Study on State asset management in the EU

Pillar 4 – Re-municipalisation of energy grids in Germany

Contract: ECFIN/187/2016/740792

Written by KPMG and Bocconi University
February 2018
Re-municipalisation of energy grids in Germany

This note discusses the re-municipalisation process of energy grids in the City of Hamburg. Re-municipalisation efforts in the German energy market – often relating to the operation of energy grids - have increased significantly in the recent years. Between 2011 and 2016 almost 350 municipalities in Germany covering about 8.5 million inhabitants decided to re-municipalise their electricity grids. The re-municipalisation of the electricity grid in Hamburg, which was completed in 2014, has been discussed intensively in politics and the public, making it one of the best documented cases of re-municipalisation in Germany. Although it might be too early to draw clear conclusions on the fiscal impact of this re-municipalisation case there can be already observed positive effects on the grid’s infrastructure and in some other areas.

1. INTRODUCTION

Energy supply is the most important sector in terms of Value Added generated by PSHs in Germany. Re-municipalisation efforts in the German energy market have increased significantly in the recent years, making it an ideal case for analysis of re-municipalisation. The developments relate to two dimensions: the historic evolution and the actions out to secure public control over energy distribution and grids.

First, the historic evolution can be structured along three stages:

- a “historical starting condition” from 1870–1970s;
- a liberalisation phase from the 1990s to mid-2000s;
- targeted re-municipalisation from the mid-2000s.

As most re-municipalisations happened in recent years, the case-study primarily assesses the developments during the second and third stage of developments in the German energy utility sector.

Two types of actions towards the re-municipalisation of German energy utilities can be highlighted:

- the repurchase of minority stakes in German municipal utility companies that were previously held by private actors. Here, the predominant aim of the municipalities is to regain full control of the energy provision;
- the operation of energy grids. These grids are regulated by concession contracts that are auctioned by the German Federal Network Agency (Bundesnetzagentur). Since many of the concession contracts expired in the past decade, municipalities have used the opportunity to (re-)invest in electricity grids.

As a specific case, the re-municipalisation of the energy grids in Hamburg – with a special focus on the electricity grid which has been fully re-municipalised and is operated by Hamburg Stromnetz GmbH – will be analysed in sections 3 and 4, given the magnitude of the repurchase, the number of citizens affected by the process and the amount of publicly available information.

2. CONTEXT AND IMPLEMENTATION

The recent increase in re-municipalisation is driven by a number of changes in the market conditions, the legislation and the awarding of concessions.
Historically, the German energy market has been highly fragmented into local markets, partly due to the particular role of municipal utilities. Local grids were mostly operated by these municipal utilities, delivering energy to the local customers, whereas in the field of energy generation a few big private law stock companies played a major role.

Along with the introduction of the 1998 Federal Energy Act – which implemented the 1996 Energy Directive 96/92/EC – the landscape of local grid providers changed significantly. This legislation brought about an increased market pressure on the municipal utilities as a result of lifting the binding of customers to the respective local monopoly. As a result, several municipalities decided to sell their local grids and/or parts of their utility companies to privately-held companies, since many of municipalities faced intense budgetary pressure, which in turn was reinforced by the increased market pressure that was brought about by the liberalisation. One other key driver was the expiration of many concession contracts in the period from 2012–2016 that led many municipalities to reconsider direct shareholding in the energy sector.

This was reinforced by the large impact of the 2011 Fukushima catastrophe that led to a complete shift in the German energy policy strategy – introducing the shift from nuclear power to alternative, renewable forms of energy generation – giving a “comparative advantage” to local companies. Backed by decentralised energy provision, this strategy gave municipal utilities a new perspective towards their position in energy markets.

A recent survey among German municipalities shows that both privatisation and remunicipalisation efforts are affected by, inter alia, the financial situation of municipalities. About 45% of the survey respondents that had recently privatised utilities stated that this decision was driven by financial pressure. This leads to the conclusion that privatisation is seen as a way to reduce financial pressure. Similarly, municipalities that bought (back) utilities were more likely to have a lower per capita debt than municipalities that have not (planned) to re-municipalise their utilities. Moreover, 64.3% of municipalities planning to re-municipalise their utilities seek to (re)obtain a “safe source of income”.

In some cases, local citizens’ initiatives urging public authorities to re-municipalise energy utilities/grids lead to concrete public investment.

However, there has been a growing engagement by privately held enterprises in the sector as well. Thus, it can be concluded that the market liberalisation that was triggered by the various national and EU-wide legislative initiatives lead to a general

---

1 See Wollmann, H., Public Services Provision in European Countries from Public/Municipal to Private Sector – and back to municipal?, 22nd World Congress of IPSA.
2 Gesetz über die Elektrizität- und Gasversorgung (Energiewirtschaftsgesetz – EnWG).
4 Wollmann, H., Public Services Provision in European Countries from Public/Municipal to Private Sector – and back to municipal? (2012), 22nd World Congress of IPSA, 8.
7 Wagner, O., Berlo, K., Remunicipalisation and Foundation of Municipal Utilities in the German Energy Sector: Details about Newly Established Enterprises (2017), 398.
8 Kompetenzzentrum Öffentliche Wirtschaft, Infrastruktur und Daseinsvorsorge e.V. an der Universität Leipzig, Konzern Kommune (2013), 11f.
9 Ibid., 13f.
restructuring of the market affecting both private and public utilities.\textsuperscript{10} However, remunicipalisation activities concerning grids and distribution networks seem to be attributable to a generally growing interest in public ownership of grids and electricity trading.\textsuperscript{11}

3. **ANALYSIS OF THE DEALS**

The number of PSHs (all sectors) owned by municipalities has risen from 10,900 in 2000 to around 13,440 in 2011 which is a 23% increase.\textsuperscript{12} More than 11% of these PSHs operate within the energy sector.\textsuperscript{13} Municipalities have established 72 new local power companies in the energy supply market since 2005.\textsuperscript{14} Between 2011 and 2016 almost 350 municipalities covering about 8.5 million inhabitants decided to re-municipalise their electricity grids.\textsuperscript{15} In the state of Baden-Wuerttemberg – where most of the newly established electricity utilities are located\textsuperscript{16} – almost 200 electricity grids have been re-municipalised in the last 20 years. Electricity grids that are held by municipalities now serve about 60% of the population in Baden-Wuerttemberg. The share of municipalities in gas grids has even increased to over 80%.\textsuperscript{17}

Re-municipalisation efforts span all size-categories of municipalities. German municipalities that bought (back) utilities often join forces with other municipalities or utilities to cover the expenses of the deals. Beside the financial aspects of such acquisitions, joint initiatives have the possible advantage of enlarging distribution networks and thus the provision of services to more consumers. In Baden-Wuerttemberg, four small municipalities – each having less than 15,000 residents – established *Remstalwerk GmbH & Co. KG* as a joint venture.\textsuperscript{18} Another example is *Thüga*, an energy utility that was bought by a consortium of 100 municipal utilities in 2009 for a price of EUR 3 Bn.\textsuperscript{19}

In terms of organisational aspects, most of the new municipal utilities are founded as limited liability companies, GmbH (67%) or limited liability companies with limited commercial partnerships, GmbH & Co. KG (25%).\textsuperscript{20}

Regarding the overall performance of municipal utilities operating within the energy sector, the results are mixed. While the return on equity has remained largely stable in the period between 2000 and 2011 – with a small decrease from 2008 to 2011 – the sales revenue to GDP ratio has increased from 2.54% in 2000 to 5.5% in 2011.\textsuperscript{21}

\textsuperscript{11} Ibid., 230, 232 and Kompetenzzentrum Öffentliche Wirtschaft, Infrastruktur und Daseinsvorsorge e.V. an der Universität Leipzig, Konzern Kommune (2013), 12.
\textsuperscript{13} Statistisches Bundesamt und Wissenschaftszentrum Berlin für Sozialforschung, Datenreport 2016 – Ein Sozialbericht für die Bundesrepublik Deutschland (2016), 120.
\textsuperscript{14} Wagner, O., Berlo, K., Remunicipalisation and Foundation of Municipal Utilities in the German Energy Sector: Details about Newly Established Enterprises (2017), 398.
\textsuperscript{16} Wagner, O., Berlo, K., Remunicipalisation and Foundation of Municipal Utilities in the German Energy Sector: Details about Newly Established Enterprises (2017), 399.
\textsuperscript{18} Wagner, O., Berlo, K., Remunicipalisation and Foundation of Municipal Utilities in the German Energy Sector: Details about Newly Established Enterprises (2017), 400.
\textsuperscript{19} Wollmann, H., Public Services Provision in European Countries from Public/Municipal to Private Sector – and back to municipal? (2012), 22nd World Congress of IPSA, 11.
\textsuperscript{20} Wagner, O., Berlo, K., Remunicipalisation and Foundation of Municipal Utilities in the German Energy Sector: Details about Newly Established Enterprises (2017), 403.
\textsuperscript{21} Monopolkommission, Kapitel V Kommunale Wirtschaftstätigkeit und der Trend zur Rekommunalisierung (2014), In: Hauptgutachten XX (2012/2013), 442, 446.
The increasing sales revenue can certainly be attributed to the massive price increases in the energy market, that in turn potentially also led more municipalities to engage in the energy market.\textsuperscript{22} Despite the fact that sales revenues of municipal utilities operating within the energy sector have increased, the actual sales share of public energy suppliers have decreased since 2006, making up for a little over 25% of all German energy sales in 2012.\textsuperscript{23}

In general, it can be observed that there is little comprehensive data available on the phenomenon of re-municipalisation efforts in the German energy sector. This is especially true for research about the overall economic impact of the re-municipalisation efforts. In addition some of the contracts between the previous owners of energy infrastructure and the municipalities are confidential.

One of the most prominent examples of re-municipalisation efforts is the case of the energy grids in Hamburg, one of the best documented cases of re-municipalisation in Germany although some parts of the process are still ongoing.

As a first effort to re-municipalisation, Hamburg re-municipalised the city’s electricity grid. The city had sold its shares in the grid operation companies (electricity, gas and district heating) in multiple steps, concluding the sale with a last transaction in 2002, where the remaining 25.1% had been sold to Vattenfall for EUR 869.2 Mn.\textsuperscript{24} In a first step a repurchase from private grid operation companies of 25.1% in each of the three grids was concluded in 2012\textsuperscript{25}, in order to re-obtain a so-called blocking minority which allows to influence investment decisions.

As a second step, in a referendum held in September 2013, 50.9% of the voters decided in favour of a complete grid repurchase.\textsuperscript{26} The citizens’ initiative’s referendum had two core targets:

- fully remunicipalise the Hamburg electricity, district heating and gas distribution grid in 2015; and
- a socially just, climate-friendly and democratically controlled energy supply from renewable sources.\textsuperscript{27}

Following this decision, the remaining 74.9% of shares in the energy grid operator Stromnetz Hamburg GmbH were purchased for a final price of EUR 356.95 Mn\textsuperscript{28}.

\textsuperscript{22} ibid., 442.
\textsuperscript{24} Wollmann, H., Public Services Provision in European Countries from Public/Municipal to Private Sector – and back to municipal? (2012), 22nd World Congress of IPSA, 11f and Bürgerschaft der Freien und Hansestadt Hamburg, Drucksache 20/2630, 23.12.11.
\textsuperscript{25} The price for the energy grid shares amounted to EUR 138.05 mn of EUR 543.5 total amout paid in 2012 to acquire back 25.1% shares. See Mitteilung des Senats an die Bürgerschaft, Hamburg schafft die Energiewende - Strategische Beteiligung Hamburgs an den Netzgesellschaften für Strom, Gas und Fernwärme, 29.11.2011, 16. Available at: http://www.hamburg.de/contentblob/3170704/f26b1b668222f6f4ede8f7c0386a74db/data/energiewende-mitteilung-buergerschaft.pdf [Accessed 15\textsuperscript{th} January 2018].
\textsuperscript{26} Freie und Hansestadt Hamburg, Rückkauf der Energienetze: Umsetzung Schritt für Schritt. Available at http://www.hamburg.de/energiewende/4110666/ergebnis-volksentscheid/ [Accessed 15\textsuperscript{th} January 2018].
\textsuperscript{28} HGV Hamburger Gesellschaft für Vermögens- und Beteiligungsmanagement mbH, Geschäftsbericht 2014 (2015), 9.
Another component of the repurchase agreements resulting from the 2013 referendum was the re-municipalisation of the gas network that became effective as of January 1, 2018. Again, the city repurchased the remaining 74.9% of shares in Hamburg Netz GmbH from Hansewerk AG for a fixed price of EUR 275 Mn.²⁹

The final step towards re-municipalisation of Hamburg’s energy grids will be concluded in 2019, when the city gains the right to exercise its call-option in the district heating operator Vattenfall Wärme Hamburg GmbH. As with the other deals, the City of Hamburg currently holds 25.1% of the shares in Vattenfall Wärme Hamburg GmbH. In October 2017, the city notified Vattenfall that it intends to exercise the call-option which automatically initiates a price determination process.³⁰ The minimum price was set at EUR 950 Mn in the contract between Vattenfall and the City of Hamburg.³¹

4. IMPACT ASSESSMENT

In the following section, the impacts of the re-municipalisation on the target company performance, on public finance and other impacts are analysed, using publicly available data.

As the majority of the re-municipalisation processes in the German energy market are still in progress or were only completed recently, the quantitative evidence-base for an impact assessment cannot be built yet. In the case of Hamburg, only the re-municipalisation of Stromnetz Hamburg GmbH has been completely implemented for a significant period of time, whereas the full re-municipalisation of the gas network became only effective as of January 1, 2018 and the district heating network has not been fully integrated yet. Hamburg’s municipality holds at least 25.1% of shares in the latter networks, allowing it to influence decision making and investments.

Consequently, the impact assessment will only focus on Stromnetz Hamburg GmbH, taking into account mostly qualitative impact measures, as current financial statements and pre-municipalisation ones are not fully comparable (due to changes in legal structures and non-recurring costs).

The following statements are based on analyses of published annual reports and other publicly available documents.

4.1. Impacts on the target company

Stromnetz Hamburg’s re-municipalisation has brought about many changes in the company’s organisational set-up and strategic planning. Although few definitive statements that show significant effects can be made at this stage, some changes have become apparent. In terms of market-positioning, no changes have been observed due to the fact that energy grid operator are natural monopolies in Germany. Profitability has decreased, but an increase is expected for the years to


come. Cost-effectiveness is above-average and improved in comparison to the previous ownership. Solvency has developed to be slightly positive in the short-term.

- **Market positioning**

Energy grid operations in Germany can be seen as historic monopoly, distributing all energy in a certain area. There is no sizable competitor in the Hamburg area. Hamburg’s electricity grid serves 1.8 million people, making it Germany’s second largest electricity grid.\(^{32}\)

- **Profitability**

The re-municipalisation of Hamburg’s electricity grid was completed in 2014. While the turnover in 2014 was highly affected by non-recurring effects, it increased in the following years, reaching a higher level than under private ownership (see Figure 1). Regarding the *Return on Equity* (ROE), the ratio fell after the re-municipalisation and gained momentum again in the recent years (Figure 2).

**Figure 1** Turnover (2010-2016)

**Figure 2** Return on Equity (ROE)

Source: KPMG elaborations on published financial statements.  
NB. In 2014 the company published two financial statements for two “short financial years” (1-3 2014 and 4-12 2014). The use of a “pro-forma” data for the annual period 2014 would be misleading because in this year of transition there have been several one-off effects.

Although the development of turnover has been positive in the recent years, the overall ratio of net income and interest expenses has been negative in the first years after re-municipalisation of the energy grid (Figure 3). Significant one-off costs occurred, e.g. the establishment of a new IT infrastructure. Since it is not possible to put these one-off costs on the assets side of the balance sheet, it affects the calculation of the revenue cap that is determined by the Federal Network Agency based on a benchmark of grid providers’ cost-efficiency (both for public and private grid providers).

The revenue cap is one step in the determination of prices in the German incentive regulation system for the monopolistic electricity grid market. Every five years the costs incurred by the grid provider are assessed to calculate a cost base and then benchmarked to determine an individual cap for every provider. Some factors, such as fixed costs that cannot be influenced by the provider, are re-assessed. Prices are subsequently calculated from the cost-efficiency benchmark. Thus, the revenue cap serves as an individual “budget” for a given regulatory period.\(^\text{13}\)

It should be noted, however, that these on-off costs would also arisen to an alternative private company when purchasing the electricity grid operator, as the electricity grid operator had to be removed from Vattenfall’s complex and synergetic corporate structure to be transformed into stand alone organisation.

- **Efficiency**

After the distribution grid was re-municipalised, a substantial amount was invested to secure the grid operation and adapt to the demand for electricity. In 2015 for example, EUR 115 mn were spent on the grid’s facilities. Although these investments were a major cost factor during the recent years, the City of Hamburg as the new owner of the electricity grid regards these investments as necessary in order to ensure a "future-proof" network infrastructure in Hamburg. Moreover, a more efficient and cost-effective operation of grids raises the regulatory revenue cap for a grid provider.

Since the cost-efficiency calculation adjusts for capital costs in a lagged manner and thus not directly after they occur, Hamburg’s re-municipalised energy grid operator faced significant one-off costs, since the years of transition from private ownership to public ownership and the investments made in the course of this process were particularly cost intensive. However, the company foresees an adequate lift in prices and thus revenues in the future thanks to the changes in the assessment of the cost base and efficiency in the subsequent regulatory period of incentive regulation (beginning in 2019).

The cost-efficiency is calculated in a multiple-step statistical process using benchmark companies and multi-country comparisons. In 2009, the preceding electricity grid operator that was owned by Vattenfall had an efficiency indicator of 95%, while the re-municipalised company’s cost-efficiency indicator is 96.1%, which is above the current average of 94.7%.

- Solvency

The debt to equity ratio of the electricity grid operator has increased sharply in the short-term. It spiked from 20% in 2010 to over 160% in the period of transition but declined after the full integration of the company into Hamburg’s asset management, mostly due to a shareholder contribution and the repayment of a long-term loan. Long-term comparisons are not possible yet.

Source: KPMG elaborations on published financial statements.

NB. In 2014 the company published two financial statements for two "short financial years" (1-3 2014 and 4-12 2014). The use of a "pro-forma" data for the annual period 2014 would be misleading because in this year of transition there have been several one-off effects.

### Figure 4 Debt to equity ratio

<table>
<thead>
<tr>
<th>Year</th>
<th>Debt to Equity Ratio (D/E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>20%</td>
</tr>
<tr>
<td>2011</td>
<td>40%</td>
</tr>
<tr>
<td>2012</td>
<td>60%</td>
</tr>
<tr>
<td>2013</td>
<td>80%</td>
</tr>
<tr>
<td>2014</td>
<td>100%</td>
</tr>
<tr>
<td>2015</td>
<td>120%</td>
</tr>
<tr>
<td>2016</td>
<td>140%</td>
</tr>
</tbody>
</table>

Re-municipalisation

### Figure 5 Equity to fixed assets ratio

<table>
<thead>
<tr>
<th>Year</th>
<th>Equity to Fixed Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>20%</td>
</tr>
<tr>
<td>2011</td>
<td>40%</td>
</tr>
<tr>
<td>2012</td>
<td>60%</td>
</tr>
<tr>
<td>2013</td>
<td>80%</td>
</tr>
<tr>
<td>2014</td>
<td>100%</td>
</tr>
<tr>
<td>2015</td>
<td>120%</td>
</tr>
<tr>
<td>2016</td>
<td>140%</td>
</tr>
</tbody>
</table>

Re-municipalisation

Fixed assets and Equity to Fixed Assets

Source: KPMG elaborations on published financial statements.
Another ratio to show whether the energy grid operator’s financial situation has changed after the acquisition is the equity to fixed assets ratio (and the equity plus long-term liabilities to fixed assets ratio)\(^41\). A high ratio shows higher financial stability, since fixed assets are covered by long-term capital. Energy grid providers are very capital-intensive, making this ratio interesting to analyse in this case. While there was a general decline from 140% to 100% under the ownership of Vattenfall since 2010, the ratio remained mostly stable around 100%, which is in accordance with guiding values provided for this ratio.\(^42\)

### 4.2. Impacts on public finance

Regarding the impact on public finance, profits of the electricity grid operation are distributed to the holding company for grid operations (Hamburg Energienetze GmbH) which in turn distributes profits to the asset management company of the City of Hamburg.

In the years preceding the re-municipalisation of Hamburg’s electricity grid, profit distributions from the company preceding Stromnetz Hamburg to the previous owner, Vattenfall, were volatile (see Figure 6). Following the acquisition of 25.1% of the shares in Vattenfall Stromnetz Hamburg GmbH by the city’s asset management company HGV, effective in 2012, the city agreed to receive a contractual fixed amount every year. In 2013 e.g., Hamburg received EUR 5.8 Mn. After the City of Hamburg acquired Stromnetz Hamburg, the electricity grid provider annually distributed profits to its holding company (2014: 34.5 Mn €; 2015: 6 Mn €; 2016: 10.7 Mn €). From the perspective of the “city’s holding group” their profit distributions by the electricity grid operator have increased after the re-municipalisation process.

In contrast, there are currently still high capital costs of the grid holding company from the complete purchase of Stromnetz Hamburg GmbH. According to the last publicly available management report of Stromnetz Hamburg the company is expected to show increasing profits for 2017.\(^43\)

**Figure 6** Profit distributions of the electricity grid operator (Stromnetz Hamburg)

Source: KPMG elaborations on published financial statements.

NB. In 2014 the company published two financial statements for two “short financial years” (1-3 2014 and 4-12 2014). The use of a “pro-forma” data for the annual period 2014 would be misleading because in this year of transition thare have been several one-off effects.

---

\(^{41}\)Equity to fixed assets ratio: equity to total fixed assets or, including long-term liabilities i, equity’s long term liabilities to total fixed assets.


Hamburg’s holding company for energy grids (HEG) and Hamburg’s asset management company (HGV) have taken up significant liabilities for the complete repurchase of Stromnetz Hamburg GmbH (including affiliates). In January 2017 these liabilities amounted to more than 614 Mn EUR (HEG: 469.95 Mn €; HGV: 144.15 Mn €).44

4.3. Other impacts

Since the grid operator’s most important task is to ensure reliability of the energy provision, quantifying occurrences of interruption in the electricity grid is an adequate measure for the quality of service. Even though electricity outages are negligible in Germany, measuring the average outage duration indicates how stable the grid is. The Federal Network Agency keeps track of all interruptions in the electricity supply in accordance with section 52 of the Federal Energy Act (EnWG).45

An industry-standard measure for quantifying grid reliability is the System Average Interruption Duration Index (SAIDI), which quantifies the average minutes of outage per customer. A slightly modified version of this index – called SAIDI\textsubscript{ENWG} – is employed by the Federal Network Agency. It does not account for planned outages and outages caused by force majeur.46

An analysis of the SAIDI\textsubscript{ENWG} data shows that Hamburg’s grid reliability has been above average for most years, as can be seen from Figure 7. The reliability has generally improved in Hamburg since 2012, with no significant changes since the re-municipalisation of Hamburg’s energy grid.

Due to the nature of electricity grids – and the very stable infrastructure environment in Germany – it would have been unexpected to see a sharp increase or decrease in SAIDI\textsubscript{ENWG} after the re-municipalisation, even though the city’s substantial investments in the infrastructure may contribute to an improved long-term grid reliability.

While the evidence regarding fiscal effects of the re-municipalisation is still ambiguous, the municipality’s efforts had some impact on other areas.

---

44 Bürgerschaft der Freien und Hansestadt Hamburg. (31.01.17). Drucksache 21/7658.
46 Ibid.
• **Citizens and the city**

One impact is the substantial investment in the electricity grid infrastructure, which significantly exceeds the investments in previous years. According to the municipal owner this is done in order to secure future revenues for the city and adapt the city’s infrastructure to the needs of the grid users. Moreover, the city uses the grid to reinforce efforts in the area of e-mobility and sustainable energy by providing more connection capacities for these areas. Moreover, the grid provider continues the previously established strategy of increasing the number of charging poles for electric and hybrid vehicles. In addition, the re-municipalisation has also succeeded in increasing citizens involvement in the issue. In fact, one target of the citizens’ initiative "Unser Hamburg, Unser Netz" (Our Hamburg, Our Grid) which initiated the successful referendum about the re-municipalisation of the energy grids was “democratically controlled energy supply”. Alongside the re-municipalisation of the energy grids an Energy Advisory Board (Energienetzbeirat) was formed, which was integrated in the City’s Departmental Authority for Environment and Energy (Behörde für Umwelt und Energie). Members of this new Board include a broad range of 20 representatives from society, science, industry and the local grid companies. The bi-annual meetings of the Energy Advisory Board are open to the public, giving citizens the opportunity to ask questions or to bring forward written proposals. By this, questions of energy policy can become subject to a wide-ranging debate throughout society, strengthening transparency and citizens’ opportunities for participation. So far, however, it is still unclear what influence the Advisory Board will have in concrete terms on the achievement of energy policy goals.

• **Workforce**

While Stromnetz Hamburg had 134 employees in 2013, the number increased to 276 in 2015 and jumped to 1,079 employees in 2016. Even though this exponential growth is puzzling at first glance, it can be explained by a number of factors regarding the organisational set-up of the company. Before the re-municipalisation, different Vattenfall companies, such as Vattenfall Netzservice Hamburg GmbH (604 employees in 2015) and Vattenfall Metering Hamburg GmbH (102 employees) provided services to Stromnetz Hamburg. The companies’ employee count did not reflect in Stromnetz Hamburg’s annual report since the companies were independent entities. Today, both companies have been merged into Stromnetz Hamburg including their employees. These three entities together had 982 employees in 2015, after the mergers Stromnetz Hamburg had 1,079 employees in 2016 (+9.9%). This could be to some extent driven by the structural and organisational need to reorganise the company and e.g. to establish a dedicated IT department.

Table 1 provides a synthesis of the major impacts identified above. The results are presented by means of a RAGS (i.e. Red; Amber; Green; Silver) classification. In detail: “Red” stands for a negative impact, “Amber” for no clear patterns for the impacts, “Green” stands for a positive impact/s and “Silver” stands for no data available for the analysis.

47 Stromnetz Hamburg GmbH, Infrastrukturbericht 2016, 21, 27.
51 Ibid.
Table 1 Summary table of potential impacts

<table>
<thead>
<tr>
<th>Summary of potential impacts</th>
<th>Impacts on the target company</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market positioning</strong></td>
<td>Scoring</td>
</tr>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>▪ No change in market positioning observed: energy grids are historic monopolies in the city.</td>
</tr>
<tr>
<td><strong>Profitability</strong></td>
<td>Scoring</td>
</tr>
<tr>
<td></td>
<td>R (short term)</td>
</tr>
<tr>
<td></td>
<td>▪ The overall ratio of net income and interest cost of Stromnetz Hamburg GmbH was negative in the first years after completing the re-municipalisation process, especially due to high one-off costs and infrastructure investments. The company expects a higher profit for 2017. No long-term observations can be made at this stage.</td>
</tr>
<tr>
<td></td>
<td>A (long term)</td>
</tr>
<tr>
<td><strong>Efficiency</strong></td>
<td>Scoring</td>
</tr>
<tr>
<td></td>
<td>G (short term)</td>
</tr>
<tr>
<td></td>
<td>▪ According to a benchmark of the Federal Network Agency the electricity grid operator’s cost-effectiveness is above average and higher than before the repurchase.</td>
</tr>
<tr>
<td></td>
<td>▪ Long-term cost-effectiveness cannot be substantiated.</td>
</tr>
<tr>
<td></td>
<td>A (long term)</td>
</tr>
<tr>
<td><strong>Solvency</strong></td>
<td>Scoring</td>
</tr>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>▪ The debt to equity ratio of the electricity grid operator has developed slightly positive in the short-term.</td>
</tr>
<tr>
<td></td>
<td>▪ The equity to fixed assets ratio has been stable since the re-municipalisation.</td>
</tr>
<tr>
<td></td>
<td>▪ No long-term observations can be made at this stage.</td>
</tr>
<tr>
<td><strong>Impacts on public finance</strong></td>
<td>Scoring</td>
</tr>
<tr>
<td><strong>Fiscal impacts</strong></td>
<td>Scoring</td>
</tr>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>▪ From the perspective of the city the average distributions of earnings by the electricity grid operator have been increased after the re-municipalisation.</td>
</tr>
<tr>
<td></td>
<td>▪ In contrast, there are currently still high capital costs of the grid holding company from the complete purchase of Stromnetz Hamburg GmbH.</td>
</tr>
<tr>
<td></td>
<td>▪ Potentially increasing profits in 2017 and coming years.</td>
</tr>
</tbody>
</table>
## Study on State asset management in the EU – Pillar 4

### Acquisition/entry in capital - Re-municipalisation of energy grids in Germany

#### Summary of potential impacts

| R | For the complete repurchase of Stromnetz Hamburg GmbH (including affiliates) Hamburg’s public sector holdings have taken up significant liabilities (as of January 2017). |

#### Other impacts

| Scoring | Impacts on citizens and the city | G | (Re)investment, esp. in infrastructure, has increased in order to ensure a future-proof grid infrastructure. Since these investment costs are only included in the user prices set by the regulator after a delay, positive effects on the profitability are only expected in the coming years. |
| Scoring | Impacts on workforce | A | In the short term, the number of employees has increased. This is mainly due to mergers of service companies belonging to Vattenfall into the newly established municipal grid operator. |

**Legend**

- **R** = Negative impact
- **A** = No clear pattern
- **G** = Positive impact
- **S** = No data available

*Source: KPMG elaborations*

### 5. CONCLUSIONS AND LESSONS LEARNT

Despite the fact that implementation is ongoing, selected conclusions and lessons learnt could be summarised as follows:

- The repurchase of the electricity grid in Hamburg represents one of the re-municipalisation efforts in the German energy market. These efforts have multiplied in the recent years;
• The complete repurchase of the electricity grid in Hamburg was carried out in 2014, to revisit strategic choice of local government towards their grid implementation the result of a 2013 referendum which was initiated by a citizens’ initiative and not by the government itself;

• Some of the observed short-term impacts in the case of the electricity grid by nature are affected by one-off costs - which would have been arosen for any purchaser of the electricity grid. Hence it is too early to draw clear conclusions with regard to the long-term fiscal impact of this re-municipalisation process;

• The investment in the electricity grid infrastructure has been substantively increased after the re-municipalisation process was completed in Hamburg. Due to the changes that will be made to the incentive regulation in 2019, the company expects a better regulatory framework for further investments that could subsequently allow a more cost-efficient and stable operation of the grid. While the profit distributions by the electricity grid operator have been increased from the perspective of the city, public debt has increased simultaneously. The overall ratio of net income and interest expenses had been negative in the first years after the repurchase. However, the ratios are likely to normalise after the re-municipalisation effects have faded out.

• In addition some positive initiatives in terms of transparency and public accountability can be observed: strengthening of citizens’ participation in the local energy policy processes (Energy Advisory Board) and meeting Smart City policy targets.

52 Ibid., p. 43.