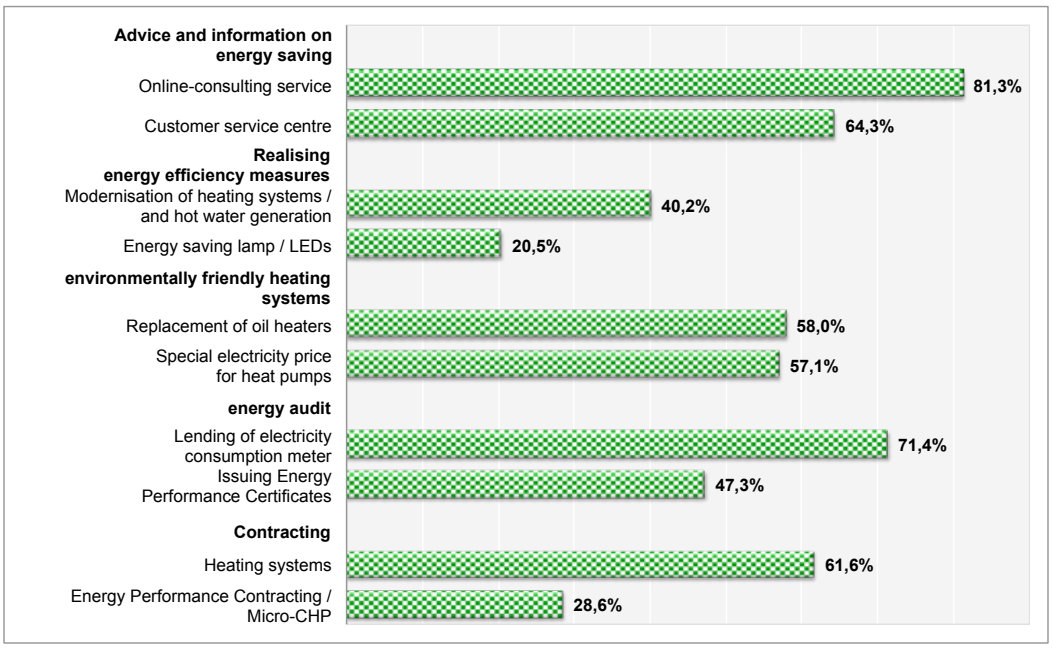


Figure 4. Energy services by municipal utilities. Own illustration based on the results of a VKU/ASEW member survey, source: VKU, Deutscher Städtetag, DStGB, 2012, S. 62.

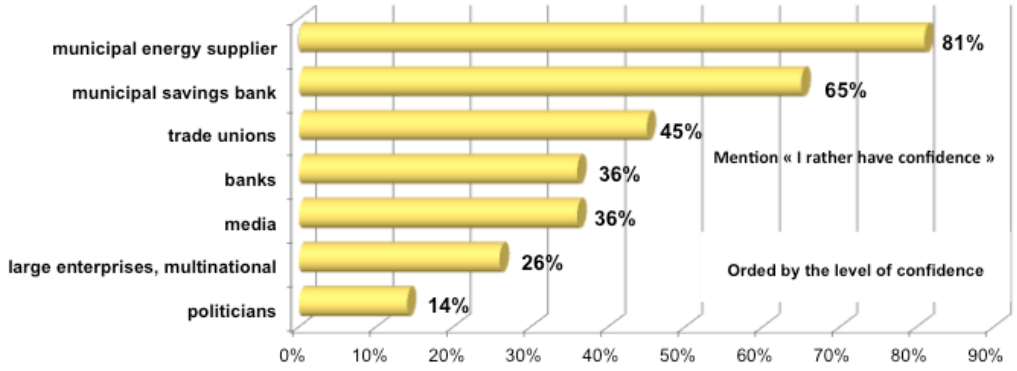


Figure 5. People trust the municipal energy suppliers. Representative surveys show the great trust relationship and the great satisfaction local public enterprises do maintain with the citizens. Source: VKU/survey by TNS emnid.

It turns out that the corporate strategies of municipal utilities are perceived credible and authentic. A survey showed that 81 per cent of the institution "municipal utilities" have confidence of the population.

84 % of the respondents share the opinion that local utilities in cities and municipalities should play a more important role in energy production to strengthen the competition between enterprises and the market diversity toward energy markets. Public (particularly municipal) utilities enjoy remarkably strong public support. People in Germany view municipal utilities as generally positive and prefer them to private suppliers.

Therefore, the achievement of this target is very likely.

Assessment for target 10: Materialising synergies with other sectors

According to a study of the University of Leipzig, cooperation and the harnessing of synergies play a major role in the context of remunicipalisation (Universität Leipzig 2011, p. 14). There are synergies in various fields. First, internal synergies that arise in the context of cooperation with other units in the city have to be mentioned (e.g. as to vehicle fleet management). The research partnership INFRAFUTUR identified a variety of potential synergies with other municipal divisions that may arise (INFRAFUTUR 2008, pp. 299 ff.):

- joint development of new products and/or joint development of new businesses,
- horizontal integration of the value chain (existing activities are implemented together),

- vertical integration of the value chain (supplement of one by the other division),
- supplement of product lines and activities,
- sharing of technical equipment and/or staff,
- integration of internal and external services,
- knowledge transfer and consulting services,
- development of common bases for the corporate cultures.

In addition to local internal synergy opportunities, external (horizontal) collaborations are an opportunity to develop new businesses along the value chain. Such cooperations are an important strategy, especially for small and medium-sized municipal utilities.

According to a survey by the VKU, more than 60 per cent of the municipal utilities are already involved in a cooperation. More than 50 per cent of the municipal utilities are thinking about expanding their cooperation. 43 per cent are planning to join an existing cooperation or start a new cooperation with other municipal utilities. Nearly 15 per cent of the municipal utilities are even involved in several collaborations. Only 9 per cent do not have any concrete plans towards any form of cooperation (VKU 2010, p. 63). For established municipal utilities, the reasons for cooperation are mainly in the generation of synergy benefits and cost savings. For newly established enterprises cooperation also plays an important role for other reasons. Collaborations can be helpful

- to improve knowledge transfer,
- to support the implementation of strategies,
- to implement the qualification of employees, and
- to set up new business segments (such as energy services).

Such a cooperation strategy enables companies to achieve significant economies of scale, without losing their character as a decentralised service provider. But in the long run, there is a danger that such cooperation are a first steps towards merging of several local companies in larger companies. An example for such a development is the formation of the company VEW (the predecessor company of RWE) , which can be described as a kind of "de-communalization" (Berlo/Murschall 1994).

The achievement of this target is likely.

Results of the survey with external experts to assess achievement of the 10 objectives

In addition to our own assessment regarding the 10 targets, external experts from research and practice were asked for their appraisal. First, the experts were informed about how we defined the term "remunicipalisation". Evaluations by the external experts were made completely independently of the assessments conducted by the authors. Methodologically, the external experts had to consider the same procedure. The same ten targets (each with four rating categories) with altogether 42 defined sub-targets were to analyse in terms of accessibility by public utilities. Assessments were made by the following six highly qualified experts (alphabetical order):

- Prof. Dr. Heinz-J. Bontrup (economic expert, speaker of the Working Group on Alternative Economic Policy in Germany),
- Prof. Dr. Felix Ekardt (leader of the Research Unit Sustainability and Climate Policy),
- Prof. Dr. Peter Hennicke (full member of the international Club of Rome, former President of the Wuppertal Institute, Representative of the EU Parliament in the Management Board of the European Environment Agency (Copenhagen), member of the Indo-German Expert Group on Green and Inclusive Economy),
- Dr. Reinhard Klopfleisch (Member of the Supervisory Board in the municipal utilities of Hannover and Wuppertal, Senior Leader for Energy Policy in the German Trade Union Verdi),
- Prof. Dr. Uwe Leprich (Member of the Supervisory Board of ABO Wind AG. Professor of Energy Economics at the Saarland University of Applied Sciences for Economics), and
- Prof. Dr. Hermann Zemlin (former member of the Board of Directors in the municipal utilities in Bonn, Wuppertal and Waldbröl, honorary professor at Karlsruhe University, former member of the management board at the regional transport association VRR "Verkehrsverbund Rhein-Ruhr").

Methodologically, a similar method was used by Putz & Partner (2013). However, Putz & Partner come to completely different results. The reason for the major differences is to find in the different tasks attributed for municipal utilities. While Putz & Partner reduced the holistic view of remunicipalisation to the field of the local network operation (see Putz & Partner 2013), the authors of this article see municipal power utilities operating at various levels of the value chain.

Table 1 shows the summary of the answers given. Answers that have received the most responses are marked in grey. For comparison, the authors' assessments are mentioned as bullets below. The table shows that the authors and the external experts come to similar conclusions. With this result, the authors' assessments are largely confirmed.

Conclusion and outlook

A clear trend can be derived from the assessments that remunicipalisation is a good opportunity to achieve the most important targets. A strategy of remunicipalisation offers multifaceted opportunities and benefits to cities and towns that can be used for the local energy supply and the energy transition. The founding of new municipal power utilities is a strategy to develop the primacy of local politics. The most important prerequisite for achieving this goal is a commercial operation on various fields in the energy market (transmission, power generation and distribution).

As most cases of remunicipalisation have been implemented only within the last few years, social scientific endeavour of describing and analysing the remunicipalisation of public services is in its early stages (Busshardt 2014, p. 7). This paper is just an initial attempt to present the promising approach of founding new municipal utilities. But there is in principle still a tremen-

Table 1. Appraisals concerning the achievement of the ten targets.

Target	Very likely	Likely	Unlikely	Very unlikely
1. Achieving environmental objectives and organization of local "Energiewende"	5 •	14	5	0
2. Improvement of local added value	11 •	7	0	0
3. Using local tax benefits	7 •	3	1	0
4. Improving the income situation of the city	11	6 •	1	0
5. Democratization of supply and stronger orientation towards the common good (public value)	12 •	21	2	1
6. Creating and protecting good jobs	16	11 •	2	1
7. Realizing social responsibility in the energy supply	1	8 •	2	1
8. Expansion of eco-efficient energy services	8	22 •	6	0
9. Realization of public responsiveness	9 •	13	2	0
10. Realization of synergies with other sectors	10	16 •	14	0
Total	90	121	35	3

dous need for research to study the complete effects of remunicipalisation. The economic benefits of remunicipalisation, particularly the long term effects on local government finances, should be the objective of research projects in the future.

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Acknowledgements

We thank the following external experts for helpful discussions and the evaluation of the objectives (in alphabetical order): Prof. Dr. Heinz-J. Bontrup, Prof. Dr. Felix Ekardt, Prof. Dr. Peter Hennicke, Dr. Reinhard Klopfleisch, Prof. Dr. Uwe Leprich and Prof. Dr. Hermann Zemlin.

The authors would like to thank the anonymous reviewers for their valuable comments and suggestions to improve this paper.

We also thank the company StepMap for the free sharing of image rights.