

The Provision of Public Services in Europe

Between State, Local Government and
Market

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8. From public service to commodity: the demunicipalization (or remunicipalization?) of energy provision in Germany, Italy, France, the UK and Norway¹

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John McEldowney**

INTRODUCTION

In the five European countries under discussion, the provision of energy started out as a core function of municipalities but has gradually been demunicipalized. This chapter outlines how the transformation was achieved and discusses the implications for the scientific study of public administration.

There were three components of demunicipalization: (1) the creation of a national electricity system made possible by the establishment of national grids; (2) the functional and organizational separation ('unbundling') of generation, transmission and distribution; and (3) the transformation of electricity from a local service into a commodity. Another common development is the return of municipalities in the regulation of energy consumption. From being active producers and purveyors of energy, municipalities are becoming overseers of its use and conservation.

The converging paths of these countries are highly surprising given the different starting conditions and historical backgrounds to municipal involvement in the supply of energy, especially electricity, with which this chapter is mainly concerned. From the point of view of historical institutionalism, a dominant theoretical position in the study of public administration, such an outcome would appear highly unlikely. Instead, path-dependency could be expected to keep these countries on different, perhaps even diverging, tracks. In order to account for change,

historical institutionalism has often resorted to metaphors such as ‘shock’ or ‘windows of opportunity’. In the concluding section of the chapter the adequacy of such explanations will be discussed.

HISTORICAL BACKGROUND (‘STARTING CONDITIONS’)

In all the countries under consideration, the provision of energy – of gas and of electricity – for the local population and local industry was an early concern and responsibility of the municipalities. While gas and electricity provision also involved private investors and entrepreneurs, municipalities needed to establish corporations of their own, often in an effort to ‘bail out’ failed private enterprises.

In Great Britain, a European front-runner in industrialization and urbanization, local authority engagement in energy provision dates back to the beginning of modern local government, at least to 1835, when energy was seen as falling to local authorities as part of a wider functional profile. At that time gas and later electricity production was often linked to local coalmines (McEldowney, 2007).

In Germany, the provision of gas and electricity was also seen as an early responsibility of the municipalities and as essentially pertaining to what in German is called *Daseinsvorsorge*, the ‘provision (of public services) for (well-) being’ (Wollmann, 2002, 2007). As Germany was a latecomer to industrialization and urbanization, the need for ‘provision’ emerged and rapidly expanded from the mid-nineteenth century. To begin with, services such as water, sewage and electricity were provided by private commercial entrepreneurs, but in the wake of bankruptcies or to meet public needs, municipalities took over *Daseinsvorsorge*, including the provision of electricity, establishing what conservatives and liberals came to decry as ‘municipal socialism’. (It should be noted, however, that some services, particularly water supply, were already provided at least in a basic form – through publicly accessible fountains – by medieval towns.) Designed to serve the ‘best interests’ of the local business world and the local population, service provision was typically organized in the form of ‘city-works’ (*Stadtwerke*), multi-utilities vertically integrating a broad range of public utilities, including energy as a core responsibility of local government.

In the Italy of the late nineteenth century, the energy business was controlled mainly by a small number of private enterprises, which held regional or interregional monopolies. In 1903, the shortcomings of this system provoked national legislation to set a legal frame for public utilities, including electricity, to be provided by (public-law) municipal

corporations (*municipalizzate*) – a system already operating in some places but which gained impetus from the legislation, offering an alternative (especially in northern Italy) to market domination by a small number of large operators that had gradually come to constitute an oligopoly, or rather a set of regional monopolies. Due to the limited geographical scope of the phenomenon, and the fact that they served only urban (and not industrial) needs, *municipalizzate* has only a 6 per cent share of power generation at the national level, but their political role and their incidence in urban power transmission and sales were more significant than this figure implies (Prontera and Citroni, 2008).

The Fascist regime imposed some restrictions on the diffusion of *municipalizzate* in the mid-1920s, dissolving and liquidating a number of them, on the grounds that they constituted ‘municipal socialism’ and were an element of decentralized power, but no consistent policy of centralization or privatization was actually implemented, so that the expansion of municipal enterprises continued in the later 1920s and the 1930s (Bolchini, 1994a).

In France, by contrast, concessions awarded to private enterprises became the dominant instrument for the development of energy supply – gas and later electricity. However, municipalities had the power to establish their own public enterprises (*en régie*), as public corporations or as enterprises under direct municipal management, and a number of them did so, either as a political choice (‘municipal socialism’) or to bail out concessions following concessionaire failures. With growing urban concentration and the increasing needs of industry, central government took over organization of an electricity transmission network on the basis of concession contracts with private companies (Marcou, 2007).

In Norway, the early engagement of the municipalities was conspicuously shaped by the geographical features of the country, with an abundance of waterfalls that put the country on a hydropower track; many (small) municipalities, located in and isolated by fjords, had their own power station and transmission grid for local supply. Early legislation (1906, 1917) discouraged foreign investors from purchasing the financially attractive waterfalls and has given public institutions (municipalities, counties and the state) almost complete control over the Norwegian energy sector to this day (Baldersheim and Claes, 2007).

In short, developments in the five countries up to the First World War showed broad similarities in that municipalities, operating either directly (*en régie*) or through municipal corporations, were engaged in local energy provision. While in Norway this responsibility fell almost entirely to the public sector, particularly municipalities, the other countries entrusted it to a mix of private corporations and municipal corporations. France

provided the chief contrast in this respect: until the late 1940s, energy supply was based on the private sector, with extensive use of concession contracts for generation and network provision and operation.

DEVELOPMENTS AFTER 1945

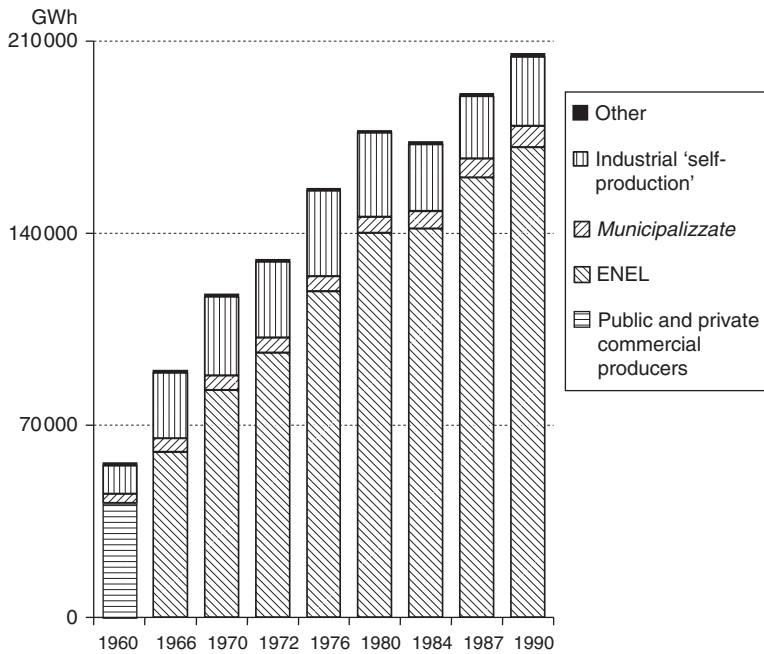
After 1945, energy provision diverged strongly in the five countries under discussion, as France, the UK and later Italy began to nationalize the energy sector, while Norway and Germany continued on the traditional trajectory of giving the local level a dominant role (Norway) or a significant position (Germany) in energy provision.

In the UK, the Labour government that took office after 1945 made nationalization of the energy sector a crucial element in an all-out attempt to restructure the country's public sector and national economy (McEldowney, 2007). The 1947 Electricity Act transferred local power plants as well as private energy enterprises to a single, nationalized industry. Later, under the Electricity Act of 1957, the Central Electricity Generating Board (CEGB) was established, which was intended to create a unified system for generating and transmitting electricity across the UK. Thus the historical direct involvement of local authorities in the energy sector came to an end.

In France, the law of 8 April 1946 (expropriation with compensation) nationalized the generation, transmission and supply, but not the distribution, of electricity. Local distribution networks have since remained in municipal ownership (through specialized joint authorities usually established for each *département* but operated by the newly created state monopolies for electricity (Electricité de France – EdF) and gas (Gaz de France – GdF) on the basis of concession contracts. The new national monopolies were the only possible concessionaires; indeed, they have replaced the former private concessionaires. Furthermore, the municipal enterprises (500 in 1945) were exempted from nationalization and have survived to this day, sometimes under new legal forms (mixed-economy companies) but always in the same distribution areas; there are now 157, serving 2500 municipalities and 3 million inhabitants, and representing about 5 per cent of electricity consumption (Allemand, 2007). At the local level, EdF and GdF have established joint operations for serving retail customers. The legal monopoly has been narrower than the scope of nationalization. For electricity, the legal monopoly extended to transmission, distribution network operation and supply except in areas covered by municipal enterprises; for gas, the legal monopoly extended to importation, the distribution network operation and supply.

In energy provision in Italy after the war, private and public corporations, as well as municipal corporations (*municipalizzate*) initially coexisted. A small number of private enterprises and state-owned or mixed public–private corporations (formerly private, then integrated into IRI – the national holding company for industrial development – under Fascist rule after the 1929 crisis) operated under national concessions over wide regional and interregional territories; only about 250 municipalities were engaged in energy production and provision, either through a *municipalizzata* (about 50 municipalities), or through direct management or concessions to private enterprises (Lanza and Silva, 2006).

In a dramatic policy move in 1962, the Italian government embarked upon nationalization of the energy sector, establishing ENEL as a public corporation that absorbed all private and public energy companies. *Municipalizzate* could survive nationalization of electricity production and distribution on two accounts: by continuing their expansion in other service sectors, most notably water (see Chapter 9 in this volume) and gas (which was a growing business especially in the 1970s, see Bolchini, 1994b, p. 201); and by virtue of concessions that ENEL could issue to existing *municipalizzate* at its own discretion for continued electricity-related activities. Along with industrial ‘self-producers’ (i.e. industrial plants that produce energy for their own needs, and – following nationalization – are not allowed to sell surplus energy), existing *municipalizzate* were thus able to continue operating, but several factors made the impact of nationalisation no less fatal to their role: no new *municipalizzate* could be created in the field of electricity, so that expansion was stopped; changes in the market (with an increased role of international energy trading) and in the regulatory framework (built as a top-down planning structure) made most strategic policy-making converge to the centre; the legal definition of the relationship between ENEL and *municipalizzate* – including the concessions system – was ambiguous, and allowed for many issues to be settled through ‘power struggles’ that invariably favoured the state-owned and politically stronger ENEL. Indeed, ENEL developed a strategy whereby it would delay the issuing of concessions to *municipalizzate* for so long that the uncertainty under which they had to operate forced them to suspend investment, making it progressively impossible for them to prove their efficiency and self-sufficiency in local production and distribution network operation (Bolchini, 1994b, p. 191). So, from 1962 on, Italy’s energy sector was largely dominated by ENEL (Prontera, 2008). As Figure 8.1 shows, the ‘mere’ survival of *municipalizzate* is characterized by the stable amount of energy they produced over three decades when production by ENEL increased dramatically; their share of the national net production thus decreased from 6 per cent to about 4 per cent.



Source: Adapted from Bolchini (1994b).

Figure 8.1 Net production of energy by type of producer (GWh)

By contrast, hydro-based local power corporations and local transmission grids continued to predominate in Norway. In 1973, energy was supplied locally by 337 distribution companies, 76 per cent of which had fewer than 5000 consumers (Baldersheim and Claes, 2007). However, a national power grid was slowly developed under state control to ensure transmission between electricity-rich and electricity-deficient regions. The state also took on a role in electricity production and was the single largest owner of production facilities by the 1980s. By this time the national energy agency was also operating an energy exchange system that allowed local energy companies to feed excess capacity into the national grid.

Until well into the late 1980s, the electricity market in Germany was characterized by a mix of private sector and municipal providers. The former comprised nine large electricity and transmission ('grid') companies and some 60 regional distributors (see Praetorius and Bolay, 2009). They were organized as private-law stock companies in which municipalities also had an interest, as in the case of the largest of them, RWE. These private sector companies generated about 80 per cent of the electricity,

owned most of the long-distance high-voltage transmission grids, and distributed/supplied about 70 per cent to the end-consumer. The large providers managed largely to divide the market between them under 'regional agreements', constituting oligopolies.

On the other hand, municipalities continued to hold a significant segment of electricity transmission and distribution/supply. Particularly through the traditional 'city-works' (*Stadtwerke*) (some 900), they retained ownership of 'last mile' of the grid, the short-distance distribution networks to the end-consumer. Some 30 per cent of electricity and 70 per cent of gas were supplied to the end-consumer by municipal corporations (see Reidenbach, 1995, p. 84). Committed to serve the 'local community', they tended to carve out and defend 'protected local markets', seeking to cross-subsidize other, deficit-ridden services with the proceeds from profitable energy provision. In defending such local 'turfs', they often amounted to local 'monopolities' (see, critically, Ude, 2006).

A German peculiarity is the right of municipalities to charge energy companies, whether *Stadtwerke* or external enterprises, a 'concession fee' (*Konzessionsabgabe*) for allowing the use of public space and local roads in setting up and operating transmission grids. Such fees for electricity, gas and water have become a handsome source of revenue for local authorities (totalling €1.6 billion for electricity, gas and water in 2008, of which 63 per cent was for the electricity sector; see VKU, 2009).

DEREGULATION AND MARKET LIBERALIZATION SINCE THE 1980s/90s

From the 1980s, the prevailing forms and structures of energy provision in their various legal and organizational guises faced increasing criticism that a lack of competition caused production and price inefficiency. While reform was triggered in the UK and Norway by national factors, in the other three countries – most noticeably in Germany – it was induced by EU promotion of market liberalization.

The UK

In the UK, the privatization and deregulation drive of the 1990s was launched by the Conservative government under Margaret Thatcher. After taking office in 1979, the Tories embarked on neoliberal policies in which deregulation and competition were guiding precepts. The Energy Act of 1983 made a first attempt to liberalize the energy market (i.e. to dismantle the state-run energy sector) – with meagre results (McEldowney,

2007). Privatization began with the British Gas Act of 1986, followed by the Electricity Act of 1989, which established private energy corporations. The 1989 legislation also aimed at separating ('unbundling') production, transmission and distribution in electricity provision in the new private energy sector. At the same time, however, the Electricity Act of 1989 offered local authorities the opportunity to supplement local supply with more environment-friendly sources of energy (McEldowney, 2007).

Since then, the UK has discovered renewable and CHP (combined heat and power) technologies, encouraging local authority initiatives. The relevant legislation includes the Utilities Act 2000 the Enterprise Act 2002 and the Energy Act 2004. The recent Energy Act 2008 strengthens the local use of renewable energy and small-generation capacities up to 5MW. Through the new central Department of Energy and Climate Change, this has provided new opportunities for local authorities to promote energy schemes.

Norway

In 1990, Norway was set for a fundamental change in traditional energy provision. On the one hand, the basic structure of hydropowered plants and local transmission grids owned and operated predominantly by local authorities and municipal corporations remained in place and unimpaired. On the other hand, the previous distribution system, which hinged on local markets, was profoundly revamped in two main ways. First, the law required all energy companies that had so far bundled production and transmission functions to split into separate enterprises for production and transmission. The most dramatic change occurred in the electricity trade system. While customers had previously been bound to a single supplier, the law of 1990 overnight created a fully open market for trade in electricity for all customers, regardless of size. The Norwegian electricity system now operates as a marketplace where all producers deliver power into the grid and all customers use power without knowing where the power actual originates from. The price of the electricity supplied fluctuates according to supply and demand. Sweden and Norway have set up a joint power exchange – Nord Pool – for trade and clearing in both the physical and financial electricity market. The individual producer does not have to balance the amount of electricity sold with the amount of electricity produced. The producer can simply buy or sell electricity in the market in order to balance his obligations. The producer can also adjust the level in reservoirs according to anticipated price changes. A number of financial instruments are also available for risk reduction, in addition to the possibility of entering into long-term contracts. The system-level price is set by

the Nordic electricity exchange – Nord Pool – each hour. It also sets spot prices for electricity the next day, hour by hour. After this spot price has been set, the actor responsible for the system – Statnett – engages in trade with producers and customers for upwards or downward regulation of supply and demand in order to balance the entire system. This trade compensates the imbalances that open trade on the exchange might create. As owner of the high-pressure transmission network, Statnett is responsible for providing sufficient voltage throughout the system.

The customer's bill is divided into three parts: electricity consumed; use of the net, and taxes. As far as the electricity actually supplied is concerned, most customers (60 per cent) have a contract under which the supplier can change the price at short notice. About 23 per cent of customers have spot-related contracts, while the rest have some kind of fixed-price contract. The number of foreign actors in the Norwegian electricity system is very limited. A few foreign companies have been licensed to trade, but they operate mostly on the gross and spot markets. Some foreigners hold shares in Norwegian electricity trading companies and have also invested in production and distribution companies (Baldersheim and Claes, 2007). In adopting this course, Norway became a front-runner that preceded the EU deregulation policy of 1996, thus serving as a model for a liberalized electricity sector.

EU PUSHING FOR MORE COMPETITION IN THE 'SINGLE EUROPEAN MARKET'

In pursuit of the 'single European market', EU efforts to introduce competition into member states' energy markets have come in two main rounds.

First, in 1996 the European Commission issued Directive 96/92/EC, which obliged EU member countries to ensure price competition in national electricity markets. It largely failed because, as developments in Germany showed, it paradoxically entailed a wave of mergers between energy companies, thus jeopardizing competition instead of fostering it. The transposition of the Directive into national law lacked effective regulation of discrimination-free access to transmission grids as the crucial component of the generation, transmission and distribution/supply cycle.

In reaction to the shortcomings of the 1996 Directive, the European Commission then introduced the Acceleration Directive 2003/54/EC, which sought to ensure discrimination-free access to transmission grids for all energy producers and consumers by legally and organizationally separating ('unbundling') transmission energy provision from production and distribution.

By 1 July 2004, all non-household (industry and business) consumers, and by 1 July 2007, all household consumers were also required to be given freedom of choice in selecting an energy supplier. Moreover, by 1 July 2004, each member country was to create a regulatory transmission ('grid') agency to ensure indiscriminate access to transmission grids and oversee tariffs and fees.

Germany

Transposing EU Directive 96/92/EC into German law with a two-year delay, the (federal) Energy Management Act (*Energiewirtschaftsgesetz*) was designed to introduce competition to the energy market. However, it had quite the opposite effect, triggering an unprecedented wave of mergers producing ever fewer and larger enterprises – with E.on, RWE, EnBW (private stock corporations) and Vattenfall (the Swedish state-owned energy company) emerging as the 'Big Four' dominating the German energy market.² Expectations that the energy giants would practise some form of self-regulation (so-called 'negotiated grid access') were disappointed (see Praetorius and Bolay, 2009).

Since market liberalization began in the mid-1990s, municipal energy companies have faced considerable challenges, which at times have threatened *Stadtwerke* with demise. Over the past 15 years or so the number of *Stadtwerke* has been dwindling, from about 900 to some 600, as a growing number of municipalities, including big cities such as Berlin, Hamburg and Düsseldorf, have seen reasons (not least for budgetary) to sell their assets to the private sector. Furthermore, the 'Big Four' have been eager to extend their influence over *Stadtwerke*, especially local transmission grids or grid companies (see Vorholz, 2006) by acquiring an interest in them. Thus RWE and E.on have established subsidiaries (Rhenag and Thüga), each with a minority interest in about 100 'city works'. In the meantime, only 30 per cent of the energy companies of the major cities are still fully owned by the municipalities (as in Munich and Leipzig), whereas more than 70 per cent have external (minority) shareholders (see Trapp, 2006).

Furthermore, in view of this market and price pressure, municipalities have felt threatened in their traditional role and responsibility for pursuing environment-friendly local energy policy (particularly through CHP or 'co-generation') as a crucial local government task. In order to alleviate these local government concerns (and step up federal environmental policy strategy), the federal government introduced legislation in the early 2000s, the 2000 Renewal Energy Act and the 2002 Combined Heat and Power Generation Act (see Deutscher Städtetag, 2001, p. 111).

When the European Commission prepared its Acceleration Directive

to debundle energy provision, German municipalities and their umbrella organizations were in the forefront of opposition to the 'debundling' concept being applied to *Stadtwerke* since it would lower proceeds to the point of finally pushing them out of local energy provision (see Deutscher Städtetag, 2005, p. 131). With the federal government strongly supporting the local authority position in EU negotiations, a compromise was finally reached under which all energy providers with fewer than 100 000 clients were to be exempt from debundling (which, in practice, exempted most *Stadtwerke*).

However, the establishment of the Federal Network Agency (FNA – *Bundesnetzagentur*), another major requirement of the Acceleration Directive, has had an immediate impact on *Stadtwerke* since it affects all transmission companies, whether unbundled or not. Thus *Stadtwerke* with a transmission component (which is usually the case) fall under the regime of FNA with respect to grid management. Most importantly, as operators of transmission networks they can only charge the user fees (*Netznutzungsgebühren*) (which make up about 30 per cent of the consumer energy price) as approved by the FNA.

On 1 January 2009 the federal government introduced a procedure for incentive regulation (*Anreizregulierung*) that allows the FNA to check and eventually reduce grid user fees by way of a benchmarking procedure oriented on the most effective (and least expensive) provider in the market segment. In an immediate response, *Stadtwerke* have raised concerns that this new instrument may squeeze them out of the local energy market as it would not allow them to take specific local conditions and needs into account, for instance the 'cross-subsidizing' strategies pursued hitherto.

Thus municipal corporations have a significant position in the country's energy market, particularly in distribution/supply.

By and large, however, *Stadtwerke* have coped remarkably well with the new competitive context by adopting various strategies. First, they have formed transmission grid operation companies (*Netzbetriebsgesellschaften*) to economize, pool capacities and join forces. Second, they have set up joint offices to purchase energy collectively from the European Energy Exchange (EEX). Third, they have established 'shared services' (for billing, book-keeping, call centres etc.) to cut operational costs. Fourth, they have set up and invested in new power plants of their own to strengthen their role in energy production and to get a direct grip on production prices.³

Finally, two important shifts in national and European actor and policy constellations suggest that local energy provision has recently seen a remarkable 'comeback' and 'remunicipalization' (*Rekommunalisierung*). First, national environmental and energy policy has been placing growing weight on local government for promoting and implementing

environment-friendly and energy-efficient 'alternative' electricity generation (see Müschen, 1999), particularly co-generation (CHP), which constitutes 80 per cent (sic!) of the electricity produced by municipal corporations (according to VKU, 2009).

This policy approach is evident in the 2008 amendments to the Renewal Energy Act and the CHP Act, designed to enable local energy companies to feed alternative energy into the wider grid. It is also evidenced by the federal government's 2008 Integrated Energy and Climate Programme, which aims to increase the share of CHP electricity from 12 per cent to 25 per cent by 2020 (see Praetorius and Bolay, 2009, p. 7).

Second, a powerful coalition has taken shape between the European Commission, the federal government and the local authorities to strengthen local energy companies as a key strategy for promoting competition *vis-à-vis* the 'Big Four' that dominate, and other big international providers entering, the national market.

Thus, quite recently RWE and E.on have been singled out by the EU Commission's antitrust strategy, which attracted a great deal of media attention when company offices were searched on suspicion of price-fixing. In the meantime both companies have at least partly given in to the pressure, E.on having agreed to sell its entire transmission grid in a conspicuous step of 'ownership unbundling',⁴ while RWE is said to be willing to unbundle its gas sector legally and organizationally from the electricity sector. Similarly, in 2001 the Federal Cartel Office (Bundeskartellamt) stipulated that minority interests of external shareholders in *Stadtwerke* must not exceed 10 per cent. In reaction to changes in the EU and national policy climate, E.on has recently decided to sell its subsidiary Thüga, that is, its *Stadtwerke* holdings. In a spectacular move, in August 2009, a consortium of *Stadtwerke* purchased Thüga from E.on for €3 billion with the declared intention to challenge and compete with the 'Big Four' on Germany's energy market and possibly beyond.⁵ Vattenfall may see itself under pressure to also give up its *Stadtwerke* holdings.⁶

In sum, the stage appears to be set for local government and its energy companies to reposition themselves on the energy market and embark upon the 'remunicipalization' (*Rekommunalisierung*) of energy provision. A crucial lever in exercising this new local authority self-confidence in the energy sector is the renewal of the concession contracts (*Konzessionsverträge*), many of which will expire and need to be renewed by and in 2013. An increasing number of municipalities is considering buying back the minority holdings they sold to outside providers during the 1990s, particularly to the 'Big Four', or the municipal energy companies they privatized completely. In the meantime, a considerable number of municipalities has founded new *Stadtwerke* and repurchased

transmission grids⁷ or are seriously considering strengthening their position in energy provision. In sum, a distinct trend towards re-municipalization is in evidence.⁸ This trend is being fostered by a new 'coalition' between the European Commission, federal and *Länder* governments, and local authorities to reinforce the engagement of local authorities and their *Stadtwerke* in energy provision with the aim of competition *vis-à-vis* the market dominance of the 'Big Four' and to safeguard the *Stadtwerke* generation of alternative energy, especially CHP, where they have proved to be champions.

To summarize:

- As of 31 December 2008,⁹ 604 municipal corporations (most of them in the form of *Stadtwerke*) are engaged in electricity provision. This is 56.9 per cent of all municipal electricity, gas, water and sewage enterprises.
- Municipal corporations generate 10.4 per cent of total electricity production themselves.
- Their share in total electricity provided to the end-consumer is 56.8 per cent.

France

In France, the liberalization of the energy sector began only with the Electricity Act of 2000, and the Gas Act of 2003. These reforms were induced by EC directives alone, because there has been little criticism in France of the national public service provision by EdF and GdF, from either industry or the general public. The reason was quite simple: the public monopoly and vertical integration produced retail prices among the lowest in Europe for domestic customers and for industry. Furthermore, the development of capacities was ahead of demand and also yielded an export capacity, plus energy independence with nuclear energy generation.

French governments and both national enterprises therefore sought to resist or circumvent deregulation adoption of the first Electricity Directive (1996) and also tried to conserve some features of the existing system. But EdF and GdF soon changed their strategies when it became clear that liberalization was unavoidable. They decided to take advantage of their economic power to expand abroad in order to compensate the market shares they had to give up on the domestic market. In 2004, EdF and GdF were transformed from public corporations into commercial holdings with majority public control, making it possible to unbundle generation and supply from network operation while maintaining integration through a holding structure. On the basis of the 2006 Energy Act, the door was

opened to privatizing GdF by absorbing Suez instead of GdF being bought by the Italian ENEL. The law requires the state to hold more than one-third of the capital. EdF's main competitor is GdF, since the latter can now offer electricity jointly with gas, and it has generation capacity after absorbing Suez, which owns Electrabel, the main provider in Belgium.

This was the apparent situation in France. Backstage, however, something else was happening from the 1980s onwards: municipalities were making a comeback. New ecological conceptions deploying new micro-generation technologies stimulated local policies devoted to satisfying local needs (small hydropower, co-generation, later wind energy). A new role for local governments in energy conservation has been outlined. Several years have passed between the first reports and the first legislative amendments. Nevertheless, the opportunities for local governments to play a part in the energy sector have increased step by step. At present, municipalities can play a role in the energy sector on three fronts: (1) developing energy-saving policies – informing and advising domestic customers, taking account of the energy balance in planning and development; (2) developing their own generation systems when this can save network expenses and (from 1999), in local authorities without a gas distribution network, contracting with any company, not only GdF, to establish networks (in practice the coverage of the GdF network usually makes it cheaper to contract with GdF for an extension of its network); (3) the municipal ownership of distribution networks is becoming a new source of revenue for local policy. In the context of liberalization, tendering out network operation could become an attractive issue for municipalities, since EdF is now inclined to save in network maintenance in less populated areas. This would require legislative changes, but is not ruled out, and this changes the balance between municipalities and operators (EdF and GdF). According to the law, concessionary authorities are entitled to negotiate concession contracts and supervise the fulfilment of public service distribution obligations. Last but not least, the 2006 Energy Act states that municipalities as owners of distribution networks are 'organizing authorities' of the public gas and electricity supply services to customers connected to the network. These provisions still have to be developed, and further legislative changes are needed. But they could be taken to mean that municipalities (or their joint authorities) will deal with suppliers willing to make offers on the local market.

For the time being, the debate in France has focused on tariffs. The decision of the Constitutional Council has invalidated the provisions of the Energy Act 2006 on regulated tariffs because they were in conflict with the constitutional obligation to transpose into French law the objectives of Directives 2003/54 and 2003/55 to develop a competitive energy

market, since they were not based on clear public service objectives, and were discriminatory since only to EdF and GdF were granted the possibility to offer regulated tariffs. But the directives do not rule out such tariffs, although the Commission sometimes claims the contrary: member states may impose public service obligations on energy supply prices (Art. 3.3). The Law of 5 March 2007 confirms the guarantee of regulated tariffs for domestic customers, and gives professional customers the opportunity to return to regulated tariffs under certain conditions. The Law of 21 January 2008 allows consumers in new consumption sites to opt for regulated tariffs until 1 July 2010, and for those having opted for market tariffs to return to regulated tariffs. In parliament this is a non-partisan issue.

Italy

In the wake of nationalization in 1962 in Italy, the electricity sector came under the sway of ENEL as the dominant state corporation. At the beginning of the 1990s, ENEL had no fewer than 112 000 employees (Prontera, 2008, p. 292). Since the early 1990s, however, steps have been taken to reduce this dominance.

First moves to limit ENEL's monopoly were taken by the national government to increase production and not to liberalize the market as an end in itself. In 1991, Law 9 effectively ended the monopoly in energy production, and in 1992 a decision by the Committee on Price Regulation (CIP) established incentives for private producers.

However, from 1992 onwards a proper liberalization policy was pursued. In 1992, ENEL was transformed into a stock company (albeit still fully in state ownership!). In 1997, an independent regulatory agency (Autorità per l'energia elettrica ed il gas) was set up while ENEL continued to be the main player on the energy market. In 1999, legislation was finally adopted (*Decreto Bersani*) to implement the 1996 EU Directive, actually going beyond its requirements as to the pace, scope and intensity of liberalization. While *municipalizzate* could once again engage in transmission and sales, some also took the opportunity to buy significant interests in the power plants ENEL was forced to sell off. The larger and richer *municipalizzate* (and hence the larger and richer municipalities) thus regained and increased their role, while also recurring to stock markets and PPPs to find strategic international partners. At the same time, multinational corporations such as Endesa, Suez, Electrabel and EdF have entered the Italian market by two different means: by acquiring shares in former ENEL power plants, and acquiring minority shares in *municipalizzate*. The sale of ENEL power plants to multinationals and *municipalizzate*, or alliances of the two, and the minority privatization of *municipalizzate*

Table 8.1 Number, size and ownership of public and public-private energy companies in Italy, 2003–5

	2003		2005	
	Electricity	All sectors	Electricity	All sectors
Number of companies	103	3512	120	3769
Employees	10 139	238 393	12 274	255 529
% owned by local governments	58.9	64.3	57.6	62.3
Regions	5.1	4.7	0.1	4.5
Provinces	1.0	3.6	4.1	4.1
Municipal consortia	0.0	0.1	0.0	0.1
Municipalities	52.7	55.9	53.5	53.6
Number of owner authorities	1281	6729	1086	7313
(average number of owner authorities)	12	2	9	2
Regions	6	20	3	20
Provinces	11	101	11	100
Municipal consortia	6	224	4	221
Municipalities	1258	6384	1068	6972

Source: Unioncamere (2008).

to these same multinationals and on the stock market have broadened the scope of activities and profitability for larger municipal corporations while weakening the smaller ones (Prontera and Citroni, 2007). A handful of large *municipalizzate* (in big cities such as Turin, Venice, Brescia) are in full or majority ownership of their parent city; in most other cases they have national or international energy corporations as co-shareholders. On average, municipal corporations operating in the electricity sector have a slightly higher percentage of private (non-public) ownership than municipal corporations in general (see Table 8.1).

Municipalities as such have thus had an opportunity to regain their role in the energy sector through their *municipalizzate*, now converted into joint stock companies. However, they have no role as regulators other than that as owners: according to the *Decreto Bersani*, concessions for operating local services (i.e. distribution of energy, since production and sale are liberalized) are issued by the Ministry of Industry (now Ministero delle Attività Produttive) for a term of 30 years – thus confirming the strongly

centralized nature of energy policy in Italy. Moreover, concessions to local enterprises cover only a marginal part of the distribution market, since ENEL still holds a share of over 86 per cent, followed by Electrabel/ACEA (a partnership between the *ex-municipalizzata* of Rome and the Belgian multinational) with under 4 per cent and another 136 operators sharing the remaining 10 per cent of the market (AEEG, 2008).

The sale of energy to private end-users having been liberalized only as of July 2008, data are still lacking on customer trends to take advantage of the free market and to move from ENEL to other providers (AEEG, 2008).

The national grid and high-voltage installations that had belonged to ENEL have been transferred to new state-owned companies, while the gradual privatization of ENEL has started. Planning and policy-making in the energy sector have recently been redefined as 'concurrent competence' giving the regions' (*regioni*) wide legislative powers. However, most regions are not legislating and planning in due time, so that in the more general field of energy planning (incentives for alternative sources, location of plants etc.) municipalities still find their (modest) regulatory powers hampered when they cannot operate through their own company.

On the whole, no consistent trend or strategy is apparent in the Italian energy sector other than a strong liberalization drive throughout the 1990s – which has not effectively dismantled the role of ENEL other than obliging it to sell plants – generating new strategies and alliances in the market and involving *municipalizzate* and multinationals on a more or less level playing field. The distribution of energy – the sector that has not been liberalized – is still strongly centralized as regards both the national grid (operated by a state-owned company) and local networks (where local companies have only a small share of the market and only on the basis of a concession issued by the ministry). Sales have been liberalized too recently to be assessed. But local regulation and planning have certainly been marginalized by the overall framework of energy policy and business – with the exception of the few dozen municipalities that own a company, either fully or with a majority share.

After heavy dependence on coal in the past, there is now greater diversity in fuel in the UK. Gas, oil, renewable sources, coal and nuclear power are in common use. National Grid Transco (NGT) is responsible for overall security of supply, with increases in transmission costs of 3 per cent per annum owing to price fluctuations. There are concerns that an increasing reliance on imported fuels has given rise to fluctuations in prices, and a rate of 38 per cent gas-fired generation produces some vulnerability. The regulatory regime is 20 years old and a two-year review is being undertaken of its operation and effectiveness. The energy market is inexorably linked

with environmental issues, and the government plans new nuclear generation plants and renewable technologies in line with the Kyoto Agreement to be considered in Copenhagen in December 2009.

One important breakthrough is the 2007 consultation on barriers for local electricity generation. There is ongoing consultation on the following issues:

- making it easier for local schemes, including local authorities, to sell small amounts of electricity;
- encouraging and licensing small operators;
- promoting subcontracting with large generators to encourage small generation.

The UK is slowly accepting the idea of micro-generation of electricity, and this will encourage communities and local government to become involved. This will have an impact on future electricity needs and planning. There are some concerns that low-carbon electricity generation projects may be delayed because of network access. Ofgem, the main regulator, is considering ways of avoiding delays. Future gaps in electricity generation owing to increasing demand are likely to give small generators, including local authorities, considerable scope for innovation provided they adopt 'green technologies'. The financial markets in electricity are likely to remain buoyant for some time to come.

COMPARATIVE DISCUSSION AND CONCLUSIONS

As a result of the nationalization of the energy sector in 1948 and of its privatization in 1987, local authorities in the UK have lost all direct involvement with the production, transmission, and distribution of electricity. This is also the case in post-communist Hungary. In Italy, the 1962 nationalization of the energy sector embodied in ENEL has recently been mitigated by the advance of European champions such as Endesa and EdF, private corporations and large municipal energy companies (*municipalizzate*). In France, municipalities were not fully deprived of their competence in the energy sector through nationalization, and this may allow them a comeback in a new phase of decentralization and liberalization.

Among the other countries, Norway stands out as a country where hydropowered electricity generation is almost entirely in public (state and municipal) ownership and control (while the private sector's share is only 13 per cent). However, municipal in-house electricity supply is mostly a thing of the past in Norway, too. Municipalities may be owners but they

are not operators in the generation and distribution of energy. However, they play a growing role in energy conservation. Thus a mixed overall picture emerges. In Sweden, municipal corporations still play a major part in energy distribution. In Germany, too, municipal corporations, primarily in the form of *Stadtwerke* ('city-works') continue to be involved in electricity production (20 per cent) and distribution (30 per cent share).

Since the 1990s, and regardless of the ownership and operation issues, energy markets have been largely liberalized in terms of separating the transmission function from the other functions. Furthermore, regulatory agencies have been established to regulate and control players on the energy market. Yet the difficulties such as those encountered in Germany by the new network agency (particularly *vis-à-vis* the 'Big Four' energy giants) in regulating, controlling and enforcing access fees and prices indicate that much still needs to be done to establish stable regulatory regimes.

Why has the supply of energy changed in the ways outlined above? There are two aspects to this question: why did all five countries undertake a shift from local or national monopolies to competitive regimes, a course entailing the de-municipalization of energy supply? And why was it decided to unbundle functions, a strategy that has now been accepted if not fully adopted by all five countries?

The first of these questions can probably be answered by reference to a combination of technical developments, economic inefficiencies and political opportunities and constraints. At the beginning of the twentieth century, electricity had to be consumed close to the point of generation; long-distance transmission resulted in too heavy losses. Technical developments enable the construction of long-distance transmission lines, gradually forming a national grid. The very existence of a national grid (or something close to it) made local and regional inefficiencies and variations in supply capacity conspicuous. In many countries the initial solution was to nationalize all supply functions. The switch to competitive regimes between the mid-1980s (UK) and the mid-2000s (France) owes much to a combination of political ideology, windows of opportunity, and leadership. The UK is an example of both the role of ideology and windows of opportunity. The Thatcher government came to power committed to the pursuit of market-oriented liberalism and could do so against the backdrop of the preceding Callaghan years, when striking coalminers could bring electricity supply to a standstill. Before the new regime of 1991, local and regional authorities in Norway had successfully resisted the vertical integration of electricity supply into large regional conglomerates. The introduction of a competitive regime was a way of circumventing or working with rather than against a large number of local and regional

producers and distributors. The key actors agreed that something had to be done to address the inefficiencies of the existing system, so the field was ripe for new initiatives; but few perceived the radicalism of the proposal until it was enacted and under implementation. The cases of France, Germany and Italy are probably best understood as adaptations to external constraints imposed by the EU. As core members of the EU, France and Germany are committed to eliminating trade-distorting practices. The supposedly hidden subsidies and opaque price policies inherent in the old energy regimes were natural targets for EU (re-)regulatory policy. In the long run, non-compliance is not an option for core members and central European players, although the actual regimes put in place also demonstrate how much room for negotiation there is in European multi-level governance.

The choice of an 'unbundling' regime for electricity supply may perhaps be explained in terms of network regulation theory, which has emerged in economics in recent years (for an introduction to this particular sub-field, see, e.g., Newberry, 1999; Cowan, 2006 or www.regulationbodyofknowledge.org). Spulber and Yoo (2005) suggest that deregulation regimes may focus on opening up five different types of access: (1) retail access; (2) wholesale access; (3) interconnection access; (4) platform access; and (5) unbundled access. The choice of regulation regimes may be accounted for by the specificities of the network in question. What unbundling implies with regard to electricity supply has been outlined above. Retail access means that a supplier has to sell to any customer who makes a demand. This is fundamental to consumer choice. Wholesale access means that a supplier may buy in bulk from another supplier and sell to 'its' customers. Interconnection access implies connection between networks. Platform access refers to technical standardization that allows the development of secondary services related to the network. Unbundled access means that other suppliers may route their traffic through your network. In the case of electricity supply under competitive regimes, all five types of access are in place. But in the case of electricity it is unbundling that makes the other types of access possible. Without unbundling there can be no retail or wholesale access, which are the driving forces of competition.

NOTES

1. This chapter is based on the country reports that originally appeared (in French translation) in the *Annuaire 2007 des collectivités territoriales*; see Baldersheim and Claes (2007), McEldowney (2007), Prontera and Citroni (2007), Wollmann (2007a, 2007b). The papers were also submitted (in English) to the research conferences held at Villa Vigoni in 2007.

2. E.on, RWE, EnBW and Vattenfall E.on (with some 100 000 employees in Europe and branches in France, Germany, the UK, Italy, Austria, Hungary) and RWE (with 78 000 employees and branch companies in Germany, the UK, Sweden, the Netherlands, Slovak Republic, Czech Republic, Hungary) are the second and third largest European energy companies behind EdF (with 155 000 employees in Europe and branches in France, Germany, the UK, Italy, Austria, Hungary) (figures for 2004); see Bergelin (2004), p. 6.
3. See Ernst & Young (2003) for the results of a survey of the directors of 105 city-works and regional energy providers according to which 28 per cent plan to become shareholders in power plants, while 10 per cent even intend to invest in a power plant of their own.
4. See *Süddeutsche Zeitung*, 28 November 2008.
5. See *Süddeutsche Zeitung*, 13 August 2009: 'Energy rebels on buying trip. A consortium of Stadtwerke acquires the E.on subsidiary Thüga for 3 billion E and is poised to compete with the established energy companies in Germany'.
6. See *Frankfurter Allgemeine Zeitung*, 11 April 2009.
7. On the example of Bergkamen (52 000 inhabitants), see (Bergkamen's mayor) Schäfer 2008. As the time of writing, in at least six cases new (energy-related) *Stadtwerke* have been created and in at least four cases local transmission grids have been re-municipalized (information courtesy of Hans Bolay). At least five new *Stadtwerke* have been founded: "Private better than public" is a thing of the past: Re-municipalization – fashion or new political phenomenon? See, for example, *Hamburger Abendblatt*, 20 May 2009: 'Hamburg follows the general trend and founds *Stadtwerke* of its own'.
8. See, for instance, with further examples, www.lbd.de/ob/trend-zur-rekommunalisierung-lv1499.htm. See also *Hamburger Abendblatt*, 20 May 2009: '[The City State of] Hamburg follows the general trends and founds *Stadtwerke* of its own', *Frankfurter Allgemeine Zeitung*, 11 April 2009.
9. These and the following data are from VKU (2009).

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