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Engineers versus managers: experts, market-making and state-building in Putin’s Russia

Susanne A. Wengle

Abstract

Market-making and state-building are mutually reinforcing processes. This paper documents the role played in these processes by two groups of experts in Russia’s electricity sector: technical experts and managerially trained experts. I develop two arguments: (1) a shift in the relative power positions of these two groups was a constitutive element of the marketization and liberalization of the electricity sector. The victory of the managerial experts made assets legible and therefore ‘value-able’. (2) the paper demonstrates that the promotion of managerial experts at the expense of technical experts was a deeply political transformation, as it involved the replacement of a well-established, well-connected group of incumbent political actors. More specifically, I show how the promotion of managerial experts at the expense of technical experts helped the federal government of President Putin eliminate one of the main challengers to its ability to regulate economic activity from the centre — regional governors.

Keywords: experts; political economy of markets; markets; market reform; marketization; valuation; Russia; electricity.

While [the energetiki] proved to be quite knowledgeable about the industry as technical specialists, they had little desire or interest in improving the firm’s position or performance. They lacked imagination and initiative.¹

(Manager)

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The problem with privatization was, that it brought all these managers to decision-making positions within the electricity system; whereas what is really needed ... are highly qualified and experienced leaders – namely engineers.²

(The Technical expert)

The political role of Russia’s electricity-sector experts

Introduction

Post-Soviet Russia is a unique site to examine the creation of markets, as processes that brought markets into being are relatively new, and thus less normalized and more visible than elsewhere. While many interesting aspects of this process are well examined, others remain largely unexplored. I highlight the role of experts, pivotal actors situated between the regulating state and the regulated economy. Through a focus on the personnel changes at the commanding heights of one sector, I show that the implementation of liberal reforms and the centralization of political power under Putin were mutually reinforcing processes. Both market-making and state-making, understood here as the strengthening of the state’s ability to regulate economic activity, relied on the displacement of a set of highly experienced and well-connected experts.

The paper documents and interprets the changing role of two groups of experts in Russia’s electricity sector: the engineers/technical experts (the energetiki), on the one hand, and the managerially trained experts (the menedzhery), on the other. I argue that a shift in their relative power positions was a constitutive element of the liberalization of the electricity sector. With the victory of the menedzhery and the marginalization of the energetiki, electricity assets were standardized and disentangled from the social and technological context inherited from the Soviet period. The menedzhery introduced norms and practices that turned organizations inherited from the Soviet Ministry of Energy into companies that were legible in the emerging capitalist systems of asset valuation. This in turn allowed for the influx of domestic and international private capital, a key component of the marketization and liberalization of the electricity sector.

A second argument concerns the political nature of the menedzhery’s rise and the energetiki’s ouster. I demonstrate that the Russian government was interested in promoting the menedzhery, not only because it promised to increase the value of state-owned assets slated to be privatized, but because it served a political goal. State capacity in post-Soviet Russia reached its nadir in the late nineties.³ When Putin came to power, one of his primary goals was to eliminate challengers to the central government’s ability to regulate economic activity from the centre. The replacement of energetiki was congruent with federal efforts to centralize political power: it undercut the autonomy of regional governors, among the most powerful challengers to the federal government’s authority during the nineties.
The promotion of the *menedżery*, a key step in the process of market-making, also helped the central government disempower regional governors. It thus contributed as much to state-building as it did to market-making.

These empirical and theoretical observations bridge a gap between two bodies of literature: economic sociology concerned with the creation of markets, on the one hand, and political economy concerned with state-market relations, on the other. Economic sociology has long recognized the importance of processes of valuation for the creation of markets. I draw on this literature’s emphasis on standardization and de-contextualization as prerequisites for asset valuation and for marketization more generally. By explicitly addressing the political dimension of these processes, which tend to be an afterthought in economic sociology, I also add to these debates. The case study of expert turnover in the electricity sector suggests that asset valuation compatible with the influx of private capital hinged on displacing a set of well-established, well-connected and well-reputed experts. I rely on political economy to provide a theoretical perspective on how this process was deeply involved in the ‘power politics’ of electricity-sector liberalization. Specifically, I show how the displacement of incumbent experts was closely tied to the federal government’s attempts to centralize political power.

The account of the changing fate of electricity experts also contributes to debates about the post-Soviet transition from plan to market. This literature often stresses the absence of structural reforms and functioning market institutions and analyses how institutional reforms were captured and obstructed by oligarchic interests and corrupt bureaucrats. As markets and market institutions did not develop equally ‘well’ across post-Socialist economies, research often focuses on measuring degrees of progress towards ideal-typical institutions and on identifying obstacles in the way of market reforms. These approaches tend to underestimate the economic, social and institutional change that has occurred over the last decade and often minimize the extent to which functioning markets have indeed been created in recent years. A smaller set of contributions to post-Soviet political economy has been critical of this ‘reform/no-reform framework’ and instead analysed the emergence of historically contingent market institutions that have evolved in particular political and social contexts. This paper draws on and contributes to this latter set of studies by examining a hitherto unstudied group of actors – experts and their role in the creation of institutions that value assets. While existing studies on the challenges of asset valuation have focused on the lack of appropriate institutions, this paper shifts emphasis to a changing cast of actors involved in making electricity assets legible in a market setting.

Experts were particularly important players in establishing the legibility of electricity sector assets, which in turn was crucial for asset valuation. The process of assigning values and prices to material things is a core function of a market economy. While economists rely on abstract models of supply and demand to explain how prices are made, sociologists understand asset valuation as a complex interplay between people, institutions and material entities. Çalışkan and Callon (2009, 2010) recently called for more attention to how the
dynamic relationships between people and things are involved in the valuation of things. More specifically, they called for research on ‘how complex and hybrid social configurations are perpetually being constructed through the conjoined contributions of circulating material entities, as well as competent agents engaged in valuation practices’ (Calışkan and Callon 2009, p. 390). Landmark studies of how human society and technologies are interlaced have looked at the development of the US electricity sector (Granovetter & McGuire, 1998; Hughes, 1993). The story of the Russian electricity sector presented here follows this tradition, shedding light on how valuation practices changed during the transformation from the Soviet planned economy to a market economy.

The characterizations of the energetiki and menedzhery and the narrative of their changing fortunes are based on more than 65 interviews with Russian electricity-sector experts, on interviews with experts published in the Russian press and on publicly available biographical information. My interviews were conducted between 2006 and 2008 in three Russian cities – Moscow, Irkutsk and Vladivostok; published interviews span a longer period, going back to the 1990s.

The paper proceeds as follows: the remainder of the introduction will establish the identities of the two groups of experts in the context of Russia’s electricity-sector liberalization. The next section is devoted first to outlining the shift in the power position of the two groups during the period of about 2000 to 2004, and then to demonstrating the key role this shift played in the marketization of the Russian electricity sector. A third section will show how experts were involved in the politics of electricity-sector liberalization – in ‘power politics.’

The liberalization of Russia’s electricity sector: energetiki and menedzhery

In early 1999 an analyst remarked that the organization of Russia’s electricity sector resembled a ministry more than a company (Semenenko, 1999). The electricity sector was then a vertically integrated, predominantly state-owned monopoly – called UES (United Energy Systems, or Единые Энергетические Системы). UES was headquartered in Moscow and tried to govern the sector from the centre, with varying degrees of success, as we will see below. Barely ten years later, by 2008, liberal reformers had largely succeeded in realizing their vision of change: an electricity industry with private actors competing for profits and a set of new market institutions had been created. This process was subject to intense political battles, pitting shifting alliances against the liberal reformers and their vision of private actors trading power on competitive markets. (The third part of this paper will return to these political dynamics and the role of experts in more detail.) Two groups of experts, the menedzhery and the energetiki, played a crucial role in the sector’s transformation.
The *menedžery* were the new executives in the electricity sector. *Menedžery* were self-described businessmen and leaders in the world of markets. Often they have worked as ‘businessmen’, the Russian term for the post-Soviet brand of self-made entrepreneurs, before transitioning to the electricity sector, and stress the skills and knowledge gained in this vocation.\(^{13}\) Their training, likewise, equipped them with skills to run companies. One observer said *menedžery* ‘come straight from Moscow’s business schools . . . or even from the US’.\(^{14}\) A key proponent and architect of electricity-sector liberalization, Anatoly Chubais typifies the managers particularly well. A core member of Yeltsin’s liberal reform team, Chubais was in charge of Russia’s privatization programme in the early 1990s.\(^{15}\) In 1998, he became director of UES. His stated aim was to radically liberalize the electricity sector, a task he chose for himself, because he saw in the electricity sector the ‘most vital piece of unreformed socialism’ (Mellow, 2003). Chubais was firmly committed to the creation of markets in Russia. In his vision, ‘the market is the ideal and a unique model to allocate resources. . . . It is [just] the most effective way.’\(^{16}\) The sector’s new managers shared his vision of markets as the most efficient mechanism for allocation of scarce resources. Like Chubais, *menedžery* saw themselves as ‘agents of change’; their mission was to turn a Soviet-era ministry into profitable enterprises, increasing efficiency and attracting investment to the sector.\(^{17}\) Chubais and the *menedžery* have described their mission as a crusade to introduce markets, private property and free prices (Mellow, 2003). *Menedžery* contrasted themselves with ‘old cadres’ who, as one manager put it, ‘could not adjust to the new conditions of a market economy’.\(^{18}\)

*Energetiki* is a term that dates back to the Soviet era, and refers to the work collective of electricity-sector professionals. *Energetiki* had long-standing experience, often dating back to the expansion of the electricity sector in the late 60s and 1970s. As electricity was a priority sector in the Soviet Union, *energetiki* were often closely connected to party nomenklatura. The perspectives and values of the *energetiki* were shaped by the work collective’s ethic that strongly emphasized technological expertise and a commitment to reliability of service provision.\(^{19}\) As engineers, their concerns centred on technological challenges, technological achievements and the technological requirements of secure provision.\(^{20}\) They also often stressed their role in building the Soviet Union’s electricity system, which in turn, was perceived as the backbone of the Soviet social order (captured by Lenin’s pithy equation ‘Communism = Soviet Power + Electrification of the whole country’).\(^{21}\) *Energetiki* emphasized their connection to the electricity system and often conceived of their personal biographies as part of the Soviet modernization project. For example, one *energetik*, the director of Bratsk hydro-electric station, included his own personal life trajectory in the history of Bratsk station: he dreamt of building the dam as a schoolboy, ended up marrying the daughter of the station’s general director and finally ascended to that post himself (Rudykh, 2004, p. 50). While *energetiki* self-identified as part of a tightly knit community everywhere, the collective identity of Siberian *energetiki* was particularly strong.
and many of the most prominent energetiki hailed from Siberia. The construction of Siberian hydro-electric dams had brought together young engineers and volunteers to ‘build socialism’ in remote and uninhabited areas of Siberia (Alekseev, 1973, p. 186).22

Noteworthy also are the energetiki and menedzhery’s differing conceptions of the electricity system’s value.23 For the energetiki, the electricity sector was valuable as a highly sophisticated technological system. Its value is both intrinsic – it turns night into day – and derives from its supportive role for other industries and activities, as it is, in Soviet-era terminology, part of the ‘material-technological’ basis of the economy.24 Like menedzhery, energetiki were interested in efficiency, but defined technically, i.e. as preventing energy losses, rather than economically, i.e. as maximizing profits. Menedzhery, by contrast, who assessed the value of the electricity sector by its bottom line, saw little value in a company that provides services but is unable to collect bills, for example. In theory, technical efficiency and economic efficiency should eventually overlap. In practice, however, the different sets of values and different fields of expertise led to immense frustration. In conversations this surfaced, for example, as the energetiki’s complaints about the managers’ lack of understanding for the technical requirements of the system: ‘They don’t understand the technological side.’25 A case in point is also that Chubais was known for his purported ignorance of basic laws of physics. Energetiki were outraged when he – ‘a person with no knowledge of Ohm’s law and [other] basic formulas’26 – was appointed to head UES.

Opposing menedzhery’s and energetiki’s views, values and career trajectories in this stylized way does not mean that the boundaries between the groups are impermeable. Some energetiki became successful menedzhery, and some menedzhery were also trained as electric engineers. Moreover, as different as the energetiki and the menedzhery were, parallels between the two groups are also interesting. Both groups relied on references to national economic development as a justification for their positions. They both used Soviet-era symbolism to legitimize their agendas, drawing on the symbolic capital imbued in turbines, grids and wires since Lenin’s era that still resonates widely in Russia. Energetiki often used Soviet-era language in stressing the importance of the electricity sector for social and economic life. It is perhaps more surprising that the liberal reformers and the menedzhery also sought to capitalize on Soviet-era symbolism. Like the energetiki, managers used Soviet-era language and symbols to refer to the sector’s vital function for the economy. For example, Chubais’ investment plan to upgrade ailing Soviet-era infrastructure is called ‘GOELRO-2’, after the original Plan GOELRO, Lenin’s 1920 initiative to bring electricity to the newly created Soviet Union.27 Ironically, but typical of post-Soviet politics, liberal reformers and menedzhery mobilized Lenin’s vision to gain support for their plan to privatize the country’s power plants.28 Despite these similarities, the two groups explicitly distinguished themselves from each other and regarded their views, values and priorities as mutually incompatible.
The clash between economic and technical experts during electricity-sector reforms is not unique to Russia. Technical experts in other countries where electricity provision was radically restructured along market lines have been ringing alarm bells, for example about the detrimental long-term effects of operating complex technical systems on the basis of cost, rather than technical specifications. They have also pointed out that there is much uncertainty about how specific technical aspects of the electricity system will function (load management, for example) after the implementation of reforms based on an economic logic. Differences in views and concerns of managerial and technical experts more generally have been examined as far back as Thorsten Veblen’s account of business enterprises in the industrial age. In Veblen’s account, however, engineers and businessmen are not at odds with each other. For Veblen, businessmen give ‘general direction’ to industry, but it is the engineers and experts that create the conditions for profitability. They do this first through the ‘standardization of industrial processes, products, services’, which then ‘permit[s] a uniform routine in accounting, invoices, contracts, etc., and so admitting a large central accounting system’ (Veblen, 1919, p. 36). Further, Veblen argues, it is the engineers who make opportunities ‘visible’ to businessmen (ibid., p. 36) and ‘create the mechanical possibility of . . . new and more efficient methods’ (ibid., p. 47). Why were the two sets of experts in the Russian electricity sector pitted against each other in an apparently zero-sum competition and why did the menedzhery win?

The literature on post-Soviet elites would probably predict that the energetiki’s odds were pretty good. Studies of Russian elites stressed the continuity between Soviet-era cadres and post-Soviet elites. Relationships and connections acquired under socialism were often enormous assets for building post-Soviet careers. David Lane observed that many of the post-Soviet oil-sector elites have a background in the Soviet Ministry of Energy (Lane, 1999, p. 79). In politics, likewise, Soviet-era ties often proved useful for post-Soviet careers. Kryshtanovskaya and White show how many of the security system’s old guard (silovye struktury) were appointed to leading positions within the executive under Putin. In the case of the energetiki, however, Soviet-era ties proved to be liabilities and the promotion of one set of experts, the managers, came at the expense of the technical experts. Why was this the case?

The shifting positions of energetiki and menedzhery and the marketization of electricity

The manager’s victory

The position of the two groups of experts vis-à-vis power and influence and their position within the political and administrative structures have changed over the last two decades. The energetiki gradually lost control of the commanding heights of the electricity sector. This process was variously
described as a ‘purge’\textsuperscript{33} or a ‘wave’\textsuperscript{34} that ended up with ‘an almost wholesale replacement of management’,\textsuperscript{35} signified as the ‘manager’s victory’.\textsuperscript{36} The replacement of energetiki with new managers at the commanding heights of the electricity sector was not coincidental. As director of UES Chubais actively pursued this as a policy: ‘when Anatoly Chubais ascended to the leadership of RAO EES [\(=\)UES], the formation of a new leadership team began’, said one manager.\textsuperscript{37} The replacement of old Soviet era cadres with younger, ‘unspoiled’ minds had already been one of his priorities when he was head of the State Privatization Commission under Yeltsin. Once director of UES, he moved decisively to replace older personnel in the electricity sector and remove high-profile energetiki from their posts.

While orchestrated from UES headquarters in Moscow, the leadership turnover happened in electricity companies across Russia’s regions. Before the implementation of reforms, the Russian electricity sector was structured to coincide with political boundaries: each of Russia’s sub-national regions (the oblasts) had their own vertically integrated electricity monopoly, the ‘Energo’. The expert turnover in the electricity sector replaced the leadership of the Energos across Russia. According to one source, four out of five Energo directors were replaced in the few years between 1998 and 2002\textsuperscript{3} (Hubert \textit{et al.}, 2003). Media sources give an account of the most high-profile leadership changes during these years, although many probably went unreported. An early leadership change happened at Tyumenenergo, the country’s second largest Energo, where the director lost his seat both at the head of the Energo and on UES’ board of directors.\textsuperscript{38} Once a director changed, so did most of the other executives within an Energo. Another prominent menedzher, Viktor Myasnik at Chitaenergo, is said to have fired most of the executives at the Energo during his ‘clean sweep’ of the company: ‘after a year, not one of the old bosses who had worked there before Myasnik was left at the company.’\textsuperscript{39} This policy clearly had its intended effects. UES’ 2001 \textit{Annual Report} notes that ‘the policy of decreasing the average age of personnel is...a consistent priority’\textsuperscript{40} and shows statistics demonstrating that the average age of the Energo’s general directors has decreased by three years, during the three-year period 1999–2001.\textsuperscript{41}

While extensive, the menedzhery’s victory was not complete. Not even Chubais had the ability to replace all energetiki nor would he have wanted to lose their knowledge, experience and expertise entirely. Nevertheless, energetiki have portrayed it as a wholesale change. ‘All energetiki left UES, there is nobody left. There are only the managers left at UES’, said one veteran energetik.\textsuperscript{42} This perception was created by the wholesale turnover of high-profile decision-makers and the fact that energetiki were demoted and subordinated to the new managers. Also, when it came to a stand-off in the battle about a high-profile position, incumbent energetiki tended to lose their standing as decision-makers in important positions:\textsuperscript{43} Viktor Kudryavy, for example, a Soviet-trained engineer, who had held a number of high appointments in the Ministry of Energy since the Soviet period, including
Deputy Minister of Energy under Yeltsin and Putin. He was an outspoken and high-profile critic of Chubais’ reforms and was dismissed as Deputy Minister of Energy in 2003, after refusing to authorize a number of key elements of the proposed reform plans (Rybalchenko, 2001). On the flip side, the menedžery were able to keep their positions, despite political manoeuvring to oust them from power (more on the politics below). The most high-profile UES manager was of course Chubais. The Russian parliament (the Duma) repeatedly passed motions to replace him as the director of UES. Victor Kress, governor of Tomsk, a wealthy Siberian region, and a prominent political leader of the energetiki was once rumoured to replace Chubais – this never happened.

Finally, it is worth asking why the liberal reformers thought it necessary to replace old experts rather than trying to inculcate their values and retrain them. Why not rely on energetiki’s long-standing experience in the sector and their technical expertise for critical decisions during the period of modernization? The wholesale replacement of old experts makes sense if seen in light of an intellectual current among post-Soviet Russian liberals, and earlier among dissidents, who viewed the homo Sovieticus as fundamentally corrupted, thus unable to adapt to a new world order. A liberal Soviet intellectual phrased this as follows: ‘a Soviet man is a product of invisible changes, degradation and progressive deformation. Breaking the chain of those changes is hard. Perhaps they are irreversible.’ Many Russian liberals thought that old cadres, ‘spoiled’ in this way, were unable to adapt to the requirements of a market economy. Chubais once noted that, along with Soviet-era factory directors, ‘there remain [in energetiki] the same instincts, habits, connections and the same bend in the spine’. A corollary of this belief is that old cadres had to be replaced, rather than retrained.

A reason why the gap between menedžery and energetiki was perceived to be particularly wide in Russia relates to the training of Soviet engineers. Loren Graham shows that Stalin’s purges of ‘bourgeois specialists’ in the late 1920s targeted those engineers in particular, who saw themselves as active, independent and outspoken economic planners and advocated the need for broad training in economic, social and political matters. Fearful of sharing the fate of arrested colleagues, engineers increasingly focused on narrow technical tasks and remained silent about the human and social cost that the era’s gigantic engineering projects entailed. Graham (1993) also documents that in the decades after the purges, engineers’ training narrowed over time, becoming ever more restricted to purely technical problems and subdivided into highly specific specializations. In the post-Soviet period, this meant that energetiki’s expertise was particularly narrow; even if it was highly specialized and acquired over a life-time, it was deemed, if not worthless, not useful enough to warrant leadership positions in a market order. In a study of Soviet and post-Soviet modernization projects in Chukotka, Niobe Thompson points out that expert and elite turnovers have been part of Russian and Soviet modernization projects in the past. He argues that modernity has often been interpreted ‘as an embodied quality’, which meant that the ‘old vessels of Soviet modernity’
could not be ‘recycled to carry forward a new wave of center-led change’ (Thompson, 2008, p. 186). Purges swept old cadres out, paving the way for new ‘bodies’ to execute modernization plans.

**Shifting expertise and the marketization of the Russian electricity sector**

A first key claim of this paper is that the replacement of *energetiki* with managers was a constitutive element of the creation of markets in the electricity sector. *Menedzhery* turned the organizations of the Soviet-era electricity sector into companies recognizable by domestic and foreign investors (as well as by intermediaries such as analysts and credit-rating agencies). Electricity companies became legible and ‘value-able’ units through a set of reforms that standardized accounting practices, shed employees and non-core assets and introduced a new, post-Soviet culture of professionalism. This process also largely erased the sector’s historical, social and technological exceptionalism that had been nurtured by *energetiki*. ‘It’s just a business’, said one manager – a statement that epitomizes how the *menedzhery* sought to de-contextualize the sector from its Soviet-era role and technological specificities.

The importance of standardization for valuation and price-setting is well accepted. William Cronon’s (1991) prominent study shows how the standardization of wheat was a prerequisite for its commodification and marketization by the Chicago Board of Trade. I am here particularly concerned with the valuation of companies, although, of course, this is related to the valuation of turbines, grids and dams, as well as of electricity, of expected future profits, etc., which are all relevant material entities in Callon’s formulation.

During the early years of Russia’s market transition, incredibly valuable state-owned assets were sold for trivial sums. Processes of asset valuation clearly did not work as they should have. The problem of valuing companies and assets in post-Soviet Russia is often conceived either as an institutional problem or one of corruption. Many observers have noted that this happened because institutions that value assets, such as security exchanges, laws and regulations, were initially largely absent. The lack of institutions to value assets was in fact most visible during the early years of the privatization auctions. It is also well known that auctions and sales were corrupt: buyers with political and personal connections to decision-makers were able to rig transactions in their favour. Assets changed hands for what were essentially arbitrary prices that had far more to do with who was allowed to bid than some intrinsic value of the asset. The privatization auctions and asset valuations in the electricity sector were similarly described as arbitrary and corrupt. According to one observer, they were ‘non-transparent, much like other privatizations’, and, in the words of another, ‘marred by numerous examples of unfair, illegal or non-transparent privatization deals’ (Burgansky, 2005).

Institutional weakness and corruption were certainly to blame for many of the difficulties of asset valuation and these explanations are not inaccurate. Yet,
they perhaps mistake what may be a symptom for a cause and neglect reasons why asset valuations remained arbitrary well after the establishment of security exchanges. The case of electricity-sector experts points to another source of the problem of asset valuation: assets and companies were not legible for market participants. Adding to the consensus on the importance of the institutional context of asset valuation, this study draws attention to the agents involved in making assets legible. The argument here is that, in the electricity sector, the creation of standardized units and their disentanglement from the Soviet-era social, economic and technological context hinged on the large-scale expert turnover described above, because this brought about a significant change in the practices and norms involved in asset valuation. To support this argument, I demonstrate that the menedzhery, once installed in the executive of regional electricity companies all over Russia, were instrumental in bringing about at least three important changes in the electricity sector: (1) they turned organizational structures inherited from Soviet branch ministries into ‘real’ companies, (2) they introduced a set of values and standardized mechanisms for valuing electricity assets, and (3) they introduced a professional culture rooted in the principles of a market economy.

What then were the processes of standardization and de-contextualization that the menedzhery undertook? What were the practices and norms they introduced? A first set of tasks menedzhery tackled involved turning regional electricity monopolies into ‘real’ companies, ready to be restructured and privatized. As mentioned above, Russia’s electricity system consisted of 72 regional vertically integrated monopolies, the Energos, a structure inherited from the Soviet era. On paper, a 1991 Presidential Decree turned the Energos into ‘aktionernoe obschestvo’, the Russian version of a joint stock company. In reality, many looked more like the government agencies they had been for decades. Electricity companies owned and operated a host of other assets that provided services for employees, but had little to do with power production: the apartments that housed their employees, recreation and vacation facilities and, in one case, even a chicken farm (these were called ‘atypical’ assets). Energos also employed large numbers of staff compared to electricity companies in other countries. Energetiki and menedzhery differed in their position towards redundancies and staff reductions at electricity companies. One menedzher noted that, ‘of course, as many people as work today [in the electricity sector] are not needed, all this amounts to is an unnecessary expense’. Energetiki, on the other hand, viewed the people who built and maintained the electricity system as central to its value. One energetik, the director of Bratsk hydro-electric plant we encountered above, recounts the history of the plant by equating it with its employees – ‘most of all, Bratsk hydro-electric power plant is its remarkable people, its devoted workers and its highly qualified specialists’. Once in charge of Energos, managers moved swiftly to reduce its staff numbers and rid balance sheets of atypical assets. Their goal was to increase the ‘net power output per employee’, their indicator of plant efficiency. Energetiki bemoaned the loss of the many ‘highly qualified
and experienced leaders’, but were not in a position to halt or reverse this process.

Another important change executed by the menedzhery was the implementation of a crucial reform step referred to as ‘unbundling’. Unbundling breaks up the different segments of the vertically integrated monopolies into separate companies (generation, transmission, distribution and retail), a process that is central to the introduction of markets and competition. Unbundling required a host of organizational and legal steps, such as corporate and management restructuring and the incorporation of the new businesses. Menedzhery were selected and placed in executive positions in regional electricity companies precisely with a view to their competence and commitment to this process. Energetiki were generally not in favour of unbundling. They considered it detrimental to the goal of guaranteeing the security of provision. One energetik thought of it as ‘separating limbs from a body’. With no single entity responsible for planning and management of output and investment decisions for the electricity system as a whole, there would be no ‘brain’ and system failures were bound to happen, he worried. The detrimental impact of the corporate restructuring on the career paths of energetiki likely also played a role in their opposition to unbundling. Despite the opposition of energetiki, the process of unbundling the regional Energos was complete by 2005.

Probably the most important set of tasks tackled by the menedzhery was the introduction of a set of values and standardized accounting practices. Before the beginning of reforms, the accounting of Russian electricity companies was described on the scale of murky to completely non-transparent. Although Russian and Western observers are quick to point to corruption at the root of this problem, non-transparent accounting was also related to the widespread use of barter and surrogate currencies during the 1990s. A central problem of Russia’s electricity companies for much of the 1990s was their inability to collect payments from customers. In turn, they fell behind in wage, pension and tax payments, while also running up large debts with fuel providers and repair companies. David Woodruff (1999) showed how this web of mutual debt was often settled with barter transaction, various ad hoc agreements involving debt offsets or the creation of regional surrogate currencies. According to Boris Brevnov, who was briefly UES chairman and arguably its first menedzh, ‘over 90% of receipts were in non-cash forms of payment, principally barter, mutual settlements, and veksels (promissory notes)’ before 1998. The cash flow and balance sheets of electricity companies were accordingly incomplete and difficult, if not impossible, to interpret. But it was the energetiki, with their lack of experience in business matters, who were often blamed for failing to collect bills and neglecting to regularize the Energo’s cash flow.

An important consequence of the state of the electricity sector during much of the 1990s was that domestic and international investors were at a loss as to how to interpret the value of electricity companies. Initially, this was a boon for various local intermediaries with specialized knowledge of various assets, such
as the strengths and weaknesses of particular electricity companies. International investors either sought to enlist the help of these intermediaries or they relied on a very rough shorthand measure of an electricity company’s value: asset price/kilowatt of installed capacity. Both practices were inherently limited and, together with the unpaid bills by all categories of consumers, were perceived to inhibit the private investment that liberal reformers sought. 

Menedzhery were thus charged with establishing payment discipline and with bringing electricity companies’ books into order. One of Boris Brevnov’s very first steps as UES chairman was to initiate a reform of the Energo’s accounting systems, in an attempt to make these more transparent to UES and to potential outside investors. He ordered a comprehensive audit by an international accounting firm. These early attempts failed: UES’ incumbent leaders boycotted the external auditors and Brevnov was ousted as UES chairman within months, by a powerful coalition of energetiki – who at that point, in 1997, still exercised significant control.

It took several years until the cash-flow and accounting systems of Russian electricity companies were regularized and brought in line with Western accounting standards. Successive UES annual reports reflect the ongoing struggle to increase transparency of the company’s finances and the effectiveness of the accounting and budgeting mechanisms. The 1998 Annual Report is still vague, professing the adoption of ‘modern management structures’, by ‘establishing standard economic criteria for assessing operational results’. The 1999 Annual Report notes that UES is trying to get all its subsidiary companies to comply with two, at the time relatively recent, government directives on accounting practices, the ‘Federal Law on Financial Accounting’ and the ‘Decree on Bookkeeping and Accounting’. The 2002 Report describes improvements in the ‘financial management technologies’ that have been achieved, and outlines measures to ‘increase responsiveness of financial management’. The newly appointed menedzhery were indispensable for realizing the abstract goals set out in annual reports and implementing changes at the regional electricity companies, and thus for making them legible for domestic and foreign investors. A prominent manager of a Far Eastern electricity company noted that it is his primary goal at the head of the electricity company to ‘increase the attractiveness of the company for investors’.

Not only did the system of valuation evolve to resemble internationally recognized accounting standards, managers also ushered in a broader set of values. Overall, a set of practices modelled on Western-style ‘corporate governance codes’ replaced the energetiki’s emphasis on technological standards and security of provision. UES claimed to be one of the first Russian companies to introduce an explicit corporate governance code and maintains that it set up an ‘efficient system of [monitoring] corporate governance’. Enhancing a company’s shareholder value is a core aspect of this agenda. One prominent manager elevated the market capitalization of electricity companies as the ultimate measure of its value: ‘the market capitalization of [our] company is the most important indicator of its general condition...It’s
precisely the market capitalization that is the only objective and adequate indicator of the value of a company. Contrast this with the priorities of the energetiki, for whom, as we have seen above, the value of the electricity company lies in its technological sophistication and its service to other sectors.

Finally, at an even more general level, the managers sought to introduce a new professional culture congruent with market principles, in particular, a culture that valued price signals as the most efficient means to allocate resources. One of the sector’s new menedzhery noted that ‘today the leadership of electricity companies understand that a director is a hired manager, somebody who has to plan and execute a budget, they understand that everything has to be paid for, etc. and that one needs to live according to market principles. And [as a result] we stand today on rails toward the market.’ Managers did, in fact, contribute to increasing payment discipline at the Energos, although the increased collection rate was also related to the recovery of the Russian economy and the end of the barter crisis. Such statements implicitly contrast the menedzhery’s own professionalism with an imputed lack of professionalism on the part of the energetiki, whose norms and practices prevented them from collecting electricity bills in cash, from cutting-off non-paying customers, from prioritizing profitability, from firing personnel. The energetiki, in short, were thought to be a fundamental obstacle to the system’s take-off on the ‘rails towards the market’.

In sum, the menedzhery’s efforts at UES and at regional energy companies created the basis for an influx of both domestic and international investment in the Russian electricity sector after about 2003. Of course, the corporate restructuring and the influx of private capital was not the only element of marketization and liberalization. As important were the legal and regulatory frameworks, which were introduced contemporaneously. As we will see below, a set of new regulatory bodies was created — most importantly in this context the Federal Tariff Service (FST). Yet, the creation of regulatory institutions alone was not thought sufficient to restore the federal government’s ability to regulate economic activity and enable the implementation of liberal reforms. The liberal reformers perceived the replacement of energetiki with menedzhery, thus the displacement of a group of well-established, well-reputed and well-connected incumbent political actors, as a prerequisite for the effective functioning of the new institutions.

Power politics

The political dynamics that have propelled liberal reforms in the electricity sector are key to understanding the shifting position of the two groups of experts and the concomitant changes in the way the sector’s value systems have changed. The second part of the argument I am making in this paper is that, while marketization would not have been possible without the victory of the menedzhery, this victory hinged on the Putin government’s support of Chubais
and his agenda. More specifically, the ascendancy of the menedzhery owed much to the government’s agenda to centralize political power, in order to regulate the economy from the centre, modernize Russia and integrate it into international markets. James Scott has noted, ‘legibility is a condition of manipulation’ (1998, p. 183). In what follows, I will show that this applied to the Russian electricity sector: legibility and the promotion of the menedzhery was as much a political goal, as it was a goal for market reformers.

The experts’ power positions

Sketching the ‘power positions’ of the managers and the energetiki is the first step to understanding the politics of the expert turnover. In the simplest terms, the menedzhery were supported by the chief proponents of electricity sector reforms, namely the ‘young reformers’ in the Yeltsin government and the liberal faction of the Putin government. High-level UES menedzhery in particular had close ties to the liberal faction of the Putin government. This is not surprising – Chubais, who had himself been a key member of Yeltsin’s young reformers, remained closely connected to the liberal faction of the Putin government when he became director of UES. During the turnover of political elites that followed the ascendancy of Putin loyalists from the security apparatus, Yeltsin-era liberals found refuge at ‘Chubais’ empire’, as UES was sometimes called.76 The energetiki, on the other hand, had well-established ties to regional governors, who were not only the main opponents of electricity-sector reforms, but one of two main challengers to the central government’s sovereignty. Menedzhery by contrast were typically not rooted in regional politics. They were intentionally transplanted from other regions, where they had proven to be loyal to a reformist agenda.

Governors were opposed to liberal reforms, because they threatened to undermine regional control of the electricity sector as well as the governor’s ability to influence regional economies. As David Woodruff (1999, p. 195) and Peter Rutland (2005) have both shown previously, this turned the electricity sector into a hotly contested arena in Russia’s centre-periphery conflict. One of the key goals of liberal reformers at the centre was to unbundle the vertically integrated monopolies and privatize electricity companies. This agenda rested on breaking up the regional Energos, and selling majority stakes to private owners. Regional governors, however, wanted to keep Energos intact in order to maintain control of regional electricity assets and tariffs. Governors had long used the sector to selectively subsidize regional industrialists and keep household tariffs low. As we have seen above, energetiki were firmly opposed to unbundling. They saw it as a recipe for system failure and held that maintaining the ‘integrity’ of the unified electricity system was the only way out of the crisis of the 1990s.77 Regional governors relied on the energetiki’s ideas in the political battles that surrounded electricity reforms.
Energetiki often suffered from the consequences of the governor’s policies – Energos were hopelessly cash-starved. Yet they still almost always sided with regional governors against liberal reformers. Energetiki were often closely associated with regional administrations. These ties date back to Soviet times: as a vital infrastructure, the electricity sector had been the responsibility of the deputy secretary of the regional assembly (the ‘second kraikom secretary’). This meant that, during the first post-Soviet decade, the eneregetiki at the head of the Energos were part of the old Soviet regional party nomenklatura. They remained in charge for most of the 1990s, which facilitated tight personal connections between regional administrations and the Energos. Examples of this close relationship can be found in many regions. In Khabarovsk, for example, the Energo director Vladimir Popov was said to be a close friend of governor Ishaev. In Novosibirsk, the head of Novosibirskenergo, Vitali Tomilov, was a loyalist of the regional governor Tolokonsky, who supported him fiercely, though ultimately in vain, against the attempts by Chubais to replace him.

The struggle between liberal reformers and regional governors over the future of the electricity sector played out in conflicts between menedzhery and eneregetiki in policy bodies and consulting committees. At the federal level, two committees were particularly influential in the formulation of liberalization plans around 2001 and 2002: the ‘Kress committee’ and the ‘Gref team’. The Kress committee was a working group of the State Council (Gossoviet). It was staffed with eneregetiki and backed by powerful regional governors, including, for example, Leonid Roketsky, the governor of Tyumen, one of Russia’s richest regions. Viktor Kress, the head of the committee, was the independent and strong governor of Tomsk, another Siberian region with a strong agenda in the electricity sector. The Kress committee proposed a plan to modernize the electricity system that would leave the vertically integrated structure of the Energos intact, and not divide generation from transmission. It also suggested that the state retain substantial ownership of electricity companies and was against the privatization of generation companies, fearing that such unbundling would decrease reliability. The plan also suggested that only a small amount of electricity should be freely traded between contracting parties and that the state should continue to regulate the bulk of wholesale and all retail prices (Khlebnikov, 2005). The Kress plan drew on a modernization proposal by the Institute for Electric Energy Systems at the Siberian Branch of the Russian Academy of Sciences, one of the most prominent institutional homes of the ‘academics’ among the eneregetiki.

The ‘Gref team’, named after German Gref, the Minister of Economics and Trade, was the reform committee of the Ministry of Economic Development and Trade. Made up of menedzhery, the Gref team, by and large, recommended the liberalization plan favoured by Chubais. The Gref team initiated the unbundling of the Energos into the supra-regional wholesale companies (so-called OGKs) and the territorial companies (TGKs), which essentially undercut the hold of regional governors on the electricity sector. It
also favoured full price liberalization and the creation of competitive markets for the exchange of all electricity, both long-term contracts, as well as the day-ahead and balancing markets.\textsuperscript{88} The \textit{menedžery} also supported Chubais’ policy of cutting off non-paying customers.\textsuperscript{89}

While experts played an important role in the federal reform commissions, their influence on the day-to-day activities of the administrative bodies at the oblast level, in particular in the Regional Energy Commissions (REKs), was probably even more significant.\textsuperscript{90} After the collapse of the Soviet Union, a 1991 presidential decree ‘On the Liberalization of Prices’ created the Federal Energy Commission (FEK) and the Regional Energy Commissions (REKs). In reality, the FEK was often ineffective. It has been described as either hopelessly overburdened or as a gentlemen’s club, a body where important energy-related matters were discussed, but one that lacked tools to monitor implementation.\textsuperscript{91} REKs were formally charged with implementing the energy policy and price directives recommended by the FEK, which, in turn, was legally supposed to coordinate and supervise REKs. In actual fact FEK recommendations about price levels were routinely ignored. REKs are composed of representatives of regional administrations, regional electricity companies and their major industrial consumers. REKs were often beholden to regional political dynamics. In Kemerovo, for example, governor Tuleev had his own idea of what the appropriate price for electricity should be. He did not allow price hikes, because ‘price increases lead to factory closures and propel our region backwards’.\textsuperscript{92} This made him one of many governors who consistently used his influence on the REK to challenge federal directives. REKs kept prices low for various consumers, thus administering wide-spread subsidies that were thought to be key obstacles to liberal reforms. For most of the 1990s, REKs were staffed by \textit{energetiki}, as they were the representatives of the Energos and of regional administrations.

\textit{Shifting power positions and the federal government’s modernization agenda}

While the Putin government was interested in the economic consequences of promoting managers – it promised to enhance the sector’s value during privatization and increase returns on sector assets retained by the government – a political logic was also at play. Reform undercut the link between governors and the electricity sector and thus eliminated their ability to shape regional economies through targeted industrial and household subsidies in the electricity sector. The defeat of the \textit{energetiki} and the ascendancy of the \textit{menedžery} during the period of about 2000 to 2004 was simultaneously a defeat of regional governors. The expert turnover centralized the sector’s governance, because it ended regional influence and effectively allowed for a shift in the site of regulation of the sector from the regional to the federal level. A few events are symptomatic of these trends: at the federal level, the advice of the Kress committee (the voice of regional governors) was largely ignored in favour of the
plan that unbundled Energos and privatized power plants. As mentioned above, Viktor Kudryavy, one of the most high-profile energetiki and outspoken critics of electricity reforms was removed from office as Deputy Energy Minister.93 We see a similar pattern at the regional level: energetiki lost their positions as directors of power plants and their seats in the REKs.

From a purely legal perspective, the wholesale replacement of management in the electricity sector required at least tacit approval by the federal government. The federal government held majority stakes in the vast majority of electricity companies, and the replacement of incumbent energetiki with menedzhery would not have been possible had it been opposed to this strategy. However, the fact that the federal government legally controlled Energos did not necessarily mean that the process was clear-cut; de jure ownership in post-Soviet Russia by no means guarantees de facto control. Yet, the federal government seems actively to have supported Chubais’ agenda of promoting menedzhery. Two developments support this argument: first, in regions where Putin replaced the most rebellious regional governors energetiki soon lost their positions too, having lost their protectors. In Primorsky Krai, for example, the old Energo management was thrown out as soon as the rebellious regional governor Evgenii Nazdratenko was removed from his post in 2001.94 The new governor of Primorsky Krai, who relies on the approval of the Kremlin for his appointment, is said to have no involvement with the electricity sector.95 The new manager of the restructured electricity company in the Far East, and menedzhery in general, had few established ties to regional governors, and some of them are said to spend as much time in Moscow as they do in the regions.

Second, governors and energetiki lost their ability to influence the electricity sector because of a reorganization of the regulatory institutions in the sector. As we saw above, during the 1990s, FEK was often unable to force REK compliance. In 2003, FEK was replaced with a new institution, the Federalnaia Sluzhba Tarifov (FST). FST was designed to be a strong, independent institution to regulate the energy monopolies and the newly created wholesale market.96 In the electricity sector, the implementation of FST directives would be directly supervised by the polpredy, the presidential envoys to the region, whose offices were endowed with substantial authority. ‘Everything and everybody is more closely scrutinized now’,97 noted one observer. Initially, in regions where the menedzhery’s arrival predated the taming of the governor, managers and regional governors clashed: ‘the new menedzhery constantly conflicted with [the governor], a conflict that was carried out in the REK’, noted one observer.98 But, as governors were replaced or reined in by Putin’s reforms, menedzhery were increasingly freed from interference from regional administrations. Where the old REK delegates and energetiki remained in their seats, they were more closely overseen by newly created presidential envoys to the region, the polpredy. As the polpred offices were endowed with ever more authority, the remaining energetiki had no choice but to go along with Moscow’s liberalization agenda.
In sum, the centralization of political power and the implementation of liberal reforms were mutually reinforcing processes. The menedzhery’s promotion undercut the influence of the regional governors on the sector and contributed to the centralization of regulation in the sector. At the same time, the centralization of political power enabled Chubais, with the liberal reforms, to promote managers, who then proceeded to collect bills from regional businesses, standardize accounts, shed employees and atypical assets.99

Scott argues that legibility enables rent extraction by private capital and the state: ‘the more legible . . . form can be more readily converted into a source of rent – either as private property or as monopoly rent of the state’ (1998, p. 220). I tried to show above that the menedzhery’s reforms created the prerequisite for rent extraction by private investors. It would be plausible to argue that the menedzhery’s success in collecting outstanding bills, as well as the standardization of electricity-sector companies, enabled the state to extract fiscal revenues from the sector. While this may have been the case, the state’s ability to tax private owners is a difficult endeavour that also depends on many other factors.100 The argument here is more modest: the menedzhery’s transformation of the electricity sector allowed the central government to implement a liberal reform agenda, and thus to govern and regulate the sector from the centre, rather than leaving this up to the regional governors. In other words, it allowed for a shift in the site of authority to regulate from the regional to the federal level.

Finally, an interesting feedback effect seems to have been at play between the promotion of menedzhery and the success of liberal reforms. While the victory of menedzhery would not have been possible without political support from the Putin government, it also legitimized liberal reforms. Today ‘modernization’ of the sector is generally equated with privatization and liberalization. According to one observer, ‘many people believe that there is no other way’.101 The level of approval of the equation ‘modernization = liberalization’ seems to vary in different political circles; most Kremlin insiders seem to subscribe to it, but it may also be a broader sentiment. It is increasingly taking hold among electricity-sector professionals. Even the energetiki among my interviewees have resigned themselves to the idea that liberalization was inevitable. It is not so much that they changed their minds about the viability of ‘economistic ideas’, but they often expressed that these ideas are unstoppable and concurrent with post-Soviet trends more generally, even though they would have preferred other ownership structures and other ways of organizing production.102 Furthermore, almost everybody involved in the electricity sector believed that ‘there is no way back’,103 a notion shared by observers of electricity-sector privatizations in other countries (Hunt, 2002). The victory of the menedzhery thus legitimized their world-views and the recent reforms, not necessarily as the right way, but as the dominant views of the current epoch. Phrased more generally, a point worth emphasizing here is that the government’s support of the expert turnover legitimized the values, ideas and methods of the new expert regime.
Conclusion and theoretical implications

To sum up, the paper documented how a shift in the relative power positions of the *energetiki* and the *menedzhery* was a constitutive element of the liberalization of the electricity sector. I stressed that establishing the prerequisites for asset valuation compatible with internationally recognized standards and methodologies required not only changing rules on paper, but replacing ‘bodies’ in electricity companies, regulatory agencies and policy committees. Precisely because it involved displacing a well-established, well-connected group of incumbent actors, the promotion of managerial experts was a deeply political transformation. The paper demonstrated that the victory of the *menedzhery* and the legibility of the electricity sector owed much to the federal government’s efforts to centralize political power. Putin’s goal to undercut the governors’ hold on regional economies was congruent with the marginalization of the *energetiki*, because their political networks in the regions and their norms and practices led to them being deemed unsuitable actors for centre-led modernization efforts.

A broader theoretical point that emerges from this discussion is that the process of introducing systems of valuation is an eminently political project. This point is worth making because governments often have a stake in ‘de-politicizing’ modernization projects, rooting them in technocratic governance rather than representative government. The legitimacy of the Putin government was buttressed by claims to implement the ‘right’ solutions, rather than politically negotiated ones. The Russian government tried to de-politicize the nature of the disputes surrounding the electricity sector and de-emphasized the political nature of the conflict between the *energetiki* and *menedzhery*. ‘This meeting [of the Kress and Gref committees] will not be political, but purely technical’, commented the Deputy Minister for Economic Development on a controversial meeting between the two opposing commissions. De-emphasizing the political aspects of governance is a core tenet of technocratic governance. As an ideal-type, technocracy means policy-making by scientific experts, who determine the ‘right’ solution to political conflicts and challenges. An underlying premise of technocratic governance is that science will replace politics; the political version of Taylor’s (1993) maxim that ‘scientific management will mean the elimination of almost all causes for dispute and disagreement’. Yet, instead of replacing politics, we saw that the involvement of experts in reform politics, the shift in the norms and practices brought about by the victory of the *menedzhery* and the legitimizing effect of the *energetiki*’s marginalization were all eminently political processes. Claims to the political neutrality of technocratic governance thus break down. While such claims are particularly common in post-Soviet countries, they are by no means unique to this region. As increasingly globalized and regulatory intensive economies rely on elements of technocratic governance elsewhere, these broader points on the political role of experts may prove relevant beyond Putin’s Russia.
Finally, a last concluding observation speaks to the economic sociology literature on valuation practices. Economic sociology tends to focus on ‘localized dynamics’ in the production of regimes of value (Calışkan & Callon, 2009, 2010). Emphasizing the political nature of the transformation of valuation mechanisms shifts the focus from the local to the national and international level. The transformation of the sector executed by menedžery was indeed a local, place-bound phenomenon, as menedžery were sent to regional electricity companies across Russia from Kaliningrad to Vladivostok. Nevertheless, their role in the marketization cannot be adequately understood outside the broader context of international capital flows and a liberal reform agenda that was conceived and orchestrated largely from Moscow, but modelled on the liberal reforms of electricity sectors across the world.

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Notes

2 In Russian: ‘К руководству компаниями приходят менеджеры, хотя для обеспечения надежного и эффективного функционирования и развития ЭЭС нужны, в первую очередь, высококвалифицированные и опытные руководители — инженеры широкого профиля,’ Belyaev (2006, p. 20).
3 It is well established that many of the liberal reforms of the 1990s contributed to undermining state capacity. State capture is the most well-examined manifestation of this situation, taking attention away from a related problem: the inability of the federal government to regulate economic activity. For a discussion on several aspects of state capacity, see Bruszt (2002, pp. 53–72).
4 For a summary of recent studies that examine valuation as a key aspect of marketization, see Calışkan and Callon (2009, 2010).
5 Donald MacKenzie’s fascinating account of the construction of emissions markets is attentive to the political forces shaping the architecture of emissions markets; political influence is conceptualized as industry lobbying for the allocation of CO2 allowances. See MacKenzie (2009, p. 159).
6 Timothy Mitchell has been interested in the nature of politics based on shifting bodies of expertise. My research draws on Mitchell’s work in the sense that I see expertise as an ideological framework mobilized as a political justification for economic policy. At the same time, Mitchell’s work explicitly opens opportunities for place- and time-specific research, rather than wanting to serve as a theoretical model. See Mitchell (2002, p. 41).

8 Studies that measure the degree of progress were often based on the transition scores published by the EBRD (European Bank for Reconstruction and Development). These cross-national measures, published annually, provided scholars with a convenient tool to compare ‘how far’ a country had come in its transition.

9 David Woodruff, Andrew Barnes and Niobe Thompson’s works provide some examples. A number of these texts are discussed in more detail in what follows, namely Woodruff (1999), Barnes (2006) and Thompson (2008). See also Wengle (forthcoming).

10 Callon’s and other studies of expert politics have often been interested in the conflict between experts and non-experts, rather than in the conflict between different sets of experts.

11 A list of interviews can be found in the appendix.

12 The sector had been fully state-owned at the end of the Soviet period, before the onset of successive rounds of privatizations from the early 1990s. In the earlier rounds of privatization, various actors were able to gain control, including regional governments and Russian and foreign private owners. The patchwork nature of ownership structures complicated subsequent reforms greatly.

13 A manager interviewed for a Russian magazine, Viktor Minakov, stresses that he is not an energetik (in Russian: Красноярск пошел по приморскому пути,). It is said about him that he had been a businessman for ten years (in Russian: ‘10 лет занимались бизнесом’). He himself emphasizes that the experience as a businessman was useful for his current job (in Russian: ‘Для моей сегодняшней должности эти знания и опыт оказались очень полезны.’) Interview in Dal’nevostochnyi Kapital, 10(38), October 2003, pp. 48–9. In Russian, the term ‘businessman’ has a very particular connotation; see, for example, Yurchak (2002, 2003).

14 The remark was made about the new management at Irkutskenergo. Interview no. 48 with academic, Irkutsk, 13/11/2007.

15 See, for example, the portrait of Chubais in Hoffman (2003). He was also known to be a skilled politician, able and willing to accept compromises in pursuit of his main goal.


17 Interview no. 63 with electricity company executive (manager), Moscow, 12/12/2007.

18 Viktor Minakov describes himself in the following terms: ‘He [Chubais] needed managers and businessmen in the electricity sector, because the old cadres, it turned out, could not adjust to the new conditions of a market economy’ (Ему нужны были энергетики-управленцы и коммерсанты, потому что старые кадры, выросшие в закрытой технической системе, оказались не приспособлены к новым рыночным условиям). Interview in Dal’nevostochnyi Kapital, 10(38), October 2003, pp. 48–9.

19 Reliability as the main concern of the ‘technical point of view’ of the energetiki was mentioned in interview no. 57 with electricity sector expert, Irkutsk, 22/11/2007.

20 On security of provision as a high priority for energetiki, see, for example, Fundamental Problems and Directions for the Provision of Energy Security [Основные проблемы и направления обеспечения энергетической безопасности] (2001) Irkutsk: Siberian Section of the Russian Academy of Sciences.

21 The slogan is omnipresent; for example in a 1920 letter by Lenin to the engineer in charge of electrification, Krizhzhianovsky, in Lenin (1972).
Energetiki later often lived and worked in the mono-industrial towns that were built around these dams, where their vocational ethnic - that the electricity sector is the backbone of a socialist economy and society - was part of their everyday lives. The energetiki's and the menedzhery's value systems are empirically derived. An interesting theoretical angle could be gained from comparing them to Thevenot and Boltanski's categories or logics of justification. (Thevenot and Boltanski 2006).

Belavy (2006) uses this term.

Interview no. 57 with electricity sector economist (energetik), Irkutsk, 22/11/2007. Energetiki also think that reforms were rushed, without due consultation of technical experts; for example, interview no. 60 with energy company executive (former energetik), Irkutsk, 03/12/2007.

In Russian: 'Kрупнейшую энергокомпанию страны возглавляет человек, не знаящий даже закона Ома и и простейшего формула'. This is a quote from Zhores Alferov, a well-known Russian physicist who became a member of the Communist party and opposed Chubais' plans for electricity reforms. The physics of big politics (2007).

GOELRO stands for Государственная комиссия по электрификации России без бои не сдается [Физика большой политики] (State Commission for the Electrification of Russia).

San'ko was one of the menedzhery who used references to GOELRO: interview in Krasnyi Sever, 17 May 2007.

Alexandra von Meier (1999) traces how operators and engineers in US and German utilities relate differently to technological innovation. On the concern by technical experts, see, for example, an account from Australia by Deepak Sharma (2003). For the concern of technical specialists about technical aspects after economic reforms, see, for example, a study by a group of US, UK and Australian electricity-sector experts (Vine et al., 2003).

Thanks to Gary Herrigel for bringing Veblen to this discussion.

For a discussion of this theme in the post-Soviet literature, see Verdery (2003), p. 311. She observes this trend for agricultural elites in Romania. See also Kryshtanovskaya and White (1996).

Kryshtanovskaya and White (2003, p. 291) call this the ‘FSB-isation’.

Leadership change at Krasnoyarskenergo is referred to as a purge, in Russian чистка, in Krasnoyarsk poшел по приморскому пути, Segodnya, 12 September 1997.

In Russian волна, Nadeshda Vorontsova, Dal'nevostochnyi Kapital, 10(38), October 2003, p. 48.

In Russian: 'почти полностью сменил менеджмент’ – this is said to be Chubais' work (ibid.).


‘Energetiki chose their leaders’ (1999). Directors at Mosenergo, Irkutskenergo and Dal'energo were fired a few years later.


USES 2001 Annual Report, section 5.4.5. Personnel management. Report available online at http://www.rao-ees.ru/en/business/report2001/ From 53 years to 50 years between 1999 and 2001, according to the USES 2001 Annual Report. As the average age of existing directors would have increased over three years, had they not been replaced, the decrease can only mean that a number of younger directors were appointed during this time.

Kudryavy was dismissed in August 2003 for blocking Presidential directives on the formation of the Federal Network Company and the System Operator (Electricity, 2004).

See also Electricity (2004).

The Duma was repeatedly trying to replace him as the head of UES (Petrosyan, 2004).


*Homo Sovieticus* is a term initially coined by Aleksandr Zinovyev. The debate on how the Soviet citizen or the Soviet subject could adapt to the post-Soviet context is large and diverse both in Russia and among Western academic circles. For a deconstruction of the term, see Yurchak (2005).

Merab Mamardashvili, quoted in Georgia’s mental revolution (2010).

Quoted in Gustafson (1999). The quote continues: ‘It is a rare director that does not rush off to the government, that doesn’t seek connections with high-placed officials, that doesn’t beg for subsidized credits, tax breaks, quotas and privileges’ (ibid., p. 37).

Interview no. 37 with electricity-sector executive, Vladivostok, 2/10/2007.

See, for example, Gustafson (1999) and Hoffman (2003). For an account of the emergence of equities markets, see also chapter 5 in Frye (2000).

For excellent studies on post-Socialist privatization, see Solnick (1999), Verdery (2003) and Barnes (2006).

Interview no. 1 with electricity-sector expert, international financial institution, Moscow, 21/07/2006.

A similar statement was made to describe *Dal’energo*, the regional electricity company in Primorsky Krai – ‘it looked more like a government agency than a company for most of the 1990s’. Interview no. 33 with journalist covering electricity sector, Vladivostok, 21/09/2007.

In Russian these are called ‘Непрофильные активы’.

In Russian: ‘Понятно, что столько людей, сколько сегодня в ней занято, не нужно, это все лишние затраты.’ Viktor Minakov, a manager of a Far Eastern electricity company. Interview in *Dal’nevostochnyi Kapital*, 10(38), October 2003, p. 49.


Successive UES Annual Reports provide updates on the reduction of staff numbers.

Interview no. 37 with electricity-sector executive (menedzher), Vladivostok, 2/10/2007. See also UES 2001 Annual Report, section 5.4.5.

See quote at the beginning of the paper.

Vertical monopolies are broken up as a way to separate the competitive from the non-competitive elements in the sector. Potentially competitive are the generation and retail sub-sectors; the network sectors, transmission and distribution have inherent natural monopoly character. For a critical discussion of the role of unbundling in post-Soviet economic reforms, see Collier (2011, pp. 205, 234).

Interview no. 39 with electrical engineer/electricity-sector expert (energetik), Vladivostok, 4/10/2007. Another *energetik* expressed concerns about who was to have the ultimate responsibility for the functioning of the system. The same person also stressed that, because ‘electricity has many difficult and interconnected technological aspects, [it is] very questionable what will happen to the system after unbundling’. Interview no. 57 with electricity-sector economist (energetik), Irkutsk, 22/11/2007.

For a full discussion of the barter crisis, see Woodruff (1999).

See UES 1997 Annual Report for a statement of the centrality of the non-payment problem (available online at http://www.rao-ees.ru/en/invest/reporting/reports/report97/). The cause of non-payment of bills was, on one level, quite simple: ‘why
don’t the consumers pay for electricity? Because they don’t get paid for whatever they produce’ – said one observer; in Russian: ‘Почему потребители не платят за электроэнергию?’ ... Всё очень просто: им тоже не платят выпущенную продукцию’ (‘Hobbled monsters’, 1992). On another level, the non-payment of electricity bills was part of the larger economic crisis that engulfed post-Soviet Russia.

65 Boris Brevnov was appointed general director of UES by Chubais, who at that point was first Deputy Prime Minister (Brevnov, 1998). See also the 1998 UES Annual Report that still notes the ‘high level of uncollectable receivables’. Available at http://www.rao-ees.ru/en/invest/reporting/reports/report98/ section on Finances and accounting.

66 And at times even for profiting from the lack of transparency; one journalist speculated: ‘the larger the share of barter payments, the larger are the rooms in the country home of the Energo director.’ In Russian: ‘Чем выше доля оплаты бартером – тем больше комнат в усадьбе директора АО Энерго’. Ekspert, 14, 13 April 1998, p. 30.

67 According to Brevnov the incumbent UES management were alienated by the auditors’ question: they asked ‘too many questions, “like the CIA”’ (1998, p. 19).

68 See, for example, the section on ‘financial management’ in the 2002 Annual Report that sets out a series of rules that were introduced to ‘increase responsiveness of financial management and improve quality of budget planning’, available at http://www.rao-ees.ru/en/invest/reporting/reports/report2002/.


72 In Russian: ‘повышение инвестиционной привлекательности’, interview with Myasnik in Dal’nevostochnyi Kapital, 2(66), February 2006, p. 23. Note, however, that, while менеджеры played an important role in implementing these reforms, the improvements in accounting practices were also a result of the economic crisis after 1998 that ended the economy-wide barter and non-payment crisis.

73 2002 UES Annual Report, section on Corporate governance.

74 In Russian: ‘Капитализация компании – это важнейший показатель её самочувствия, естественно...Именно капитализация является единственно объективной и адекватной оценкой стоимости компании’. Interview with Myasnik, in Dal’nevostochnyi Kapital, 2(66), February 2006, p. 23.

75 In Russian: ‘Сейчас руководство энергокомпании понимает, что...директор – это нанятый менеджер, который должен планировать и исполнять бюджет, что со всеми надо расплачиваться деньгами, т.е. надо жить рыночной экономикой... И сегодня стоим на рыночных рельсах’. Viktor Minakov, interview in Dal’nevostochnyi Kapital, 10(38), October 2003, p. 48.

76 Aleksander Voloshin, UES board member, was Yeltsin’s Chief of Staff in the late 1990s. Yakov Urinson, another high-ranking UES executive was Economics Minister under Yeltsin in the late 1990s. See a reference to this connection between the Yeltsin era government and UES executives in Dal’nevostochnyi Kapital, 6(58), June 2005, p. 10.

77 The relationship between the energetiki and the regional governors was complicated. There were always tensions between regional governors and Energo managers, as the governors’ policies of keeping tariffs low starved the electricity sector
of much-needed cash. At the same time, many of the energetiki directors had personal connections to governors, as detailed below.


79 In fact, Popov became vice-governor. Popov is an energetik, having worked for Khabarlovskenergo since 1984. He was removed from Khabarlovskenergo in 2001, during the Chubais-led reforms, but then became first deputy chairman of the Khabarovsk Krai administration and was given the portfolio of overseeing the fuel and energy complex. Popov’s biography is available on the Khabarovsk Krai government site at http://www.adm.khv.ru. Also interview no. 45 with employee of electricity company and interview no. 46 with academic and journalist, both in Khabarovsk, 11/10/2007.

80 The struggle between the regional government and UES over the director of Novosibirskenergo stretched over a few months: Ban not enacted (2001); Rao-EES prepares for forceful action in Novosibirsk (2001); Novosibirsk does not surrender without a battle (2001); and, finally, RAO-EES Russia decides conflict at Novosibirskenergo (2001).

81 See, for example, Kress adds energetiki (2001).


83 Interview no. 52 with electricity-sector economist (energetik), Irkutsk, 17/11/2007.

84 The Kress committee’s concern with reliability was stressed in interview no. 57 with electricity-sector economist (energetik), Irkutsk, 22/11/2007.

85 Energy Systems Institute, named after L. A. Melent’iev at the Siberian Branch of the Russian Academy of Sciences (Институт систем энергетики им. Л.А. Мелентьева, Сибирского отделения РАН). Much of their work is published on their website http://www.sei.irk.ru/. Their involvement is also mentioned in Khlebnikov (2005). The opposition of the institute to the Chubais plan was mentioned in an interview with two prominent members of the Melentiev Institute: interview no. 52 with electricity-sector economist (energetik), Irkutsk, 17/11/2007, and interview no. 57 with electricity-sector economist (energetik), Irkutsk, 22/11/2007.

86 The working group was active in 2001–2. For an overview of the position of the two committees, see Last skirmish for RAO-EES (2001). See also Rutland (2005).

87 Further details on the different proposals, see Khlebnikov (2005).

88 Ibid.

89 Myasnik is said to have been very strict about non-payments. New managers of AO-Energos (2001).


91 Interview no. 16, electricity-sector expert/consultant, Moscow, 30/10/2006.


93 Interview with Kudryavyi in Ekspert, 14, 13 April 1998. About his removal, see Electricity (2004).

94 Interview no. 34 with academic/employee of electricity company, Vladivostok 23/09/2007; see also Electricity (2004).


96 Interview no. 15 with electricity-sector analyst at financial institution, Moscow, 27/10/2006. FST has a mandate beyond the electricity sector. According to the FST website, http://www.fstrf.ru/eng, ‘FST sets prices (tariffs) and controls issues related to determination and application of prices /tariffs/ in the electric power industry; gas industry; transmission of oil and oil derivatives through main pipelines; railroad
transportation; services of cargo terminals, ports and airports; services on generally available electric and postal communications; products of nuclear fuel cycle; defense products; vodka, liquor and other alcoholic beverages.


98 Ibid.

99 Two types of state power are at play: one based on formal, rational accounting procedures, the other based on more informal, personal and patronage relations. While I do make the point that the centralization of power allowed the dispersion of expertise that values the former type of rationality, I do not want to imply that the latter no longer played a role in the government from the centre. Centralized governance under Putin is certainly not devoid of paternalistic, personalized power structures.

100 See Chaudhry (1993). For a discussion of the Russian state’s efforts to strengthen its fiscal capacity, see Jones Luong and Weinthal (2004) on Russia’s efforts to strengthen fiscal institutions.

101 Interview no. 8 with electricity-sector expert at financial institution, Moscow, 6/10/2006. Ironically, the blackouts and the threat of blackouts helped the liberal reformers, serving as proof for their argument that there is no other way.

102 Interview no. 39 with electrical engineer/electricity-sector expert (*energetik*), Vladivostok, 4/10/2007. He also noted that he prefers municipal ownership of power plants, for example, but that this seems to not be a politically viable option.


104 A comment by Andrei Sharonov, Deputy Minister For Economic Development. Great standing (2001).

105 Other commentators dismissed the conflict between *energetiki* and *menedzhery* as personal squabbles between loyalists and enemies of Chubais. Interview no. 8 with electricity-sector analyst at financial institution, Moscow, 6/10/2006.

106 The idea became popular in the early twentieth century both in the US and the Soviet Union, as a corollary of industrialization and, a few decades later, as the solution to the Great Depression; see Akin, (1977). As a real-world phenomenon in the post-Soviet world, technocratic governance tends to be as much a legitimization device as a factual description of how decisions are actually made.

107 The legitimization of political authority via claims to technocratic governance is an interesting aspect of post-Soviet countries that has received relatively little attention. Partly a result of the traumatic crises of the 1990s, partly due to the lingering memories of Soviet-era political legitimacy, the legitimacy and popularity of many post-Soviet leaders is based on their ability to raise living standards. This kind of legitimization is a hallmark of technocratic governance, as is the rejection of legitimization through political representation. Technocratic governments claim to rely on the advice of experts to ‘govern well’, rather than seeking consensus and compromise. Huntington called this ‘performance legitimacy’ (1991), as also noted in Aron (2009). Putin promised to restore prosperity, stability and sovereignty, not through consensus and consultation, but rather by decisively ‘doing the right thing’ — and providing for economic prosperity in the future. Aron notes: ‘instead of seeking to ground its legitimacy on broad-based, transpersonal institutions with character and integrity of their own, the regime has chosen to bank overwhelmingly on Vladimir Putin’s popularity. This, in turn, seems to derive from the economic growth that he presided over between 2000 and the first half of 2008’ (ibid.) See also Kramer (2007).
References


Belyaev, L. S. (2006) About the problems with the realization of electricity reforms in Russia and the necessity to address them. [Недостатки реализуемой концепции реформирования электроэнергетики]


Khlebnikov, V. V. (2005). *Electricity Markets in Russia [Rynok Elekstroenergii v Rossii]*. Moscow: Gumanitarnyi isdatelskii zentr VLADOS.


Lenin, V. I. (1972). On the development of heavy industry and electrification [О разви́тии тя́шоло́й промышленно́сти и электрифи́каци́и страны]. Moscow: Progress Publisher.


RAO-EES Russia decides conflict at Novosibirskenergo [РАО ЕЭС России решило конфликт в Новосибирскэнерго] (2001) Izvestiia, 13 July.


Appendix A: list of interviews; location and dates

Interviews conducted 2006/2007

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## Appendix A (Continued)

Interviews conducted 2006/2007

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**Note**

Interviews were conducted in person, with the exception of three cases in which conversations happened over the phone (nos 3, 4 and 10). Two extensive and ongoing email conversations are listed separately at the end (nos 69 and 70). Repeat interviews are listed separately only if substantially new information was obtained and significant time had passed between interviews; this happened in three cases (interviews nos 1, 23 and 64; interviews nos 17 and 62; and interviews nos 18 and 66, respectively, are with the same person).
Susanne A. Wengle holds a Ph.D. in political science from the University of California, Berkeley. She is currently a post-doctoral research fellow in the political science department at the University of Chicago. Her research examines the political economy of Russia’s market transition, in particular the political economy of infrastructure liberalization and of welfare reforms. More generally, her research agenda engages with questions of how we study markets in the post-Soviet context and beyond. She is currently working on a new project that compares the Russian and American response to the twentieth century’s industrialization of agriculture.