Russian Electricity

**Industry Overview**

Equity | Russian Federation | Electric Utilities
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# Power Themes: revaluing grids

Merrill Lynch


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## On the verge of RAB regulation

In this issue of Power Themes we examine Russia's electricity networks. The Russian authorities are in the final stages of laying the groundwork for the adoption of a Regulatory Asset Base (RAB) approach on all distribution and transmission systems. This watershed event should allow the industry to finance a comprehensive upgrade of the dilapidated system, achieve cost savings, enforce system stability and ensure a fair return to shareholders. Migration to RAB indicates that the Russian government has finally decided to end the era of cheap energy and industrial cross subsidization. It should also provide a much needed catalyst for the sector and boost cash flow generation in the next three years.

## Grid infrastructure companies formed

The imminent break up of UES on 1 July, 2008 signals the formation and listing of two key grid infrastructure companies: the Federal Grid Company (FSK) and the Inter-Regional Distribution (MRSK) holding company. The FSK will consolidate high-voltage grid infrastructure in Russia and be at least 75%+1 share government controlled. The MRSK holding company will have controlling stakes in 11 regional distribution companies and itself be 52% government controlled. 9 out of 11 inter-regional distribution companies are currently listed on local market. The listing and GDR of FSK are expected in July, while MRSK Holding will start trading in October with a potential GDR listing in January 2009.

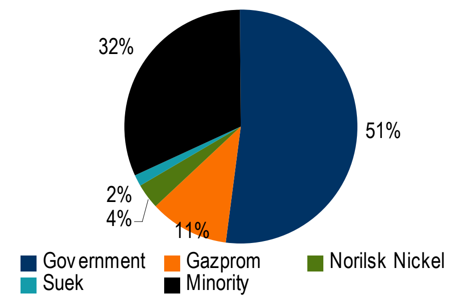
## Transmission US$18-25.3bn, Distribution US$17.6-24.6bn

We value the equity component of the distribution system at US$18-25.3bn and the equity portion of the transmission system at US$17.6-24.6bn. Our valuation is based on comparable EV/RAB multiples. We incorporate most major assumptions on the asset base, expected inflation and length of transition period. We estimate value creation from RAB migration of $6.5bln for FSK alone.

## Price caps, inflationary pressures pose risks

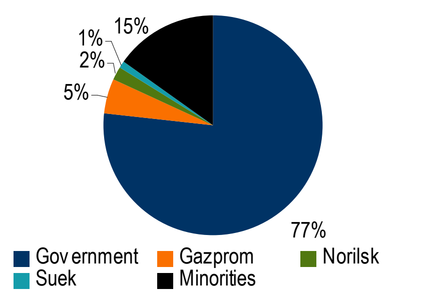
The potential inflationary impact of rising energy costs poses the greatest risk to the sector outlook, in our view. We estimate that, together with the increase in the generating tariff, RAB migration will require on average an 85% increase in regulated tariffs across the country by 2011. Some regions such as Moscow and St. Petersburg may see their electricity prices triple by 2011. Increases in generation, distribution, and transmission tariffs, coupled with a doubling of internal gas prices by 2011, might tempt the Russian government to introduce price caps to combat inflationary pressures. We believe the risk to be minimal given the planned gradual migration to RAB.

Chart 1: MRSK Holding capital structure




Source: Company data, Merrill Lynch estimates

Chart 2: FSK capital structure




Source: Company data, Merrill Lynch estimates



Refer to important disclosures on page 47 to 48. Analyst Certification on Page 46.

# Contents

# Executive summary

- **Migration towards RAB**: The Russian authorities are in the final stages of discussing how to migrate Russian electricity network regulation to RAB from the current cost-plus regime. Initial information about the prospective regulation indicates that RAB will be appraised at optimized depreciated replacement cost (ODRC), while the justified return on RAB will be computed using a CAPM model. The draft regulation also envisages target 5-year regulatory periods with an initial transition period of three years. We regard the upcoming RAB transition as a major catalyst for an industry that has been pretty much neglected for the past 20 years. We estimate the value creation from migration to RAB at approximately US$6.5bn for the Federal Grid Company alone.

- **Large infrastructure companies to appear**: With the break-up of UES we will see large grid infrastructure companies appearing on the Russian market. The Federal Grid Company (FSK) has consolidated the high-voltage transmission assets of UES, while an Interregional Distribution (MRSK) holding company will take controlling stakes in 11 smaller MRSKs. We regard the appearance of large companies with decent liquidity as another boost to the sector. Nine out of 11 MRSKs are already trading in the Russian market.

- **Investment strategy and valuation:** We reinforce our case for investing in electricity companies operating in Russian regions where there are electricity shortages. While for generating companies a regional deficit implies price spikes, for distribution companies it implies greater capex expenditure, larger RAB by 2011 and less likelihood of unfavourable regulation. We would avoid areas with an electricity surplus or economically disadvantaged parts of the country. We believe that the market opportunities for MRSKs are better than for FSK as there is a possibility that the Russian government might exit the sector by 2011. Our valuation ranges imply a potential market cap for FSK of US$18-25.3bn, while we value MRSK holding at between US$10-14bn. We estimate FSK's free float at c.10% and the MRSK holding company's at approximately 30%. Free floats ranging from 8-40% are expected for each of individual MRSKs.

## Risks

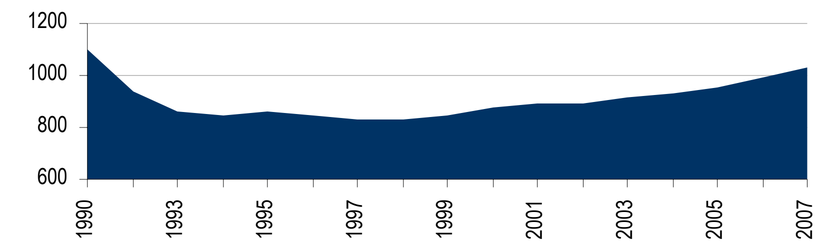
- **Inflationary pressures:** While the Russian government seems committed to ending the era of cheap energy, inflationary concerns pose a major risk to sector prospects. Given rapid increases in both generating and distribution tariffs, the Russian government might be tempted to cap tariff growth to ease inflationary pressures and mollify industrial and residential customers. We see a particular risk of price caps in the event of an economic slowdown. Currently, we expect the end-user tariff to grow by 80% on average by 2011.

- **Regional regulation:** FSK will be regulated at a federal level, while the regulation of MRSKs will rest with the Regional Energy Commissions (REC). Political considerations on the part of REC could result in uneven regulation across the country in particular as regards energy surpluses and disadvantaged regions.

# Industry overview

The transmission and distribution sector was the most neglected part of the Russian electricity system until 2004 when the government introduced connection charges to stem growing demand for new connections and allow the sector to invest in repairs, maintenance, and installing new capacity. Faced with an economic and industrial collapse in the beginning of the 1990s, the government regulated the electricity sector under a “cost-plus” approach with annual review periods. This approach neither provided adequate return on capital nor induced distribution and transmission companies to save on operating costs. By suppressing energy costs the government in effect subsidised the Russian industrial base through the difficult periods of the 1990s. In the meantime, electricity demand started to recover from the bottom of 1998, increasing at a 2.2% CAGR for the past 10 years.

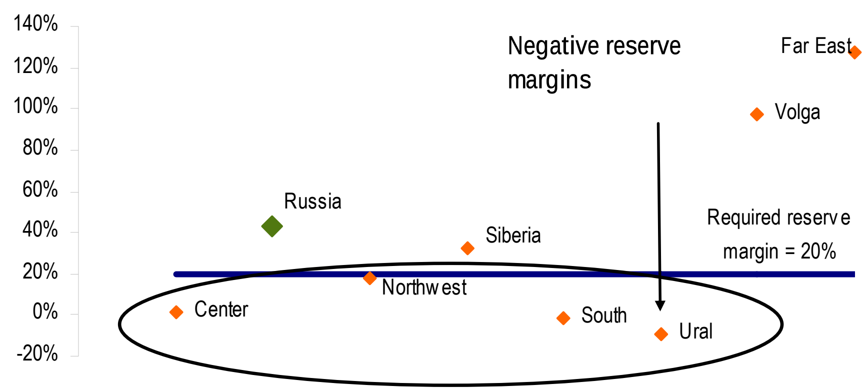
Chart 3: Russian electricity consumption (TWth)




Source: Merrill Lynch estimates

In the past three years, consumption has increased at a relatively high rate of 3% per year on average. We expect electricity demand to grow at an average rate of 2.3% a year over 2008-10, which is significantly lower than UES’s forecast of 5.2% for the same period. Although overall Russian generating capacity is positioned to meet increasing demand (average utilization rate of generating capacities in Russia stands at 51% and the average reserve margin is 39%), distribution and transmission bottlenecks create acute electricity shortages in several Russian regions.

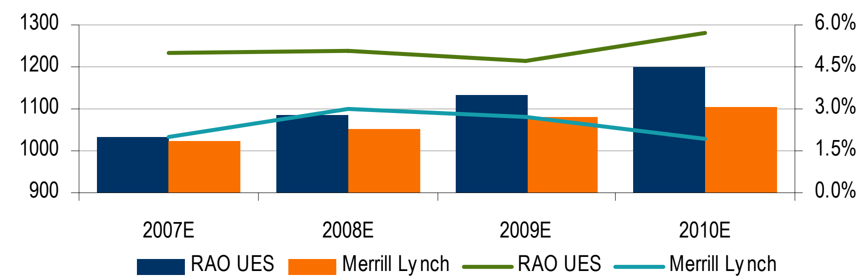
Chart 4: Reserve margins by Russian regions




Source: Merrill Lynch estimates

While electricity demand has increased at a rate of 3% per annum, pressures on the electricity distribution sector have built up more quickly than overall electricity consumption levels in Russia. The volume of distributed electricity increased by 8.5% over 2005-07. Minpromenergo (Russian energy ministry) forecasts a 2008-20 CAGR of 4% in the sector taking into account new generation that is expected to be commissioned starting 2010.

Chart 5: Electricity consumption projections



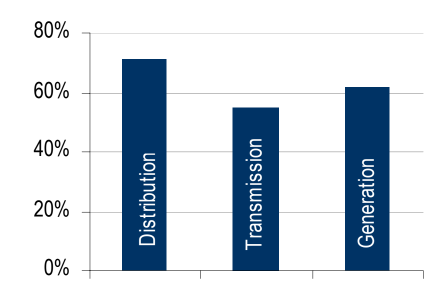

Source: RAO UES, Merrill Lynch estimates

Similar to generating capacity bottlenecks, electricity distribution bottlenecks are not evenly distributed across the country. The most severe problems arise in large cities (Moscow, St. Petersburg and Tyumen), industrialised regions of the Urals (Ekaterinburg, Perm and Chelyabinsk) and some regions in the south (Krasnodar and Rostov-on-Don) and Northwest (Kareliya and Arkhangelsk).

Figure 1: Electricity deficit regions in Russia

Source: Company data

Chart 6: Asset depreciation, %




Source: RAO UES

For example, average electricity distribution growth in Russia was 2.6% YoY in 2007, while in Moscow and Krasnodar it reached 8% and 13% respectively. The companies exposed to the capacity bottlenecks are Moscow United DisCo, Lenenergo, MRSK South, MRSK Urals and Tyumenenergo.

## Unmodernised capacity poses GDP growth risks

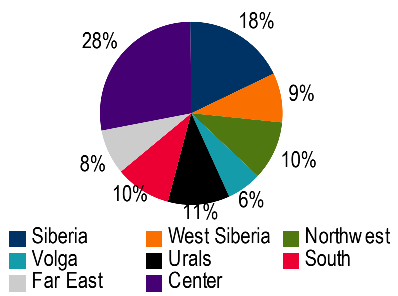
As mentioned above, throughout the difficult 1990s the only way to sustain the industrial sector’s competitiveness was through rigid energy and power tariff regulation. This cross subsidization provided no incentives for power companies to invest in capacity renovation and resulted in 20 years of underinvestment.

The problems of the Russian distribution system were highlighted when a 40-year old transformer at Chagino station near Moscow caught fire on 25 May 2005 causing a rolling blackout of Moscow and the Moscow region that affected more than 4 million people. According to UES, the assets of the Russian distribution companies are on average 71% depreciated – a higher depreciation rate than in either transmission or generation. That said, transmission assets are also old and have an average depreciation rate across the country of 55%.

Faced with severe deterioration of the distribution assets, UES approved – with the blessing of the Russian government – a substantial investment programme to 2015 for both FSK (Federal Grid Company) and MRSKs (Interregional Distribution Companies) of US$62bn and US$36bn, respectively. The Russian government has also agreed in principle to migrate the industry to a regulatory asset base (RAB) approach with a fair return on capital from 2011.

# Federal Grid Company (FSK)

Chart 7: FSK trunk grids length - regional breakdown




Source: Company data

FSK owns the Russian electricity transmission assets, i.e. high-voltage lines of 220+kV (127'000km). The company is deemed a natural monopoly and this allows efficient operation of the Russian Unified National Electricity Grid (UNEG). FSK owns approximately 80-85% of all trunk lines in Russia, while the rest is controlled by large independent power generators (Irkutskenergo, Novosibirskenergo, Bashkirenero and Tatenergo) and Russian industrial giants (Russian Railways, Transneft and Gazprom).

FSK structure

FSK (Federal Grid Company)

| MES Center | | MES Northwest | | MES Volga | | MES South | | MES Urals | | MES West Siberia | | MES Siberia | | MES Far East | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Transmission lines | | Transmission lines | | Transmission lines | | Transmission lines | | Transmission lines | | Transmission lines | | Transmission lines | | Transmission lines | |
| kV | km | kV | km | kV | km | kV | km | kV | km | kV | km | kV | km | kV | km |
| 750 | 2,271 | 750 | 799 | 500 | 3,160 | 500 | 2,129 | 1150 | 130 | 500 | 5,472 | 1150 | 818 | 500 | 2,998 |
| 500 | 8,520 | 500 | 74 | 220 | 6,051 | 330 | 2,677 | 500 | 5,153 | 220 | 7,348 | 500 | 6,708 | 220 | 9,480 |
| 330 | 1,768 | 400 | 127 | Substation | | 220 | 4,202 | 220 | 10,103 | 110 | 2 | 220 | 16,816 | Substation | |
| 220 | 16,429 | 330 | 6,793 | kV | | 110 | 109 | 110 | 233 | Substation | | 110 | 407 | kV | |
| 800* | 170 | 220 | 6,382 | 500 | 7 | 800* | 206 | 35 | 3 | kV | | 35 | 113 | 500 | 7 |
| Substation | | 110 | 309 | 220 | 54 | Substation | | Substation | | 500 | 16 | Substation | | 220 | 64 |
| kV | | 35 | 40 | | | kV | | kV | | 220 | 65 | kV | | | |
| 750 | 6 | Substation | | | | 500 | 4 | 500 | 17 | | | 1150 | 2 | | |
| 500 | 27 | kV | | | | 330 | 18 | 220 | 72 | | | 500 | 16 | | |
| 330 | 14 | 750 | 2 | | | 220 | 40 | 110 | 3 | | | 220 | 83 | | |
| 220 | 153 | 400 | 1 | | | 110 | 2 | | | | | 110 | 7 | | |
| 110 | 9 | 330 | 31 | | | | | | | | | 35 | 1 | | |
| 35 | 1 | 220 | 49 | | | | | | | | | | | | |
| | | 110 | 10 | | | | | | | | | | | | |
| | | 35 | 2 | | | | | | | | | | | | |

* DC line

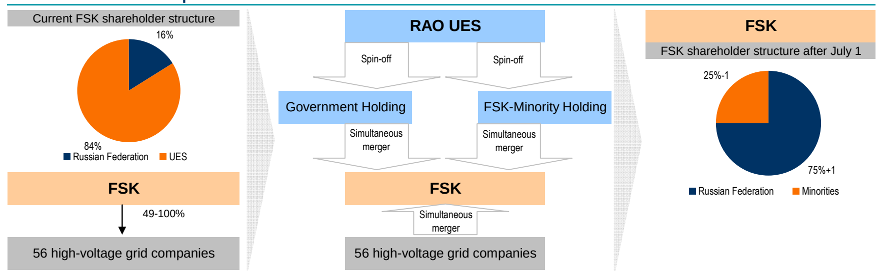
Source: Company data

The company was also responsible for managing UES' holdings in the interregional distribution companies (MRSKs) until 21 May, 2008. Since then operating control of MRSKs has been delegated to business unit MRSK, which in turn will be transformed into MRSK Holding after 1 July 2008.

## Restructuring overview

FSK was created in June 2002 as part of the process of reforming the Russian power industry. In October 2007 the board of directors of UES approved the issue of more shares to raise capital for consolidation of outstanding grids and increasing the government stake in the company. FSK completed the additional share issuance on 17 March 2008. UES contributed the shares of eight high-voltage grid companies (HVGC) and other assets while the Russian government contributed RUB18.8bn (US$800mn). As a result, UES's stake in FSK was reduced from 87.56% to 83.87%. The remaining 16.128% is now controlled by the Federal Agency for Federal Property Management. The price of one FSK share was valued by independent appraisers at RUB0.59. The equity value of the company was estimated at RUB281bn (US$11.7bn) prior to any contributions from the Russian government. The funds raised will be used to finance FSK's investment programme. After the final stage of the reform on 1 July the Russian government will control no less than 75%+ of FSK.

FSK's current and potential shareholder structure




Source: Company data

When UES is dismantled on 1 July 2008, minority shareholders will receive FSK shares in proportion to their interest in UES based upon set conversion ratios. Simultaneously, 56 HVGCs will merge with FSK to create one of the largest transmission companies in the world.

Figure 2: Federal Grid current and expected installed capacity

| | 2008 | | | 2008-2020 | | 2020 |
|---|---|---|---|---|---|---|
| Lines | 45 thousand km | 75 thousand km | | 70 thousand km | | 190 thousand km |
| | FGC | HVGC | + | New Construction | = | Potential |
| Transformers | 140 GVA | 170 GVA | | 200 GVA | | 510 GVA |

Source: Company data

## Government contribution

In order to increase its stake in FSK to the mandated 75%+ level, the Russian state has sold its implied stakes in thermal generating companies (OGKs/TGKs) and is planning to contribute the after-tax cash to FSK. The after-tax sales proceeds from the sales of thermal generating companies to be contributed to FSK are listed in the table below and amount to approximately US$8bn. We use actual numbers for the past sales of government stakes and current market prices for the assets that have yet to be auctioned off. The funds are destined to be used to finance FSK's US$62bn investment programme.

Table 1: OGK/TGK sales proceeds contributed to FSK

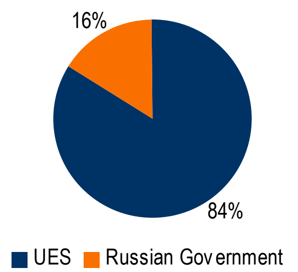
| Sale Proceeds | Shares (Mln) | Sale/Mkt Price (RUB/Share) | RUB Proceeds (Mln) | After Tax RUB Proceeds | After Tax $ Proceeds (Mln) |
|---|---|---|---|---|---|
| OGK-1 | 18,016 | 0.090 | 1621.41 | 1232.27 | 51.34 |
| OGK-3 | 2,403 | 4.540 | 10910.21 | 8291.76 | 345.49 |
| OGK-4 | 19,750 | 3.350 | 66161.57 | 50282.80 | 2095.12 |
| OGK-6 | 3,098 | 1.800 | 5576.44 | 4238.09 | 176.59 |
| TGK-1 | 1,095,447 | 0.035 | 38340.64 | 29138.88 | 1214.12 |
| TGK-2 | 237,370 | 0.025 | 5934.26 | 4510.04 | 187.92 |
| TGK-4 | 448,073 | 0.025 | 11291.44 | 8581.50 | 357.56 |
| TGK-6 | 439,217 | 0.025 | 10980.43 | 8345.13 | 347.71 |
| TGK-7 | 1,824 | 2.820 | 5143.40 | 3908.98 | 162.87 |
| TGK-9 | 1,933,621 | 0.008 | 15488.31 | 11771.11 | 490.46 |
| TGK-11 | 573 | 0.029 | 16.49 | 12.54 | 0.52 |
| TGK-14 | 259,702 | 0.007 | 1869.85 | 1421.09 | 59.21 |
| Mosenergo | 9,750 | 5.280 | 51478.79 | 39123.88 | 1630.16 |
| TGK-10 | 239 | 111.800 | 26735.03 | 20318.62 | 846.61 |
| Total | | | 251548.27 | 191176.68 | 7965.70 |

Source: UES, Merrill Lynch estimates

However, as mentioned above, UES has either delayed or been unable to place the shares of certain generating companies such as OGK-1 or TGK-11. Thus FSK will inherit these genco shares instead of receiving cash. The company might have to sell the shares at a further discount if the expected sell off in thermal generation shares materializes.

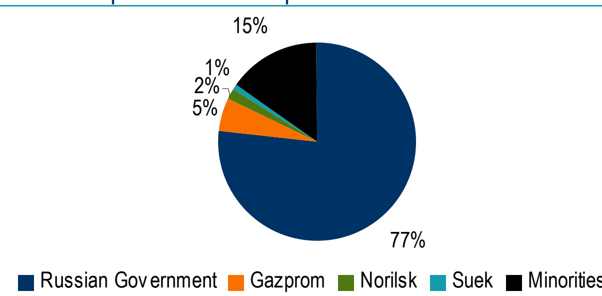
FSK has mentioned that it expects the Russian government's stake after the additional share contribution to amount to 76.6%, with the rest distributed pro-rata between the UES minority shareholders including Gazprom, Norilsk Nickel and Suek. We estimate the free float of the final structure at approximately 15%.

Chart 8: FSK current ownership structure




Source: Company data

Chart 9: FSK potential ownership structure




Source: Company data, Merrill Lynch estimates

According to our estimates, to achieve the final shareholder structure, FSK needs to issue an additional 330 billion shares in favour of the Russian government. Based on the independent valuation of FSK shares at RUB0.59 (used for the additional share issuance in March 2008), we estimate that the government needs to contribute approximately US$8.1bn, or roughly the proceeds of the sales of the thermal generating companies assigned to the government holding of FSK.

Table 2: Government contribution and perspective FSK ownership

| Current Ownership | % current ownership | shares (million) |
|---|---|---|
| UES | 84% | 399,522.14 |
| Russian government | 16% | 76,825.32 |
| | | |
| Additional share issuance to Russian government | | 330,795.51 |
| Price of March additional share issuance, RUB/share | | 0.59 |
| Approximate government contribution, RUB mn | | 195,169.35 |
| Approximate government contribution, US$ mn | | 8,132.06 |
| | | |
| **Ownership post Issuance** | **% post issuance** | **shares (million)** |
| Russian government post issuance | 77% | 618,163.98 |
| Gazprom | 5% | 43,946.39 |
| Norilsk Nickel | 2% | 15,980.50 |
| Suek | 1% | 5,992.69 |
| Minorities | 15% | 123,049.89 |
| Total Shares (Merrill Lynch estimate) | | 807,133.44 |

Source: Company data, Merrill Lynch estimates

FSK shares are expected to be listed in the Russian market on 1 July 2008 although active trading might not commence until after 14 July when the majority of UES shareholders receive their share distribution. Listing of the company's depositary receipts is also planned for July 2008.

## UES treasury shares

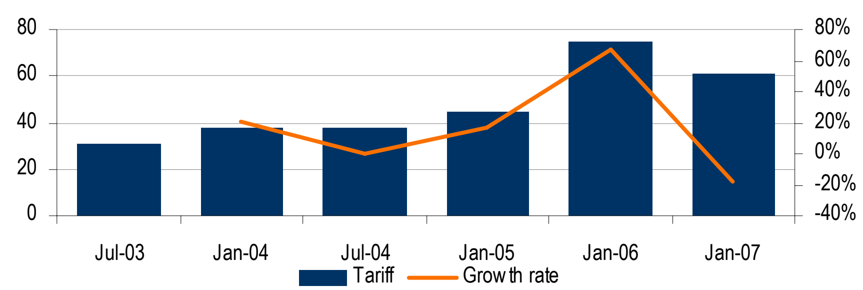
Part of the proceeds from the sale of the thermal generating companies was used by UES to repurchase its own shares from the shareholders who voted against the restructuring or did not participate in the EGM on 28 October 2008. UES decided to create two funds, "Energy Index – FSK" and "Energy Index – RusHydro", and transfer the treasury shares to the indexes divided 74.9% and 25.1%, respectively. The board is planning to select a consortium of brokers to sell the shares in the market once they were converted to the shares of subsidiaries. To prevent dumping UES decided to allow the sale of listed subsidiary shares only (70% of the basket) with a 25% premium to the average market price between 19 February and 19 May 2008. The sale of unlisted subsidiaries will be at a minimum 25% premium to the share price on the first trading date. UES will allow FSK and RusHydro to review the minimum sale price after 1 January 2009.

As a reminder, UES repurchased RUB102bn (US$4.25bn) worth of shares from shareholders. Since then it has placed RUB44bn (US$1.83bn) privately, leaving RUB58bn (US$2.41bn) worth of shares to be transferred to FSK and RusHydro. In view of the share allocation percentages given above, we estimate that FSK will end up with approximately RUB43bn (US$1.8bn). Given the established minimum prices and expected sell off in thermal generation shares after 1 July 2008, we do not expect FSK to realize the proceeds until 2009.

## Regulation of FSK

High-voltage transmission in Russia is deemed a natural monopoly asset and will remain under full regulation. Revenues come from connection charges and transmission tariffs, both of which are set by the Federal Tariffs Service on a semi-annual basis. The transmission tariff is currently set on a cost-plus regulation methodology; it covers the operating expenses of the company but provides no incentive to invest in renovating existing capacities or financing new projects. Similar to MRSKs, Federal Grid Company is scheduled to migrate to RAB by 2011.

Chart 10: FSKs transmission tariffs, RUB/MWth




Source: Company data

Initially RAB will be determined on the basis of optimized depreciated replacement costs (ODRC)[1] and will guarantee the company a fair return on investment. At the outset RAB will be defined for the 3-year transition period and thereafter set for 5-year periods. Operating expenses and depreciation will be returned to the company and adjusted annually for expected inflation. Return on RAB is determined by a CAPM model with a 6% risk free rate (yield to maturity on Russian 10yr state bonds) and achievable capital structure (30% of debt and 70% of equity). The nominal pre-tax return on RAB for FSKs in rouble terms will be adjusted for macroeconomic factors and is expected to be 8-10%.

[1] ODRC is based on the actual demand for the electricity in a respective Russian region and takes into consideration only those assets, which would be reasonable to replace on the date of calculation having the actual rate of the electricity consumption in the region.

Key features of the RAB regulation for FSK are as follows:

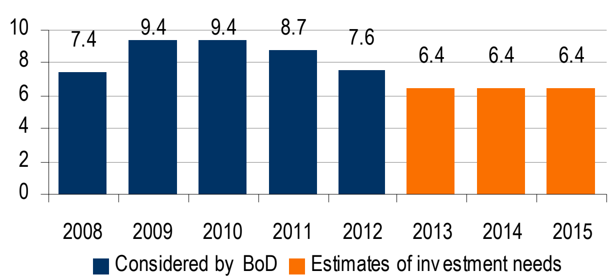
- RAB is set for a lengthy period (3-year transition period, 5-year review thereafter);
- Annual adjustment for factors such as inflation, deviation from the planned investment programme, quality and reliability etc are taken into account;
- A fair return on capital will be determined by FST (Federal Tariffs Service) and MERT (Ministry of Economy and Trade) based on the CAPM model.
- Incentives for the Federal Grid to increase operational efficiency within the sliding 5-year period are provided.

## FSK investment programme

Federal Grid Company has a large and ambitious investment programme of almost US$62bn by 2015. The company plans to commission 70,000km of new power lines and 200GVA of new transformer capacity, while the current capacity is about 127,000km and 140GVA respectively.

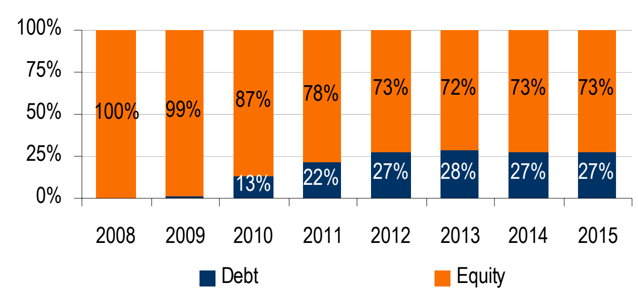
FSK's annual capex is projected to reach US$6-10bn (Chart 11). Initially, the main sources of finance for the company's investment programme will be funds raised through the additional share issuance (US$3.4bn) mentioned earlier and capital injected by UES and the Russian government after the sale of stakes in the thermal generating companies (about US$8bn).

Chart 11: FSK investment programme, US$bn




Source: Company data

Chart 12: FSK capital structure, % - change

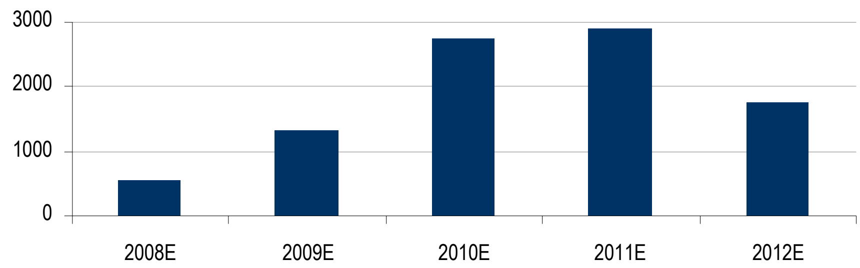



Source: Company data

## Grid connection fees – additional financing source

UES's board of directors approved the introduction of connection charges to the grid at the 29 September 2007 meeting. These charges are paid by generators to FSK to connect new capacity to the grid. Given that Russian gencos are planning to build as much as 40GWt of new capacity in the next five years, grid connections represent a substantial source of financing for FSK. The company estimates that connection charge revenue will account for approximately US$10bn by 2012. The bulk of the revenue is expected in 2010 and 2011 when most new generating capacity is projected to come on line.

Chart 13: FSK projected connection charge revenue $/bn




Source: Merrill Lynch estimates

# FSK valuation

Valuing FSK is challenging as its low returns as a result of the cost-plus regulation and its massive capital expenditure programme mean that for the foreseeable future it generates no free cash flow. Instead of valuing FSK today, we chose to estimate the EV of the company in 2011 under different EV/RAB scenarios based on comparable emerging and developed market companies and then discount to the present using the company's estimated cost of equity. As our valuation year, we use 2011 when FSK is scheduled to migrate fully towards to a RAB regime after a 3-year transition period.

## Replacement value of FSK

Although FSK has provided an estimated valuation of the RAB of the MRSKs it has not yet provided full disclosure on the ODRC estimation for FSK itself. It has only indicated that on average the ODRC estimate will be 2x the book value of the company PPE and working capital. We base our estimated RAB on current installed line capacity. We obtained average line installation costs from the Energy Information Administration. Our estimate is also based on 55% asset depreciation.

Table 3: FSK DRC estimate based on installed line capacity

| Line Type, kV | Total Installed capacity | New Build cost US$/km | Depreciation | DRC, US$mn |
|---|---|---|---|---|
| 1150 | 947 | 1,058,523 | 55% | 1,003 |
| 750 | 3070 | 690,341 | 55% | 2,119 |
| 500 | 36688 | 460,227 | 55% | 16,885 |
| 400 | 127 | 368,182 | 55% | 47 |
| 330 | 11238 | 303,750 | 55% | 3,413 |
| 220 | 74679 | 225,000 | 55% | 16,803 |
| 110 | 1061 | 75,000 | 55% | 80 |
| 35 | 532 | 35,000 | 55% | 19 |
| Total | 128341 | | | 40,367 |

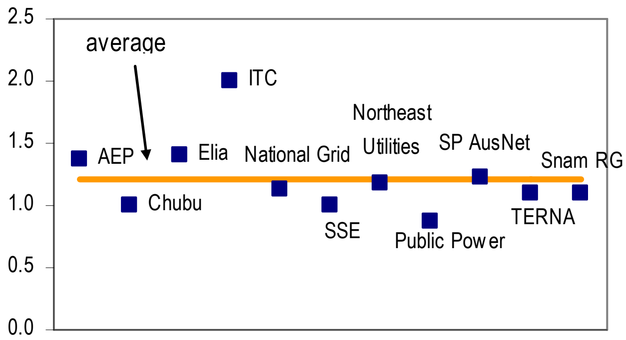
Source: Company data, Merrill Lynch estimates

We have not taken into account the installed transformer capacity and use the current metric as a rough estimate until we receive better guidance from the company.

## EV/RAB – international comparison

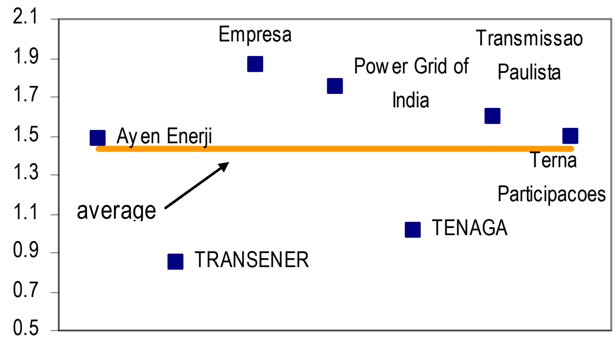
We believe that upon the full migration of the transmission and distribution sector to a RAB regime, EV/RAB will become a key valuation metric. The table below shows EV/RAB estimates for various transmission and distribution companies in developed and emerging markets.

Chart 14: EV/RAB comparisons, Developed markets




Source: Bloomberg, Merrill Lynch estimates

Chart 15: EV/RAB comparisons, Emerging markets




Source: Bloomberg, Merrill Lynch estimates

As Charts 14 and 15 indicate, excluding outliers, average developed market transmission and distribution companies trade at an average EV/RAB of 1.2x and ranging from a low of 0.8x to a high of 2x. The multiple differs sharply across companies and markets depending on the regulatory environment and actual-to-required return ratio. The average for emerging markets is closer to 1.4x due to higher expected RAB growth rate, in our opinion.

## Equity valuation range – US$18-25.3bn

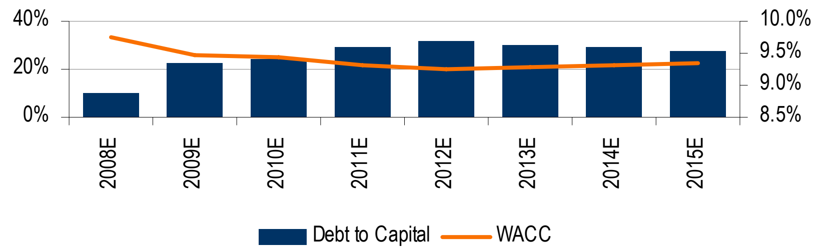
We believe that the current WACC for FSK is around 9.5% based on the inputs provided in Table 4. We assume a 10% cost of equity for FSK. The cost of equity is somewhat lower for FSK than our 12% assumed rate for generating companies. However, we view FSK as less risky due to the impending regulatory change and implicit government guarantee. Based on our estimates the company's WACC in 2012 will be approximately 9% based on a debt/capital ratio of 45%.

Table 4: Cost of equity and debt assumptions

| | |
|---|---|
| Rouble Risk Free Rate | 6.00% |
| Risk Premium | 4.00% |
| Beta | 1 |
| Cost of Equity | 10.00% |
| Cost of Debt | 9.00% |
| Tax Rate | 24.00% |
| After Tax Cost of Debt | 6.84% |
| Debt to Capital | 16.00% |
| WACC | 9.50% |

Source: Merrill Lynch estimates

Chart 16: Debt to capital and WACC progression for FSK




Source: Merrill Lynch estimates

Given that FSK has indicated an approximate return of between 8-10% on RAB we believe that it is fair to assume that it will probably be valued at between 0.9x and 1.1x EV/RAB, which gives us an equity valuation range between US$18bn and US$25bn after the Russian government contribution of US$8bn.

Table 5: FSK Equity value estimate based on different EV/RAB assumptions

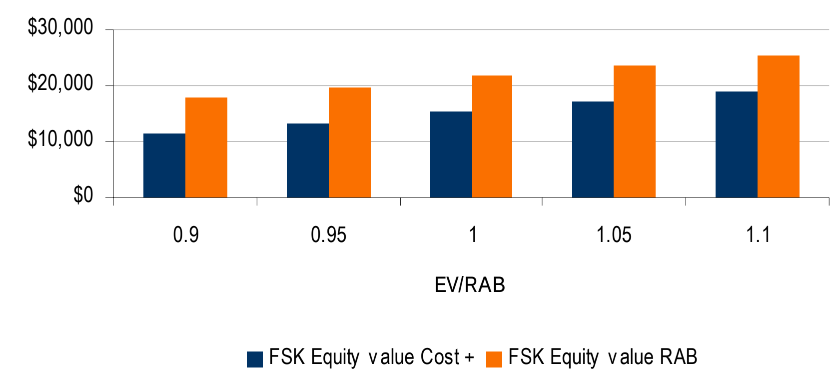
| | | | | | |
|---|---|---|---|---|---|
| RAB (RUB mn) | 1,344,766 | 1,344,766 | 1,344,766 | 1,344,766 | 1,344,766 |
| EV/RAB (RUB mn) | 0.9 | 0.95 | 1 | 1.05 | 1.1 |
| EV (RUB mn) | 1,210,289 | 1,277,527 | 1,344,766 | 1,412,004 | 1,479,242 |
| Net Debt (RUB mn) | 556,145 | 556,145 | 556,145 | 556,145 | 556,145 |
| Equity Value in 2011 (RUB mn) | 654,144 | 721,382 | 788,621 | 855,859 | 923,097 |
| Discounted Equity (RUB mn) | 430,905 | 475,197 | 519,489 | 563,781 | 608,073 |
| Discounted Equity (US$ mn) | $ 17,954 | $ 19,800 | $ 21,645 | $ 23,491 | $ 25,336 |

Source: Merrill Lynch estimates

The above range implies per share estimates of the value of the company from $0.023 to $0.0314 per shares. During the presentation of the investment memorandum to the analyst community on June 19th, 2008 the company presented a valuation range between $0.0108 and $0.0467 per share.

We estimate the value creation from the migration to a RAB regime from the current "cost-plus" method as equivalent to US$6.5bn without taking into account potential incentives for cost savings during the regulatory periods.

Chart 17: Difference between Cost + and RAB based FSK valuation under different EV/RAB




Source: Merrill Lynch estimates

Indeed, FSK usually benchmarks itself to the UK regulatory environment in the parameters that it strives to achieve by 2011. If we compare it to the National Grid in the UK which is operating under the most progressive regulatory regime, FSK returns have the potential to quadruple by 2011.

Table 6: Transmission company comparables

| Country | Regulated Network | Regulation Type | Review Period | EV/ EBITDA | EBITDA/ Interest | EBIT/ Invested Capital |
|---|---|---|---|---|---|---|
| Belgium | ELIA | Cost + | 1 year | 13.1x | 3.0x | 6.1% |
| Italy | Terna | RAB - higher return on development assets | 3 year | 9.4x | 7.0x | 14.3% |
| Spain | Red Electrica | Inflation Indexation | 1 year | 10.7x | 7.3x | 12.4% |
| United Kingdom | National Grid | Revenue Caps | 5 years | 9.1x | 5.1x | 11.5% |
| Russia | FSK | Cost + | 1 year | 10.3x | 14.0x | 1.91% |

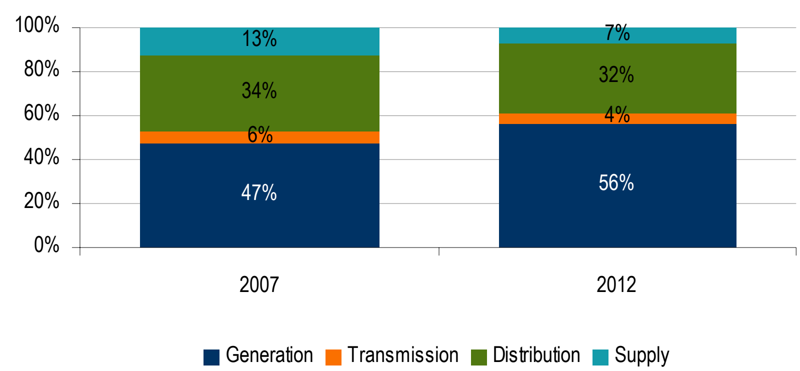
Source: Merrill Lynch estimates

# FSK Risks

## Tariff increase and price caps

We believe that the debate about Russian electricity reform has been largely won by the reformers and has shifted away from inflation control and continuous industry subsidization, to GDP growth and fair regulation. However, potential imposition of price caps on the gencos and grid companies below a fair return on capital remains a concern. Transmission surcharges today make up approximately 6% of the final electricity price and are expected to account for 4% by 2012.

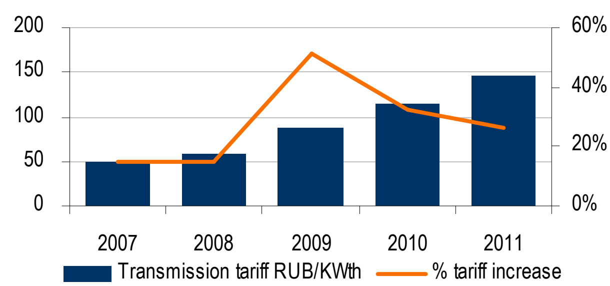
Chart 18: Final electricity tariff composition




Source: Company data

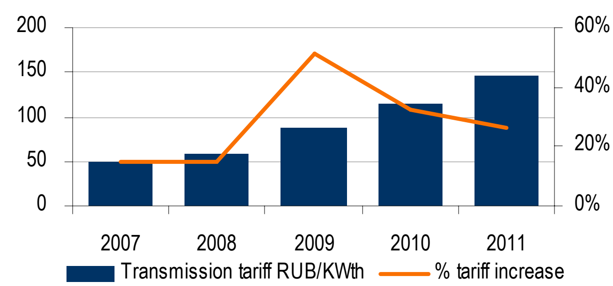
Depending on the nature of the migration to a RAB regime the biggest spikes in transmission tariffs will either come in 2009 (Chart 19) if a transition period is adopted, or in 2011 if the industry migrates towards RAB with no transition (Chart 20). In any event, we estimate a transmission tariff CAGR of 31% under any transition mechanism and expect charges to increase more than 2.5 times in absolute terms by 2011. Increases in transmission and distribution charges are on top of double-digit percentage increases in generating prices. We believe there is a risk of a backlash against energy price increases, and that this will be exacerbated by the dissolution of UES as the consolidated lobbying power.

Chart 19: Transmission tariff increases with transition period




Source: Merrill Lynch estimates

Chart 20: Transmission tariff increases without transition period

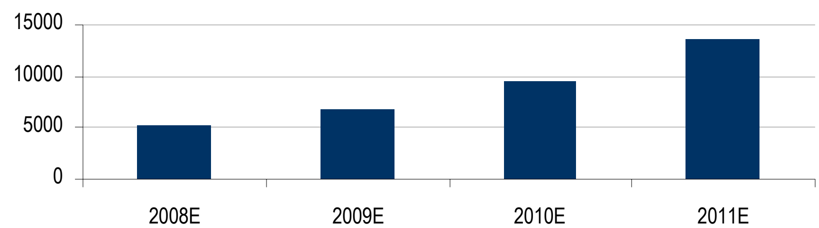



Source: Merrill Lynch estimates

## Leverage and ability to borrow

In the last two years a number of Russian generating companies have tapped portfolio and strategic investors for funds through additional share issuances. The wave of genco issuances is largely over now and both generating and grid companies will be looking to the credit markets for funds to finance their ambitious investment programmes. We estimate that to finance its US$62bn investment programme, FSK will need to borrow US$7-10bn in the next three years.

Chart 21: FSK estimated Net Debt (US$ mn)




Source: Merrill Lynch estimates

## Share inheritance

As discussed above, FSK will inherit more than US$1.8bn of UES treasury shares. The UES board of directors voted in May not to allow Federal Grid to sell the shares at below a 25% premium to the average share price for the preceding 3-month period. The restriction remains effective until 1 January 2009. Given the imminent oversupply of electricity company shares, it might be difficult for FSK to sell the shares of thermal generating companies in the near term.

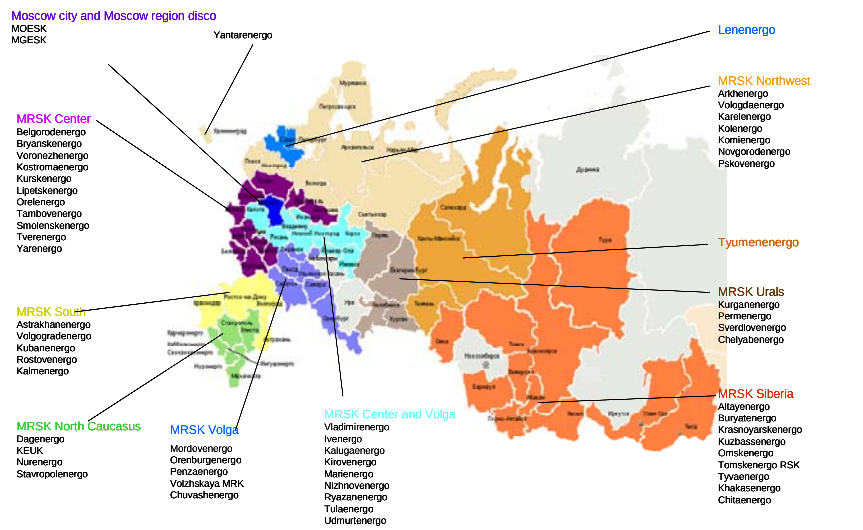
# Interregional Distribution Companies

## Restructuring overview and formation

In the process of reforming Russia's electricity sector, UES created 58 regional distribution companies (RSKs). The RSKs were then combined into 11 interregional distribution companies (MRSKs). Some of the RSKs were separately listed on the Russian stock exchange up until consolidation into an MRSK.

Territorial and asset compatibility was taken into account when forming the MRSKs. The 2004 reorganisation scenario assumed the creation of four MRSKs, which could include up to 30 RSKs. As a result, operational management of these companies was made more difficult, especially in the autumn/winter peak hours. To increase competition and reduce the size of the MRSKs, on 27th of April last year the UES board of directors approved the creation of 11 MRSKs: MRSK Moscow, MRSK Center, MRSK Center and Volga, MRSK Volga, Lenenergo, MRSK Northwest, MRSK South, MRSK North Caucasus, MRSK Urals, Tyumenenergo and MRSK Siberia. All the RSKs included in the above mentioned MRSKs are technologically connected to each other.

MRSK map



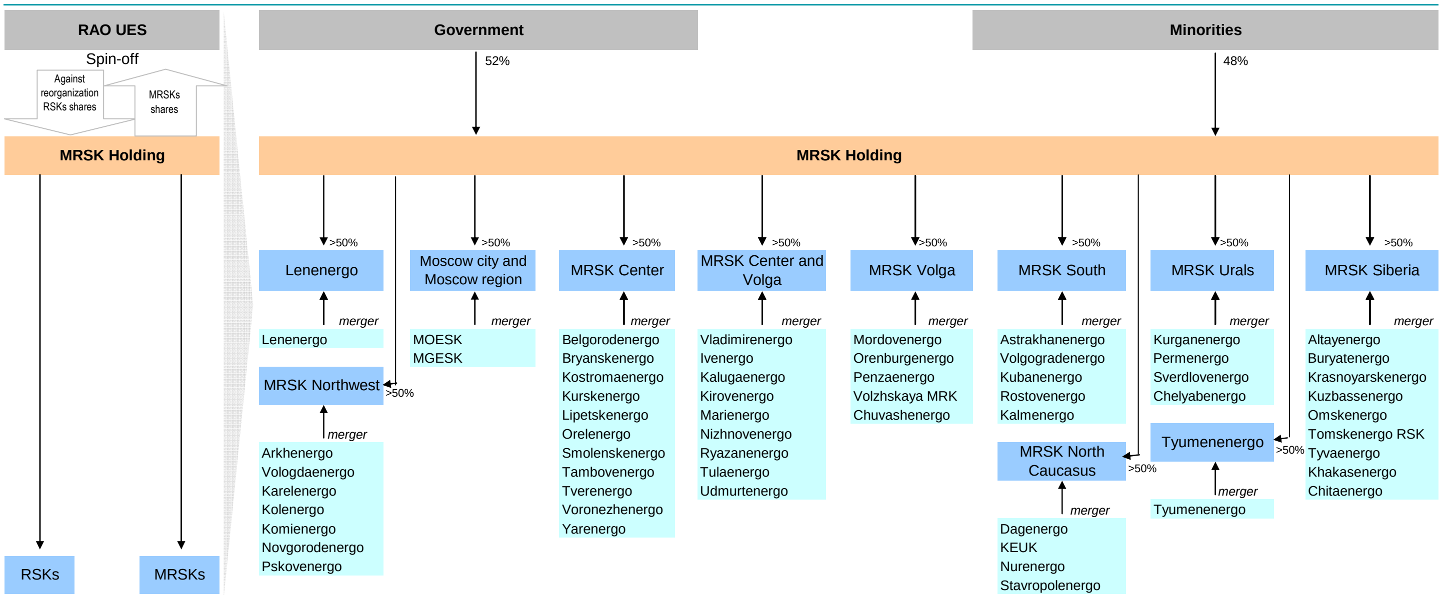

Source: Company data

Following the independent evaluation of the RSKs conducted in June 2007, conversion ratios were set for each RSK to MRSK shares. At the company EGMs which took place between December 2007 and January 2008, the shareholders of the RSKs[2] approved the conversion ratios. Completion of reorganisation and listing of MRSKs is scheduled for April-June 2008. All MRSKs are planning to launch ADR/GDR programmes in 3Q2008.

Lenenergo, MOESK (Moscow regional disco) and MGESK (Moscow City DisCo), which have not yet been consolidated, are traded on local Russian exchange. MRSK Center and Volga was the first MRSK to finalize the reorganization and listed its shares on 7 April on the local Russian market. MRSK Center, MRSK Volga, MRSK Northwest, MRSK Siberia, MRSK Urals and MRSK North Caucasus are also currently trading on Russian exchanges RTS and MICEX.

[2] Except Kurganenergo (MRSK Urals), which will remain respective MRSK' subsidiary. MOESK (Moscow region disco) and MGESK (Moscow city region) on the 18 April, 2008 EGM voted for the merger of both companies.

MRSKs' formation




Source: Company data

Transition to RAB

| 2007 2008 | 2009 2010 2011 2012 | 2013 2014 2015 |
| --- | --- | --- |
| COST+ | Transition period | RAB |
| | RAB:<br>Fixed assests as of 2H07 +<br>Investments (excl.connection charges) +<br>Working Capital | |

Source: Company data

# Regulation and liberalization

Like the entire sector, Russian distribution companies are currently regulated under a cost-plus regime with annual review periods. The regime assumes annual review of the distribution tariff, which covers only operating expenses and does not provide any incentives for distributors to invest in repairs or new projects. In January 2009 all RSKs (regional distribution companies), except some special cases (such as North Caucasus MRSK, several Siberian and several Northwest RSKs) are scheduled to migrate to RAB (Regulatory Asset Base) regulation in order to renovate existing capacity (more than 70% depreciated) and expand the distribution grid to meet burgeoning demand.

## Transferring to RAB

On 1 July 2008 the first five so-called pilot RSKs (Astrakhanenergo, Belgorodenergo, Tverenergo, Permenergo and Orenburgenergo) will be transferred to RAB. The pilots allow regulators to detect any inefficiencies in the new methodology in advance and make the necessary adjustments before January 2009, when most RSKs are expected to switch to RAB.

The Russian Government Resolution #109 under which RAB methodology is being introduced has been under review since the end of March 2008 and is expected to be finalized in June 2008. The methodology is based on the following key principles:

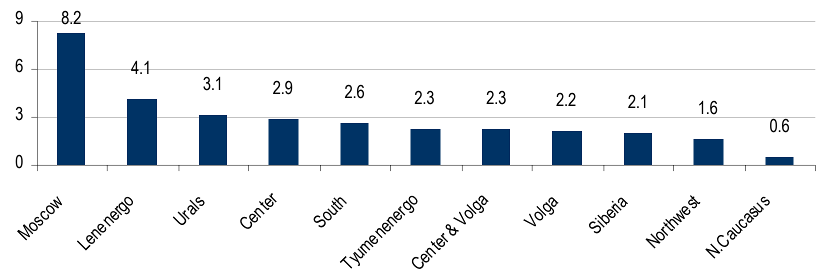
- RAB is set for an extended period (3-year transition period, thereafter 5-year review period);
- Annual adjustment for factors such as inflation, deviation of realized investment programmes, quality and reliability adjustments
- Fair return on capital will be determined by FST (Federal Tariffs Service) and MERT (Ministry of Economy and Trade) based on the CAPM model.
- Incentives to increase operational efficiency within the sliding 5-year period;

- Assets already paid through the connection charge mechanism will not be included in the RAB.

Initially, RAB will be determined on the basis of optimized depreciated replacement costs (ODRC)[3] and guarantee to the companies some fair return on investment. The initial transition period is three years. RAB will then be recalculated once in a 5-year period. Return on RAB is based on a CAPM model using a 6% risk free rate (yield to maturity on Russian 10-year state bonds) and achievable capital structure (30% of debt and 70% of equity). A nominal pre-tax return on RAB for MRSKs in rouble terms will be adjusted for macroeconomic factors and is expected to stand at 12%. For example, if the risk free rate changes, the following year RAB will be adjusted for the difference, while the return on RAB remains the same over the regulatory period. Therefore all the macro risks to which the disco is exposed and which are beyond its control are accounted for in the RAB calculation.

Under the management's base case scenario the following initial RAB for each MRSK is targeted for 2009.

Chart 22: Targeted initial MRSKs' RAB, as of beginning of 2009, US$bn




Source: Company data

### Electricity distribution tariffs

The introduction of RAB regulation in 2009 means there will be a significant increase in electricity distribution tariffs in 2009 and onwards. To avoid a one-off spike in the tariff, a reduced return on initial capital is being considered: 6% in 2009, 9% in 2010. From 2011 the return on initial RAB will be calculated in full at 12%. However, Federal Law #35 with amendments adopted in 2007 allows the tariff cap to be exceeded in the event of justified investment needs.

Under the draft version of the RAB methodology, the calculation of distribution tariffs will take into account so-called required gross revenue (NVV), which will be based on the company's:

- base level of operating expenses;
- depreciation; and
- rate of return on investments;

The tariffs for distribution are supposed to be set for 5-year periods, which will make cash flows more predictable. They are also supposed to be adjusted both

[3] ODRC is based on the actual demand for the electricity in a respective Russian region and takes into consideration only those assets, which would be reasonable to replace on the date of calculation having the actual rate of the electricity consumption in the region.

up and down on inflation and other macro factors as well as the actual amount of investments annually. A RAB regime encourages discos to manage their operating costs efficiently so as to increase their profit.

Future electricity distribution tariff composition

| | | | | |
|---|---|---|---|---|
| Return on RAB = | 30%*cost of debt + 70%* | (risk free rate | + equity risk premium) | •RAB (not return on RAB) is adjusted annually within regulatory period for change in a risk free rate which includes Russian country risks; •5-year adjustment is provided for cost of debt and change in an equity risk premium (once for a regulatory period) |
| 12% | 8% - avrg cost of debt in the industry | 6% - Russian 10-year state bonds' YTM | 8% | |
| 30%x70% - target debt-to-equity structure for discos | | | | |
| Depreciation | | | | |
| 30-40 years - avrg depreciation period for new assets | | | | |
| 15 years of depreciation left for the existing capacities | | | | |
| OpEx | | | | |
| • Under disco's control, e.g. operating efficiency | | | | •no adjustment provided |
| • Beyond disco's control, e.g. unplanned change in inflation | | | | •annual adjustment within regulatory period (MERT inflation forecast is included in basic return on RAB calculation) |
| OpEx savings retained in the disco within 5-year sliding period (return on RAB is not downward adjusted) | | | | |

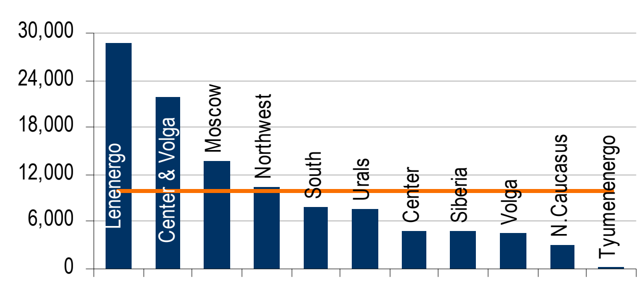
Source: FSK

The main challenge for the distribution sector is that electricity distribution tariffs for 2009 are to be set in June-July 2008 while the MRSK investment programmes will only be approved in October 2008. This means that 2009 tariffs may not fully cover the planned investments of the companies. Resolution #109 on electricity, however, allows regulators to reallocate the shortfalls into the tariffs for subsequent years.

## Connection charges for capex financing

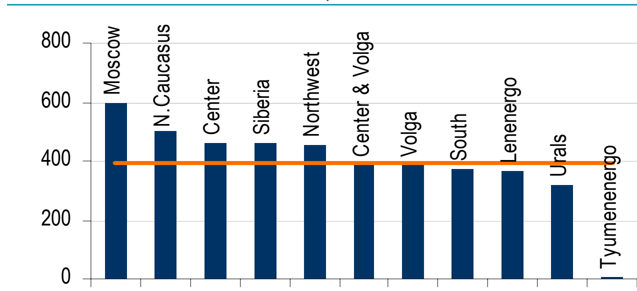
In 2004, the Russian government allowed distributors to adjust connection charges to remedy an investment shortfall. The first connection fees were imposed in 2006. Every new industrial consumer and generator to be connected to the electricity distribution and transmission network has to pay an up-front fee, which differs among the regions depending on electricity network capacities. Connection charges were introduced to avoid considerable increases in distribution and transmission tariffs for all customers. The discos are only allowed to use funds gained through connection charges for capex.

Chart 23: MRSKs connection fees, RUB/kWt




Source: FST, Merrill Lynch estimates

Chart 24: MRSKs distribution fees, RUB/MWth



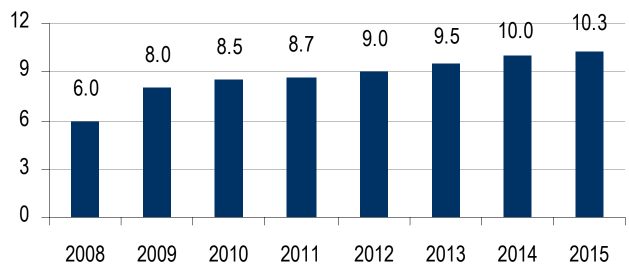

Source: FST, Merrill Lynch estimates

For the moment connection charges are the only way for the discos and FSK in Russia to finance their new capacity commissioning. The problem with immediate migration towards a RAB regime will be an immediate spike in distribution tariffs which might prove unsustainable and increase bad debt for discos. Therefore the transition period of three years was suggested, during which time connection charges will remain.

## MRSK investment programme

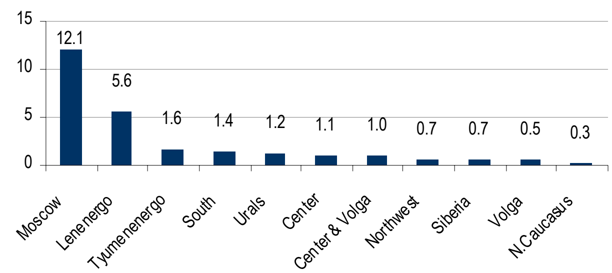
Distribution companies have the highest rate of asset depreciation compared to the other Russian power assets due to prolonged underinvestment and a value-destructive cost-plus regulation regime. For this reason MRSK's investment programme is one of the most ambitious in the industry. Until 2012 the major part of the investments is comprised of new grid infrastructure construction, while after 2012 investments are channelled towards renovation of existing assets. Overall, the plan is to commission 46,600km of new power lines and 23GVA of new transformer capacity by 2015, while current capacity is 2,017km and 320GVA respectively.

Chart 25: Aggregated MRSKs investment programme, US$bn




Source: Company data

Chart 26: MRSKs 2006-10 investment programme, US$bn

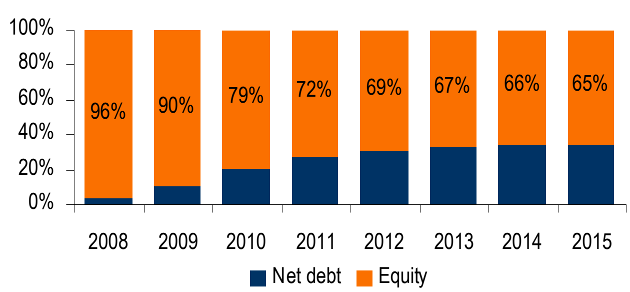



Source: UES, Merrill Lynch estimates

For the moment connection charges account for a large portion of disco capex financing, covering approximately 15% of the total funds necessary for the MRSK investment programme until 2012. However, starting in 2009 the introduction of the RAB regulation regime will guarantee a fair return on investment for each MRSK and only last-mile connection charges will be imposed.

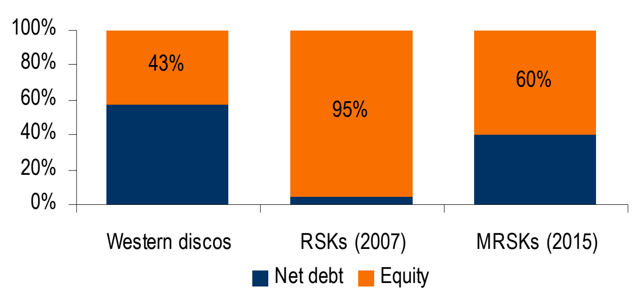
A part of the MRSK investment programme will be covered by debt financing as typically they currently only have 5% gearing. By 2007 the RSKs (regional discos) had raised about US$2.4bn, while MRSKs plan to rise over US$30bn by 2015 and thus increase their leverage to 35-40%.

Chart 27: MRSKs targeted capital structure




Source: Company data

Chart 28: MRSKs vs western discos leverage

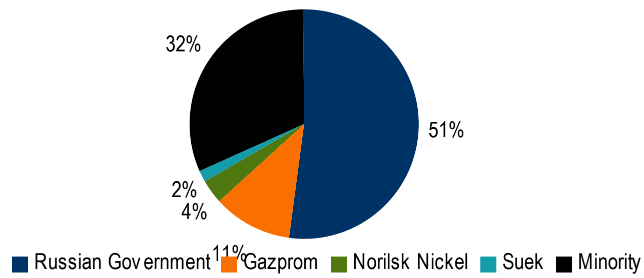



Source: Company data, Merrill Lynch estimates

## Government control

The Russian government will keep implicit control of the sector through 52% ownership of the MRSK holding company, which in turn will hold majority stakes in all 11 MRSKs. MRSK holding shareholder structure will mirror that of UES with approximately 30% free float.

Chart 29: MRSK holding shareholder structure




Source: Merrill Lynch estimates

Company representatives have indicated that the government may reduce its participation in the sector or even exit it completely. However, any reduction of control will only happen after full transfer to RAB and certification and enforcement of grid reliability standards. Thus, we do not expect any reduction of the government participation until 2011-12.

# MRSK valuation

We apply the same EV/RAB comparables to the valuation of MRSKs as we have applied to the valuation of FSK. For the base RAB valuation we take the MRSKs own estimates of initial RAB in 2009. Taking into account the investment programme for MRSKs for 2009 and 2010 we come up with a RAB estimate for individual MRSKs for 2011. We then discount the equity value of the companies to the present to derive a discounted equity fair value of each company.

Table 7: Distribution sector valuation under EV/RAB ratio of 1

| | 2009 RAB, US$bn | ML RAB estimate, 2011, US$bn | 2011 Net Debt, US$bn | 2011 Equity Value, US$bn | Discounted Equity Value, $USbn |
|---|---|---|---|---|---|
| Moscow | 8.23 | 14.80 | 5.92 | 8.88 | $6.69 |
| Lenenergo | 4.12 | 6.70 | 2.68 | 4.02 | $3.03 |
| Urals | 3.08 | 4.08 | 1.63 | 2.45 | $1.84 |
| Center | 2.92 | 3.64 | 1.45 | 2.18 | $1.64 |
| South | 2.58 | 3.04 | 1.22 | 1.82 | $1.37 |
| Tyumenenergo | 2.26 | 3.08 | 1.23 | 1.85 | $1.39 |
| Center & Volga | 2.26 | 2.96 | 1.18 | 1.77 | $1.34 |
| Volga | 2.16 | 2.55 | 1.02 | 1.53 | $1.15 |
| Siberia | 2.06 | 3.15 | 1.26 | 1.89 | $1.42 |
| Northwest | 1.57 | 2.04 | 0.82 | 1.22 | $0.92 |
| N.Caucasus | 0.56 | 0.69 | 0.28 | 0.42 | $0.31 |
| Total Equity Value | | | | | $21.12 |

Source: Merrill Lynch estimates

We value the distribution companies under the same EV/RAB multiple range as the transmission companies and derive a valuation range for the MRSK equity of US$17.6 -24.6bn.

Table 8: Distribution sector valuation under different EV/RAB ratios

| EV/RAB | 0.9 | 0.95 | 1 | 1.05 | 1.1 |
|---|---|---|---|---|---|
| Moscow | $5.57 | $6.13 | $6.69 | $7.25 | $7.80 |
| Lenenergo | $2.52 | $2.78 | $3.03 | $3.28 | $3.53 |
| Urals | $1.54 | $1.69 | $1.84 | $2.00 | $2.15 |
| Center | $1.37 | $1.51 | $1.64 | $1.78 | $1.92 |
| South | $1.14 | $1.26 | $1.37 | $1.49 | $1.60 |
| Tyumenenergo | $1.16 | $1.28 | $1.39 | $1.51 | $1.63 |
| Center & Volga | $1.11 | $1.23 | $1.34 | $1.45 | $1.56 |
| Volga | $0.96 | $1.06 | $1.15 | $1.25 | $1.34 |
| Siberia | $1.19 | $1.31 | $1.42 | $1.54 | $1.66 |
| Northwest | $0.77 | $0.84 | $0.92 | $1.00 | $1.08 |
| N.Caucasus | $0.26 | $0.29 | $0.31 | $0.34 | $0.36 |
| Total Equity Value | $17.60 | $19.36 | $21.12 | $22.88 | $24.64 |

Source: Merrill Lynch estimates

However, we believe that there is a possibility that distribution companies could trade at a higher premium to RAB then FSK due to:

- Higher operating cost savings potential;
- Higher RAB growth rate at individual company level;
- Smaller government participation and potential government exit.

## MRSK holding SOP

As discussed above, MRSK Holding will have controlling stakes in all 11 distribution companies. Based on the projected ownership and the valuation ranges above we estimate the value of the holding at US$10-14bn.

Table 9: MRSK Holding SOP Value

| | | EV/RAB | | | | |
|---|---|---|---|---|---|---|
| MRSK | MRSK Holding Ownership | 0.9 | 0.95 | 1 | 1.05 | 1.1 |
| Lenenergo | 51% | $2.84 | $3.12 | $3.41 | $3.69 | $3.97 |
| Urals | 50% | $1.26 | $1.39 | $1.52 | $1.64 | $1.77 |
| Center | 50% | $0.77 | $0.85 | $0.92 | $1.00 | $1.08 |
| South | 50% | $0.69 | $0.76 | $0.83 | $0.89 | $0.96 |
| Tyumenenergo | 100% | $1.14 | $1.26 | $1.37 | $1.49 | $1.60 |
| Center & Volga | 50% | $0.58 | $0.64 | $0.70 | $0.75 | $0.81 |
| Volga | 68% | $0.56 | $0.62 | $0.67 | $0.73 | $0.78 |
| Siberia | 50% | $0.65 | $0.71 | $0.78 | $0.84 | $0.91 |
| Northwest | 53% | $0.63 | $0.69 | $0.75 | $0.82 | $0.88 |
| N. Caucasus | 55% | $0.43 | $0.47 | $0.51 | $0.55 | $0.60 |
| Total Equity Value | 50% | $0.13 | $0.14 | $0.16 | $0.17 | $0.18 |
| Total MRSK Holding Equity Value | | $9.68 | $10.65 | $11.61 | $12.58 | $13.55 |

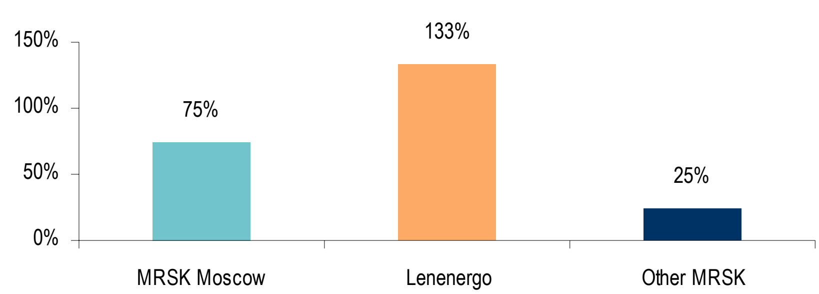
Source: Merrill Lynch estimates

# MRSK Risks

### Price inflation remains the highest risk

According to MRSK/FSK management, the distribution component of electricity prices will only increase by 25% in 2009 in the majority of the regions after migration to RAB. The electricity tariff increase will fit the maximum levels of tariff growth for the next three years set by the Russian government. Moscow United Disco and Lenenergo will be the exception to the rule with tariff increases of 75% and 133%, respectively.

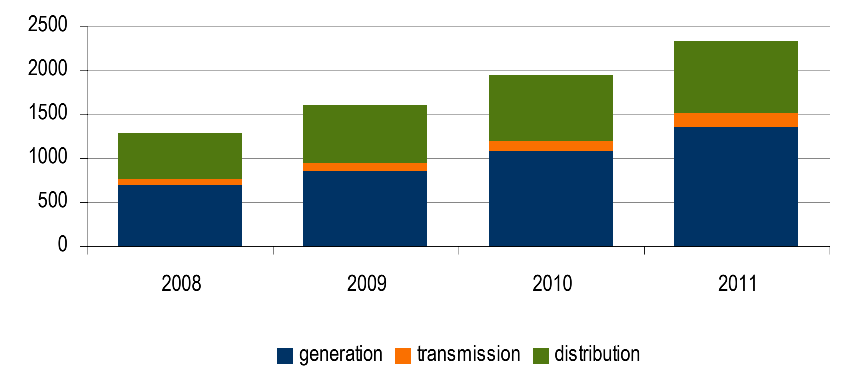
Chart 30: Expected tariff increase assuming RAB migration in 2009




Source: Company data

However, given the increases in the prices of generation and tariffs on transmission and distribution we estimate that electricity prices will increase by more than 80% by 2011 on average. Given the mandated increase in gas prices as well, the final energy bill increase for Russian industrial and residential consumers will be substantial.

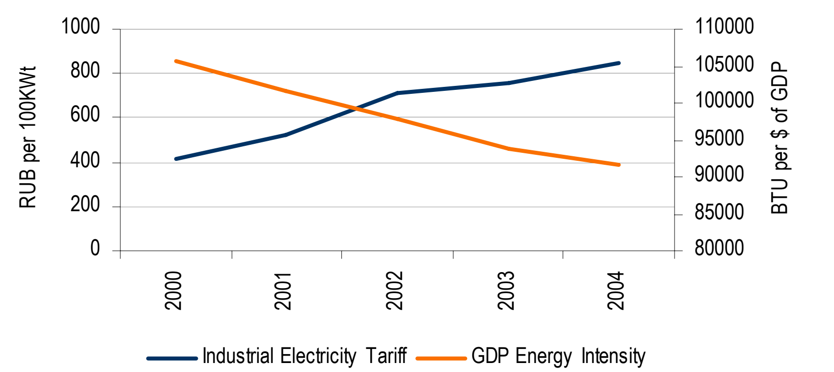
Chart 31: Electricity price forecast RUB/MWth




Source: Merrill Lynch estimates

However, Russian consumers are already accustomed to double digit percentage increase in the end user electricity prices. One mitigating factor of the increasing energy prices have been gains in energy efficiency which are obviously highly correlated with price increases. We expect energy efficiency gains to accelerate in Russia with the expected acceleration of the electricity prices.

Chart 32: Electricity price increases and energy intensity gains in Russia




Source: Merrill Lynch estimates

# Appendix: MRSK description

## MRSK Moscow

Table 10: MRSK Moscow fact sheet

| | |
|---|---|
| Area of operations, '000sqkm | 47.0 |
| Population, mn | 17.0 |
| Length of lines, incl. cables, '000km | 136.0 |
| Transformation capacity, MVA | 62.0 |
| Electricity distribution, 2007, mnMWth | 102.0 |
| Electricity losses | 8.4% |

Source: Rosstat, Company data

MRSK Moscow location

Source: Company data

MRSK Moscow is the largest interregional distribution company in Russia in terms of electricity distribution. The company will include Moscow city (MGESK) and Moscow region (MOESK) grids. The company is located in the most populated Russian regions. United Moscow disco will operate more than 135,000 km lines, including both overhead lines and underground cables.

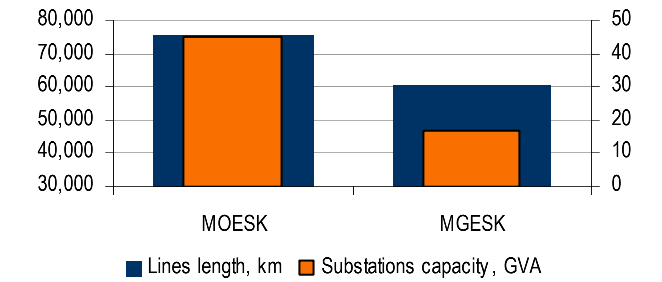
### Region overview

Moscow and Moscow region represent the largest subject in terms of economy, with their joint gross regional product comprising 26% of Russia in total as of 2005. The main driver behind the creation of value added is consumer demand (the population totals over 17mn people), although manufacturing industries are also present (food production, light and chemical industries, including oil processing) – Moscow region is the ninth largest region of the country in terms of industrial production. Besides, the capitol region benefits from the developed transport infrastructure.

### Production

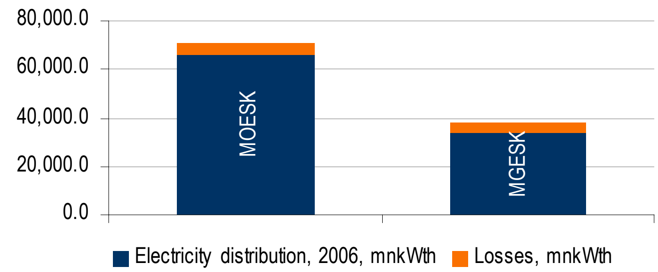
MRSK Moscow will operate 136,087km of lines, 45% of which are cables, and about 16’700 substations with 62GVA of transformer capacity. MOESK and MGESK RSKs forming MRSK Moscow distributed about 102mnMWth of electricity in 2006, losses accounted for c9.5mn MWth (average loss rate stands at 8%).

Chart 33: MRSK Center - length of lines and transformer capacity




Source: Company data, FSK

Chart 34: Electricity losses vary from 5% to 18%

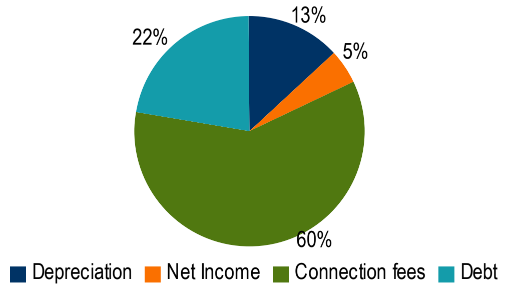



Source: Company data, FSK

### Investment program

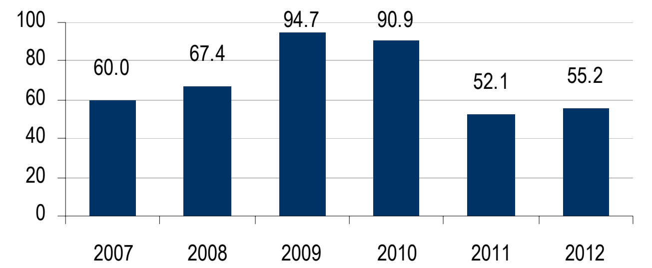
MRSK Moscow has ambitious investment program of RUB84.3bn (US$3.5bn) for 2008-10 – the company intends to commission almost 2.5 thousand km of lines and cables and to add more than 2.1GVA of transforming capacity. Connection charges will remain the main source for the company to finance its capex.

Chart 35: Investment program - financing sources




Source: Company data

Chart 36: Investment program - capex breakdown, RUBbn

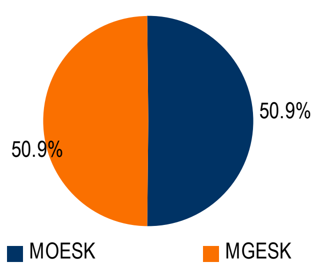



Source: Company data

## Shareholder structure

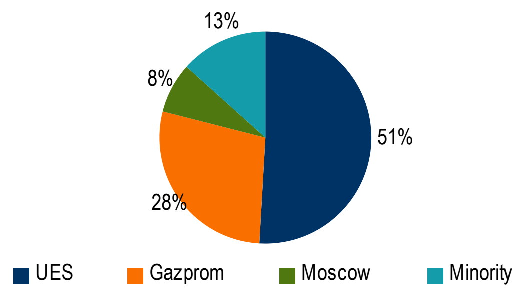
Shareholders of MOESK and MGESK approved the merger of the companies at the April, 2008 EGMs. MGESK's shares will be converted into MOESK's shares at the ratio of 1.380618 shares of MGESK for 1 MOESK's share. To convert the shares, shareholders of MOESK also approved additional share issuance of the company. The company expects the deal to be finalized before 1st of July, 2008. As both companies have similar shareholder structure after the merger MRSK Holding will control 50.9% in MRSK Moscow, while the free float will remain relatively small (c13%).

Chart 37: UES' ownership in MOESK and MGESK is 50.9%




Source: Company data

Chart 38: MRSK Moscow potential shareholder structure

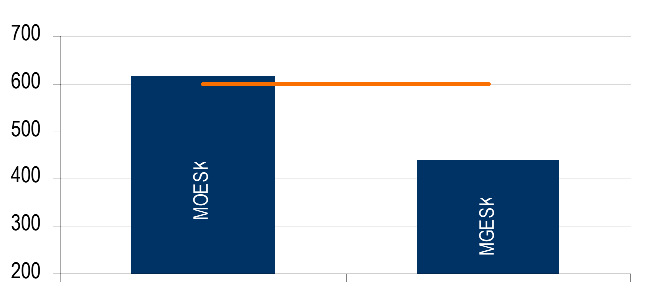



Source: Company data

## Tariffs and pricing

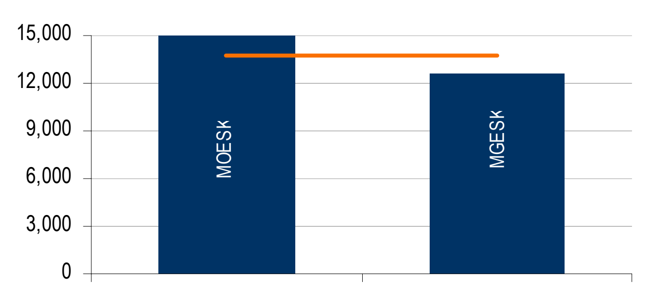
Moscow city and St. Petersburg experience the most severe problems with connection of new customers to the grids. Electricity demand in the regions exceeds electricity supply due to distribution bottlenecks. Therefore average connection charge of MRSK Moscow is one of the highest in the country and currently stands at RUB15'000.

Chart 39: RSKs distribution tariff, RUB/kWth & MRSK weight. average




Source: FST, Merrill Lynch estimates

Chart 40: RSKs connection fee, RUB/kWt & MRSK weighted average




Source: FST, Merrill Lynch estimates

Table 11: MRSK Moscow fact sheet

| | |
|---|---|
| Area of operations, '000sqkm | 87.1 |
| Population, mn | 6.2 |
| Length of lines, incl. cables, '000km | 55.2 |
| Transformation capacity, GVA | 18.0 |
| Electricity distribution, 2007, mnkWth | 30.6 |
| Electricity losses | 16.2% |

Source: Rosstat, Company data

Lenenergo location

Source: Company data

# Lenenergo

Lenenergo is a monopoly provider of electricity distribution and connection services operating a network of 0,4-110 kV in St. Petersburg and Leningradskaya oblast. Lenenergo is servicing second largest and rapidly growing region in Russia. The company is highly supported by regulator, who is now a 25% shareholder.

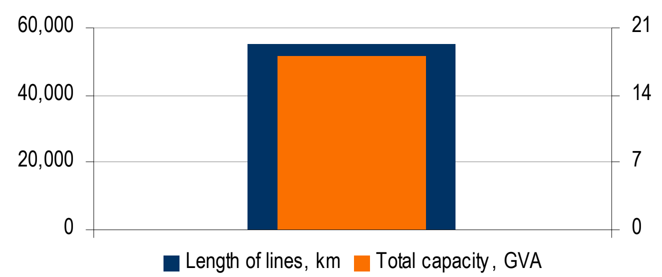
## Region overview

St. Petersburg and Leningrad region represent another highly developed entity with significant concentration of economic potential – in 2005 the joint GRP of the region reached 5% of the country in general, while its territory is only 0.5% of the total. The region benefits from the consumer demand of the second capitol, as well as a large industrial cluster. Strong political support is also likely to contribute to further development. A significant part of the region's revenues comes from sea trade, as St. Petersburg is a major port on the Baltic Sea, and border trade with Finland, which is a main transit destination for Russian imports.

## Production

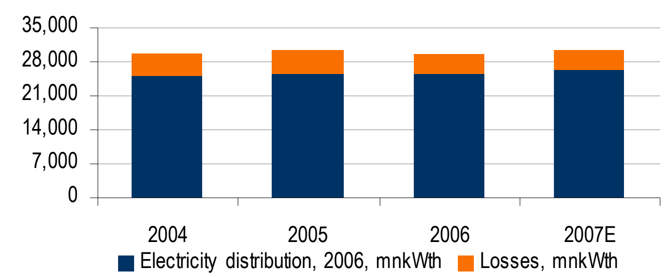
Lenenergo owns 55.2 thousand km of lines, almost 30% of which is formed by cables. The company's transformer capacity stands at c18GVA. In 2006 Lenenergo transmitted 25.38 mn MWth of electricity. Lenenergo is also characterised by one of the biggest electricity loss rates in the industry of 16.2% vs. Russian average of 8.7%.

Chart 41: Lenenergo - length of lines and transformer capacity




Source: Company data, FSK

Chart 42: Electricity losses decreased from 18.7% to 16.2%

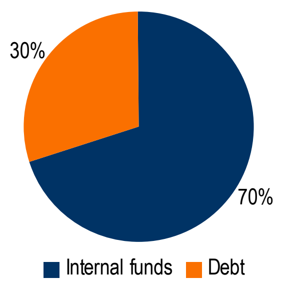



Source: Company data, FSK

## Investment program

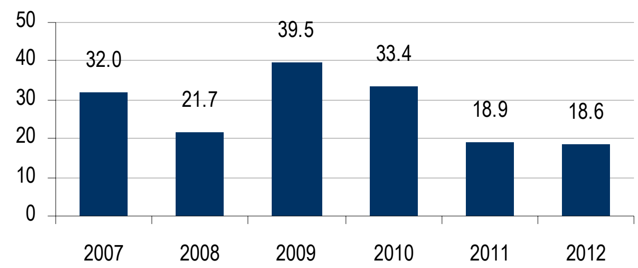
Lenenergo is planning a relatively large investment program – the company's capex for the period of 2008-12 is estimated to reach RUB132bn (US$5.5bn). Lenenergo's capacities are expected to increase by 1'000 km and 2.8GVA until 2012. To finance this build out, the company plans to reach a debt to capital ratio of approximately 30% from the current 10%.

Chart 43: Investment program - financing sources




Source: Company data

Chart 44: Investment program - capex breakdown, RUBbn

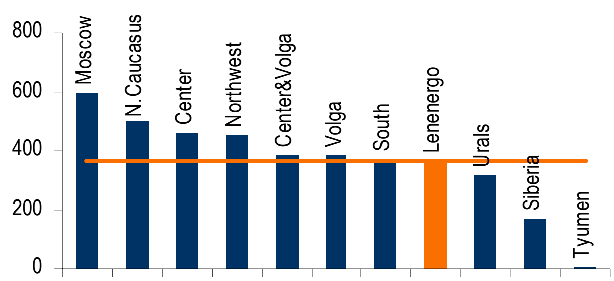



Source: Company data

### Tariffs and pricing

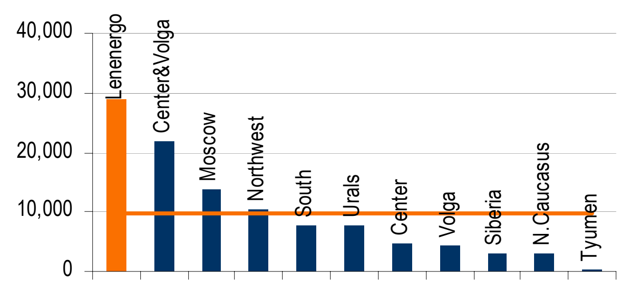
St. Petersburg and Moscow city experience the most severe problem with connection of new customers to the grids. Electricity demand in the regions exceeds electricity supply due to distribution bottlenecks. Therefore average connection charge of Lenenrgo is the highest in the country and stands at RUB28'400 in 2008.

Chart 45: RSKs distribution tariff, RUB/kWth & MRSK weight. average




Source: FST, Merrill Lynch estimates

Chart 46: RSKs connection fee, RUB/kWt & MRSK weighted average

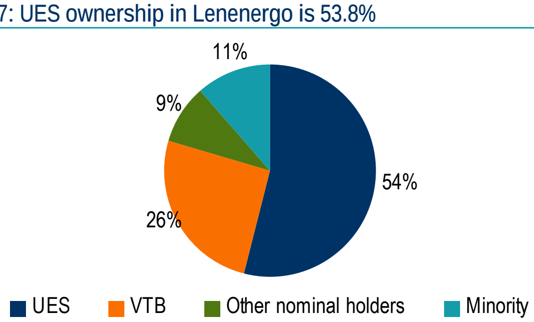



Source: FST, Merrill Lynch estimates

### Shareholder structure

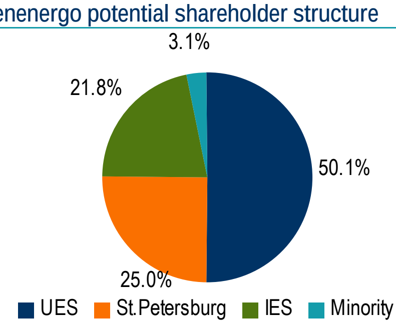
For the moment UES owns 54% in the company. After UES reorganization MRSK Holding will become a controlling shareholder. Since November, 2007 and until 4Q2008 Lenenergo is in the process of additional share issue in a favour of St. Petersburg government. The long period of additional issue is determined by distribution assets payment mechanism. St. Petersburg government gradually transfers its distribution assets to Lenenergo as a payment for common shares. According to our estimates, IES Holding, a domestic strategic investor, owns about 22% in the company.

Chart 47: UES ownership in Lenenergo is 53.8%




Source: FSK

Chart 48: Lenenergo potential shareholder structure




Source: Company data

Table 12: MRSK Center fact sheet

| | |
|---|---|
| Area of operations, '000sqkm | 457.7 |
| Population, mn | 15.4 |
| Length of lines, incl. cables, '000km | 377.5 |
| Transformation capacity, GVA | 30.2 |
| Electricity distribution, 2007, mnMWth | 56.4 |
| Electricity losses | 10.4% |

Source: Rosstat, Company data

MRSK Center location

Source: Company data

## MRSK Center

MRSK Center was established on 17 December 2004. The grid network of the company comprises over 377,539 km and covers a territory of 459.8 thousand sq. km in 11 regions of the Russia. Activities on transmission and distribution of the electric power and connection of clients to the electric networks of 0.4 - 110 kV are provided by 11 branches of the company. The following branches are included in MRSK Center: Belgorod, Bryansk, Voronezh, Kursk, Kostroma, Lipetsk, Tver, Smolensk, Orel, Tambov, and Yaroslavl.

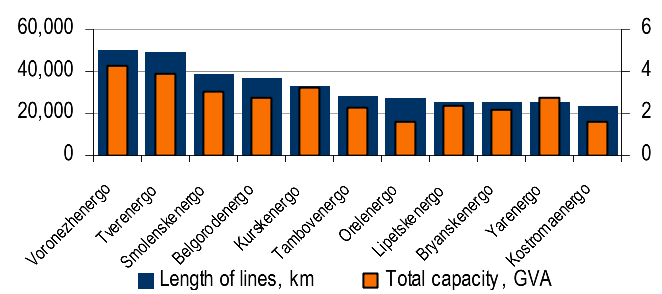
### Region overview

The Central region is the most densely populated area apart from the Moscow region, comprising 10% of the country's population, but 6% of total GRP. The part of the region located around Moscow also benefits from the megapolis' demand. The most developed industries are machinery, building materials, food and light industry.

### Production

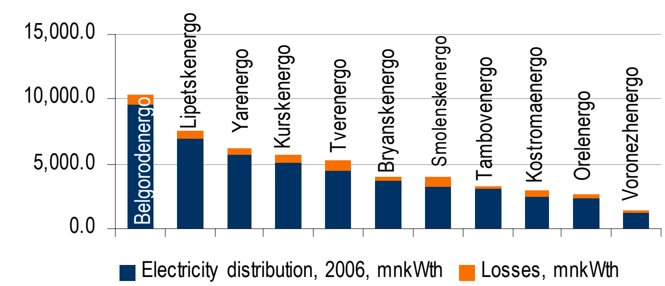
MRSK Center owns approximately 377'000km of lines and cables and about 180 thousand substations with total transformer capacity of 30.2GVA. The company's useful sales reached 54 mn MWth in 2006. Losses stood at 6.2mnMWth and varied from 5% to 18% among RSKs. Average MRSK Center's loss rate was 10.4% above Russian MRSKs' average of 8.7%.

Chart 49: MRSK Center - length of lines and transformer capacity




Source: Company data, FSK

Chart 50: Electricity losses vary from 5% to 18%

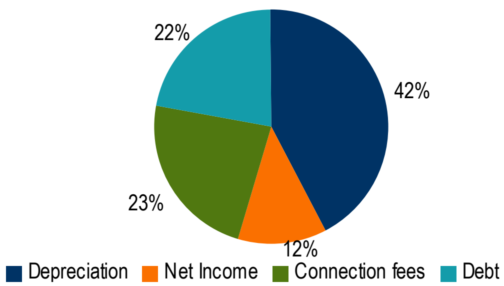



Source: Company data, FSK

### Investment program

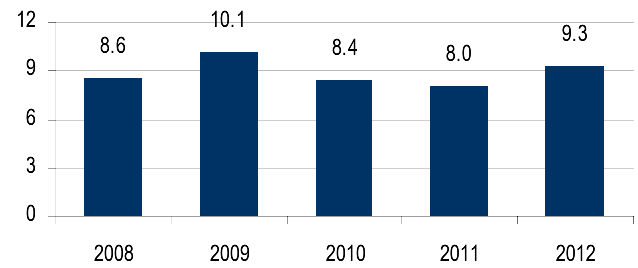
MRSK Center is planning to commission 7'340km of lines and 2.1GVA of new transformer capacity in 2008-12. The company's capex for the period is forecasted to reach RUB53.3bn (about US$2.2bn). The main sources of investments financing are: internal funds of MRSK Center – depreciation and net income (54%), connection fees (23%) and debt (22%).

Chart 51: Investment program - financing sources




Source: Company data

Chart 52: Investment program - capex breakdown, RUBbn

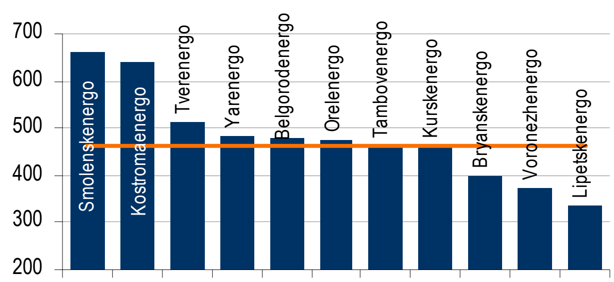



Source: Company data

### Tariffs and pricing

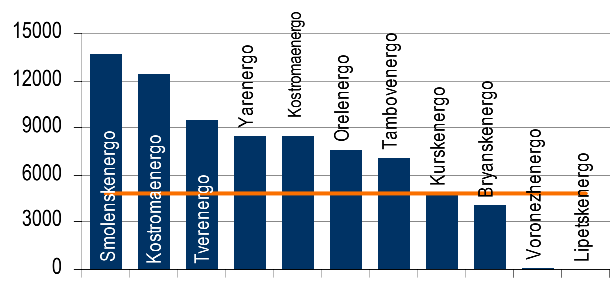
MRSK Center's weighted average distribution tariff stood at 462RUB/kWth. The largest distribution tariff could be observed in Smolenskenergo, Kostromaenergo and Tverenergo. Kostromaenergo and Tverenergo also had one of the highest connection charges compared to other RSKs of MRSK Center, while the average connection charge for the company reached c5000RUB/kWt.

Chart 53: RSKs distribution tariff, RUB/kWth & MRSK weight. average




Source: FST, Merrill Lynch estimates

Chart 54: RSKs connection fee, RUB/kWt & MRSK weighted average

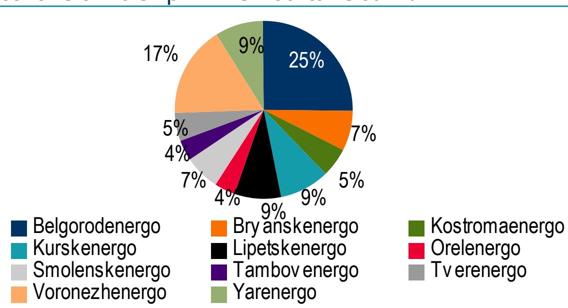



Source: FST, Merrill Lynch estimates

### Shareholder structure

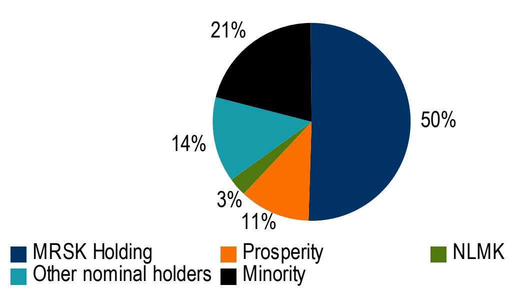
Currently UES is a controlling shareholder of the company with a stake of 50.2%. After UES reorganisation on July 1, 2008 UES' stake will be transferred to the government-controlled MRSK Holding. NLMK with 3.2% stake is a minority shareholder in the company. Free float of MRSK Center will stand at c21%, according to our estimates.

Chart 55: UES ownership in MRSK Center is 50.2%




Source: FSK

Chart 56: MRSK Center potential shareholder structure




Source: Company data, Merrill Lynch estimates

Table 13: MRSK Center and Volga fact sheet

| | |
|---|---|
| Area of operations, '000sqkm | 414.0 |
| Population, mn | 14.4 |
| Length of lines, incl. cables, '000km | 263.5 |
| Transformation capacity, GVA | 23.2 |
| Electricity distribution, 2007, mnMWth | 54.3 |
| Electricity losses | 9.7% |

Source: Rosstat, Company data

MRSK Center and Volga location

Source: Company data

## MRSK Center and Volga

MRSK Center and Volga was established on June 28, 2007. Currently, the company is the main provider of electricity distribution services in the regions of Vladimir, Ivanovo, Kaluga, Kirov, Nizhny Novgorod, Ryazan and Tula, and the republics of Mariy El and Udmurtiya. The company is a natural monopoly and actually owns all distributing power grids with voltage of 110 kV and lower in the above mentioned regions.

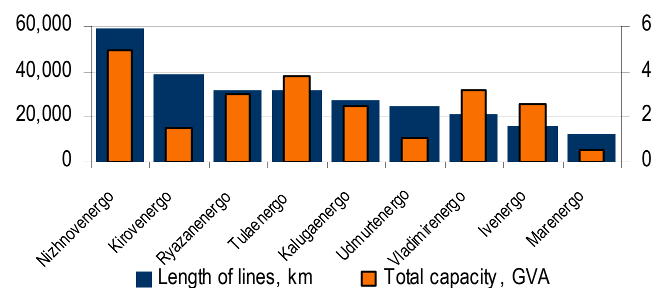
### Region overview

Center and Volga region is located in a relatively developed European part of Russia, which explain its considerable population and industrial production density. However, only Nizhny Novgorod region may be considered sufficiently dynamic, with its high concentration of machinery and car manufacturing. The rest of the regions are on the brink of stagnation, with production mostly concentrated in light industry and food processing.

### Production

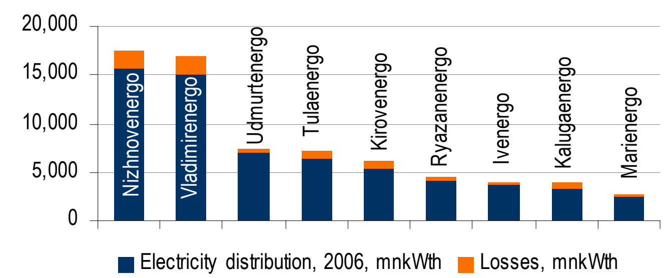
MRSK Center and Volga operates 264 thousand km of electricity lines and more than 60 thousand transformers with total capacity of 23.2GVA. The company distributed 53.8MWth of electricity in 2006, while electricity losses accounted for 9.7% of electricity received to the grid, slightly above industry average loss rate.

Chart 57: MRSK Center-Volga – length of lines & transformer capacity




Source: Company data, FSK

Chart 58: Electricity losses vary from 5% to 16%

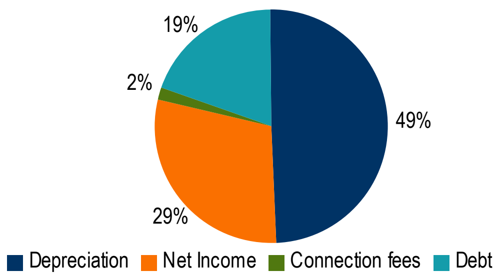



Source: Company data, FSK

### Investment program

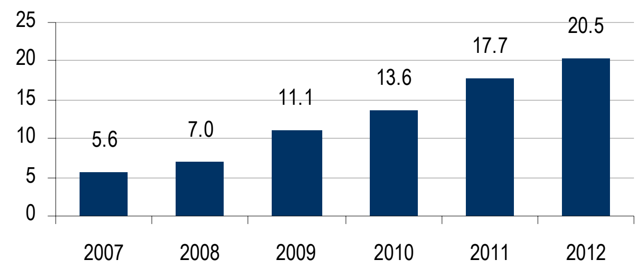
MRSK Center and Volga is planning to build about 6.2 thousand km of electricity lines and increase its transformer capacity by c4.5GVA by 2012. The disco will spend about RUB45.5bn (US$1.9bn) for its investment program for 2008-12. Company's internal resources (depreciation and net income) will be the main financing source, debt increases will account for 19% of the capex, while connection charges will finance mere 2% of the investments.

Chart 59: Investment program - financing sources




Source: Company data

Chart 60: Investment program - capex breakdown, RUBbn

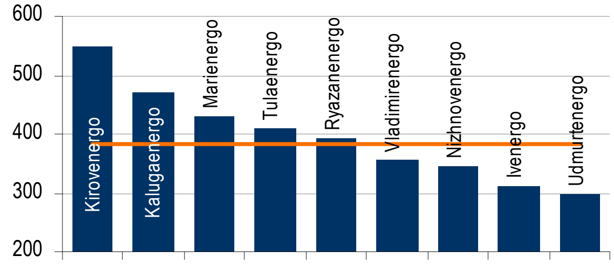



Source: Company data

### Tariffs and pricing

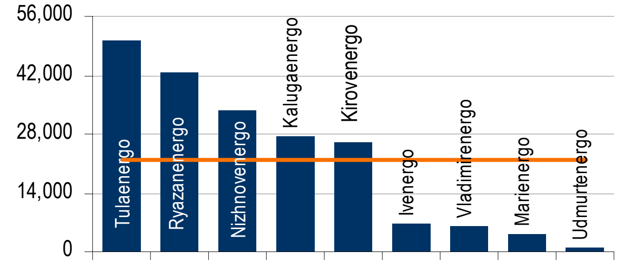
MRSK Center and Volga's weighted average distribution tariff is set at 384RUB/kWth. The largest distribution tariff can be seen in Kirov and Kaluga regions, both regions have also higher than average connection charges compared to other RSKs within MRSK Center and Volga.

Chart 61: RSKs distribution tariff, RUB/kWth & MRSK weight. average




Source: FST, Merrill Lynch estimates

Chart 62: RSKs connection fee, RUB/kWt & MRSK weighted average

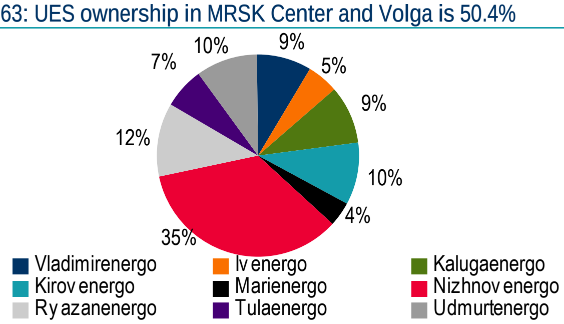



Source: FST, Merrill Lynch estimates

### Shareholder structure

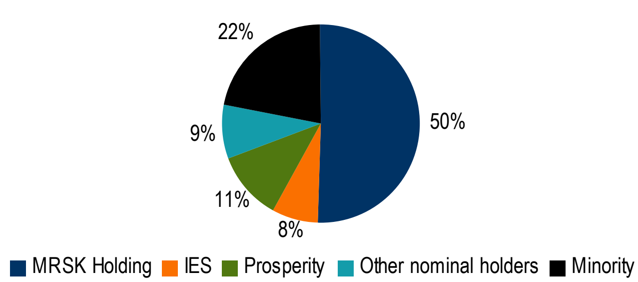
Currently UES is a controlling shareholder of the company with a stake of 50.4%. After UES reorganisation on July 1, 2008 UES' stake will be transferred to the government-controlled MRSK Holding, which will remain a majority shareholder. Prosperity fund and IES Holding, local strategic investors, own 11% and 8% stakes respectively. Free float is estimated to reach 22% after July 1.

Chart 63: UES ownership in MRSK Center and Volga is 50.4%




Source: FSK

Chart 64: MRSK Center and Volga potential shareholder structure




Source: Company data, Merrill Lynch estimates

Table 14: MRSK Volga fact sheet

| | |
|---|---|
| Area of operations, '000sqkm | 412.0 |
| Population, mn | 13.0 |
| Length of lines, incl. cables, '000km | 225.0 |
| Transformation capacity, GVA | 33.5 |
| Electricity distribution, 2007, mnkWth | 62.2 |
| Electricity losses | 6.0% |

Source: Rosstat, Company data

MRSK Volga location

Source: Company data

## MRSK Volga

MRSK Volga was established on June 29, 2007 in Saratov. Since April 1, 2008 the company has been operating as a fully consolidated entity and is the main provider of services for supplying electricity and technical connection to electricity grids in the regions of Orenburg, Samara, Saratov, Ulyanovsk, Penza, Mordoviya and Chuvashiya. The company is a natural monopoly and actually owns all distributing power grids with voltage of 110 kV and lower in these regions.

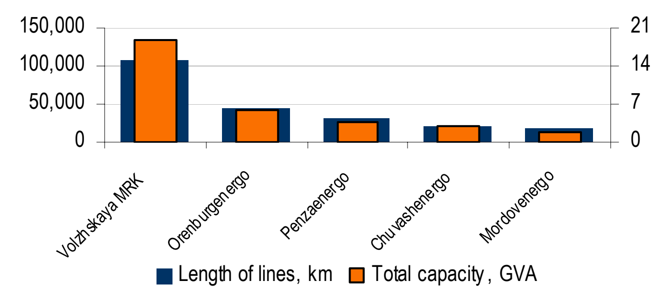
### Region overview

The Volga region is rather developed and densely populated, with the exception of two national republics, Mordoviya and Chuvashiya. In 2005 the region produced 6% of Russia's total GRP. The main industries are gas and oil extraction and processing in the eastern part of the region, as well as machinery, including car manufacturing. Power generation, light industry and food processing are rather developed as well.

### Production

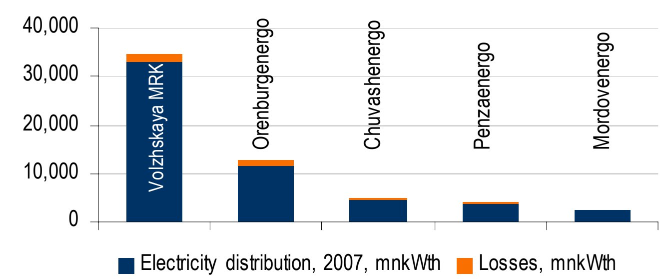
MRSK Volga owns almost 225 thousand km of lines, about 10% of which are cables. The company operates more than 92 thousand transformers with a total capacity of 33.5GVA. In 2006 MRSK Volga transmitted 55.6mn MWt of electricity and lost 3.5MWth (6%). In 2007 the company's losses increased to 8.2%.

Chart 65: MRSK Volga electricity distribution lines, km




Source: Company data, FSK

Chart 66: Electricity losses vary from 5% to 12%

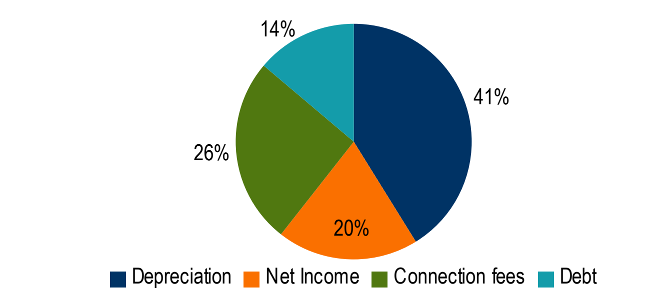



Source: Company data, FSK

### Investment program

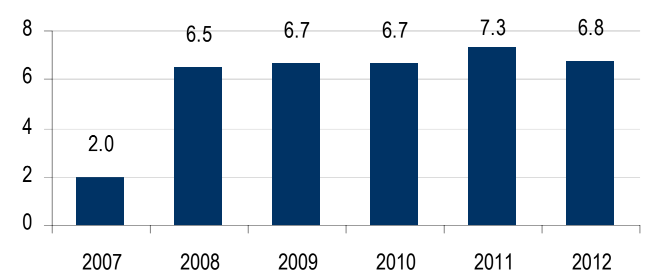
MRSK Volga is planning to commission 5.5 thousand km of distribution lines and increase its transformer capacity by almost 3GVA by 2012. Investment program of RUB33.9bn (US$1.4bn) for the period is expected to be financed mostly from the company's internal sources, depreciation and net income (61%).

Chart 67: Investment program - financing sources




Source: Company data, Merrill Lynch estimates

Chart 68: Investment program - capex breakdown, RUBbn

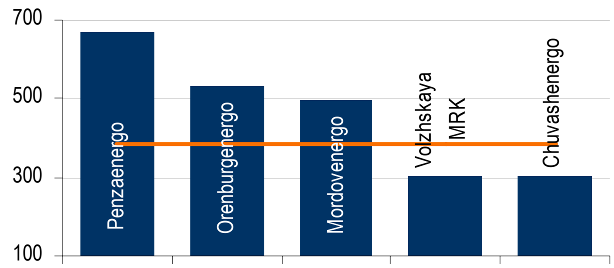



Source: Company data

### Tariffs and pricing

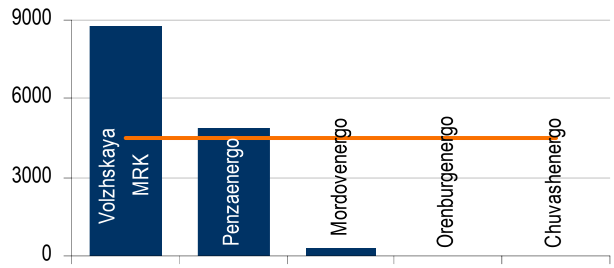
Penzaenergo, Orenburgenergo and Mordovenergo faced the highest electricity distribution tariffs within MRSK Volga. However, the largest connection charges were observed in Samara, Saratov and Ulyanovsk regions (Volzhskaya MRK) as well as in Penza, while in Mordoviya and Orenburg connection fees were relatively negligible.

Chart 69: RSKs distribution tariff, RUB/kWth & MRSK weight. average




Source: FST, Merrill Lynch estimates

Chart 70: RSKs connection fee, RUB/kWt & MRSK weighted average

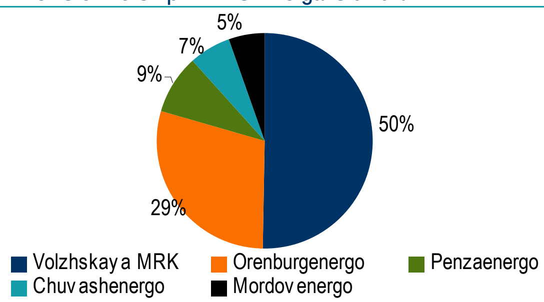



Source: FST, Merrill Lynch estimates

### Shareholder structure

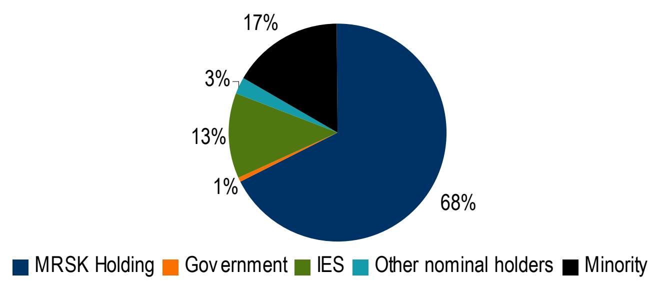
Currently UES is a controlling shareholder of the company with a stake of 68%. After UES reorganisation on July 1, 2008 UES' stake will be transferred to the government-controlled MRSK Holding, which will remain a majority shareholder. IES owns 13% stake in the company. We estimate free float of MRSK Volga to reach 17% after July 1.

Chart 71: UES ownership in MRSK Volga is 67.6%




Source: FSK

Chart 72: MRSK Volga potential shareholder structure




Source: Company data, Merrill Lynch estimates

# MRSK Northwest

MRSK Northwest was registered in December 2004. The final structure of the Northwest interregional disco was approved by RAO UES on 27 April 2007. The area of responsibility of the company includes Arkhenergo, Karelenergo, Kolenergo, Komienergo, Vologdaenergo, Novgorodenergo and Pskovenergo.

Table 15: MRSK Northwest fact sheet

| | |
|---|---|
| Area of operations, '000sqkm | 1,585.0 |
| Population, mn | 6.7 |
| Length of lines, incl. cables, '000km | 163.3 |
| Transformation capacity, GVA | 23.0 |
| Electricity distribution, 2007, mnMWth | 43.0 |
| Electricity losses | 6.7% |

Source: Rosstat, Company data

MRSK Northwest location

Source: Company data

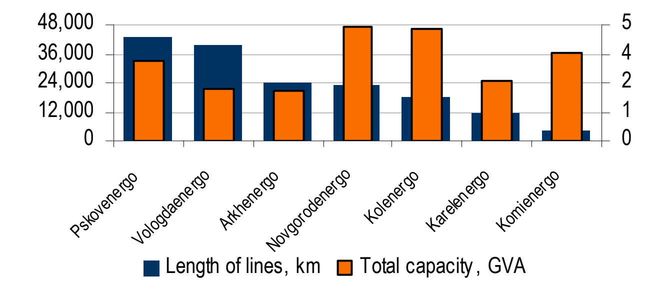
## Region overview

The Northwest region is clearly divided into parts with mainly manufacturing industries in the southwest (Pskov, Novgorod, Vologda) and those with developed mineral extraction base (Arkhangelsk, Murmansk, Komi, Kareliya). The main industries are ferrous and non-ferrous metallurgy, shipbuilding, pulp and paper industry and fishing. Like St. Petersburg region, the Northwest region benefits from its proximity to Finland and external trade over Baltic and Barents Sea.

## Production

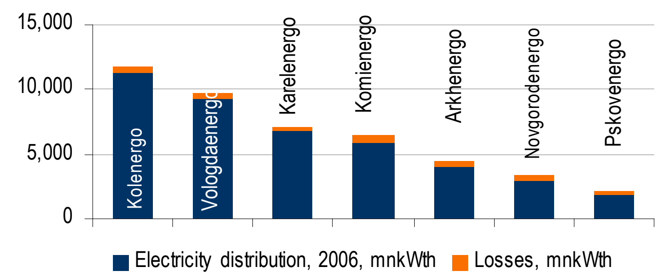
Total length of MRSK Northwest's electricity transmission lines length is more than 163 thousand km, including nine thousand km of cables. The company owns 36'663 substations with the transformer capacity of 23GVA. In 2006 MRSK Northwest distributed 44.9 mn MWth of electricity, of which 3 mn MWth were lost.

Chart 73: MRSK Northwest – length of lines & transformer capacity




Source: Company data, FSK

Chart 74: Electricity losses vary from 5% to 16%

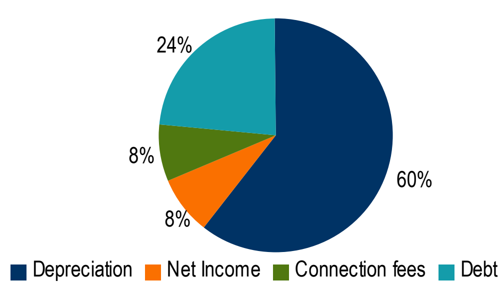



Source: Company data, FSK

## Investment program

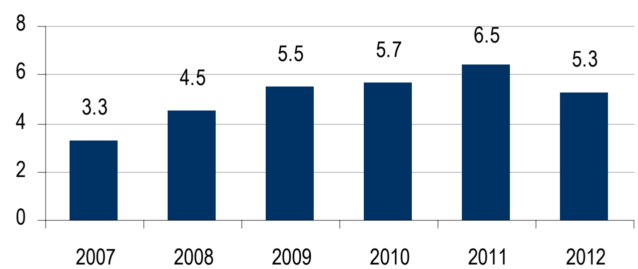
MRSK Northwest's investment program for 2008-12 amounts to RUB27.5bn (US$1.1bn). The company plans to build about five thousand km of lines and expand its transforming capacity by 2GVA. Depreciation is forecasted to be the main source of financing, debt financing will account for 24% of the company's total capex.

Chart 75: Investment program - financing sources




Source: Company data, Merrill Lynch estimates

Chart 76: Investment program - capex breakdown, RUBbn

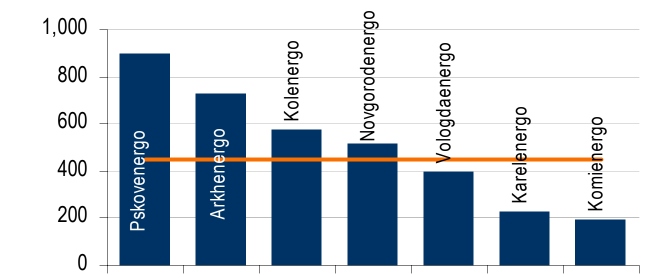



Source: Company data

## Tariffs and pricing

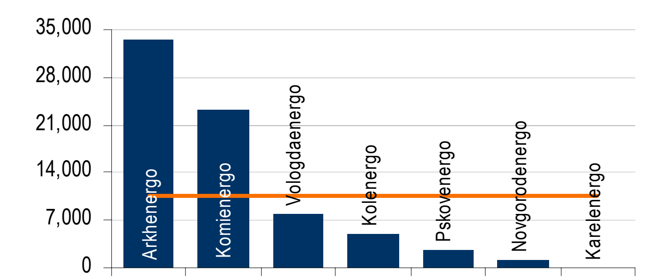
Despite Pskovenergo's distribution tariff being the highest (compared to the other RSKs included in MRSK Northwest), connection charges of the company are set below average. At the same time both Arkhenergo's tariffs are relatively large, what signifies shortage of electricity supply in the region due to distribution bottlenecks.

Chart 77: RSKs distribution tariff, RUB/kWth & MRSK weight. average




Source: FST, Merrill Lynch estimates

Chart 78: RSKs connection fee, RUB/kWt & MRSK weighted average

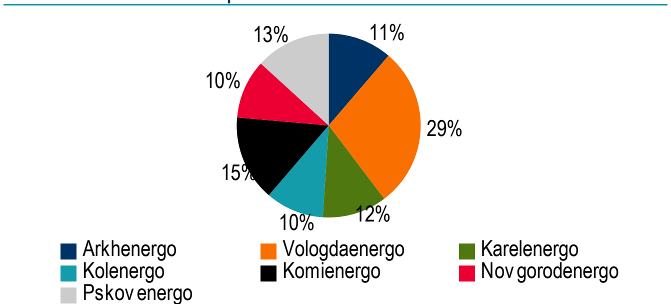



Source: FST, Merrill Lynch estimates

## Shareholder structure

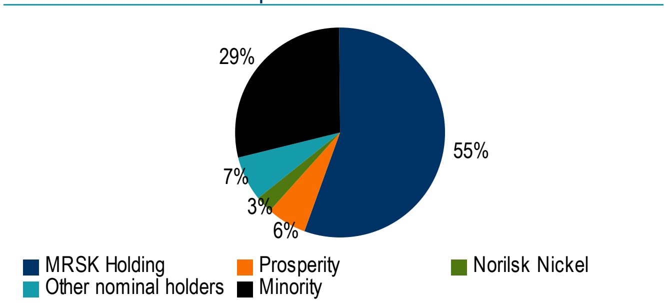
Currently UES is a controlling shareholder of the company with a stake of 55.4%. After UES reorganisation on July 1, 2008 UES' stake will be transferred to the government-controlled MRSK Holding, which will remain a majority shareholder. Norilsk Nickel is a minority shareholder of MRSK Northwest with 2.5% stake. We estimate free float in the company to reach 29% after UES reorganization.

Chart 79: UES ownership in MRSK Northwest is 55.4%




Source: FSK

Chart 80: MRSK Northwest potential shareholder structure




Source: Company data, Merrill Lynch estimates

Table 16: MRSK South fact sheet

| | |
|---|---|
| Area of operations, '000sqkm | 422.9 |
| Population, mn | 14.0 |
| Length of lines, incl. cables, '000km | 245.3 |
| Transformation capacity, GVA | 25.5 |
| Electricity distribution, 2007, mnkWth | 45.6 |
| Electricity losses | 9.6% |

Source: Rosstat, Company data

MRSK South location

Source: Company data

## MRSK South

Interregional disco of south was registered on June 28, 2007 in Rostov-on-Don. The company comprises Kubanenergo, Rostovenergo, Volgogradenergo, Astrakhanenergo and Kalmenergo. MRSK South operates as a fully consolidated company since March 31, 2008. The company provides electricity distribution and connection to the grid services on the territory of about 420 thousand sq. km inhabited by 10% of the total Russian population.

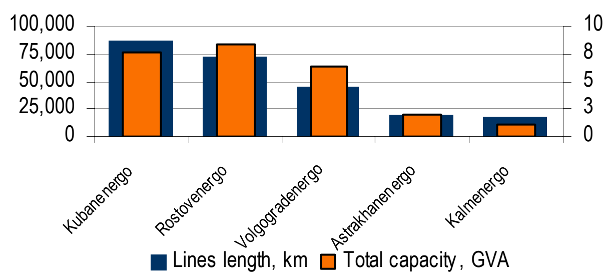
### Region overview

The South region is also rather densely populated, although for historical reasons it has been less developed industrially. Agriculture makes most significant input into the GRP, as does tourism, for the regions bordering the Black Sea remain main tourist destination in Russia. The upcoming 2014 Olympic Games in Sochi are likely to contribute to this attractiveness. The Volgograd and Rostov-on-Don regions are also rather developed industrially, with machinery and oil processing the largest industries. Low base effect may make the production growth in the region notable.

### Production

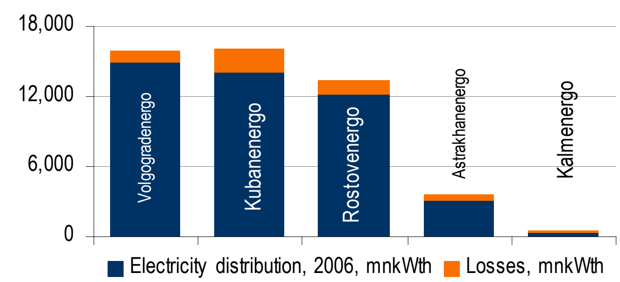
MRSK South operates more than 245 thousand km of lines and about 54’600 substations with total capacity of 25.5GVA. The company’s electricity distribution reached 44.7mn MWth in 2006. Electricity losses stood at 9.6% for the company on average, however, losses amount differed significantly within MRSK South – from 6% (for Volgogradenergo) to 25% (for Kalmenergo).

Chart 81: MRSK South – length of lines & transformer capacity




Source: Company data, FSK

Chart 82: Electricity losses vary from % to %



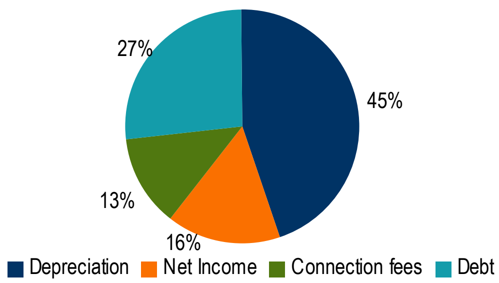

Source: Company data, FSK

### Investment program

MRSK South’s investment program for 2008-12 is expected to reach RUB51.5bn (US$2.1bn). We estimate the company to commission about seven thousand km of lines and add c2GVA to its current transforming capacity by 2012[4]. According to our estimates, depreciation will be the main source of the company’s investment program financing.

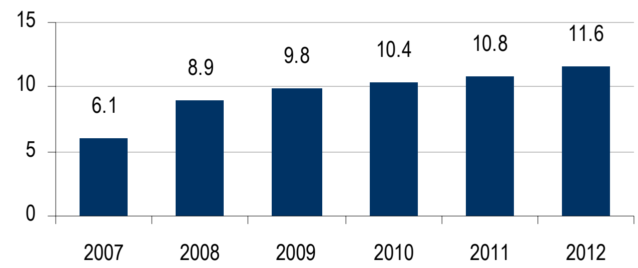
[4] The commissioning was estimated based on the company’s capex amount and average costs of construction for the industry in Russia. Actual capacity commissioning was not available at the moment of the report release.

Chart 83: Investment program - financing sources




Source: Company data

Chart 84: Investment program - capex breakdown, RUBbn

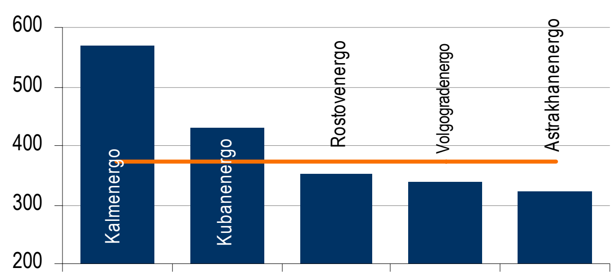



Source: Company data

## Tariffs and pricing

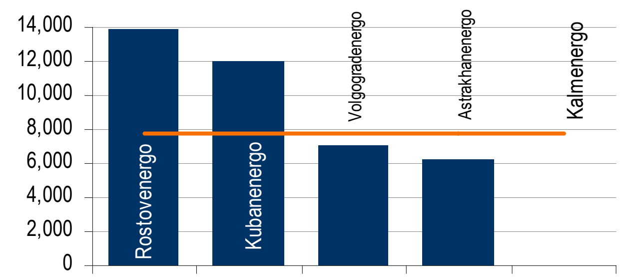
Rostov and Krasnodar (Kubanenergo) regions experience the most severe problems with connection of new customers. This can be observed from the size of the connection charges in these regions (Chart 83).

Chart 85: RSKs distribution tariff, RUB/kWth & MRSK weight. average




Source: FST, Merrill Lynch estimates

Chart 86: RSKs connection fee, RUB/kWt & MRSK weighted average

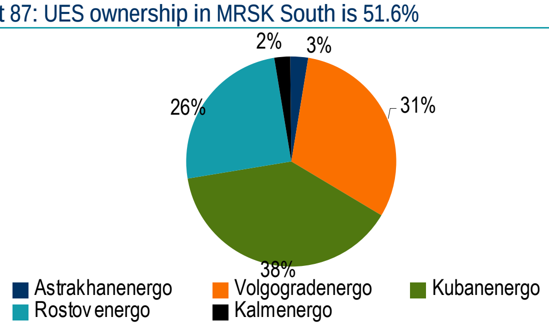



Source: FST, Merrill Lynch estimates

## Shareholder structure

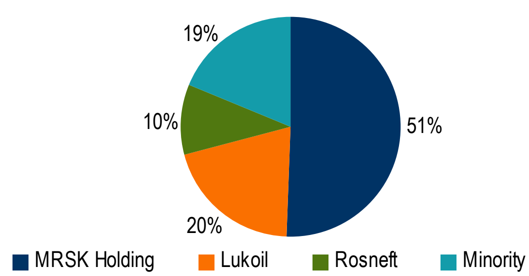
Currently UES is a controlling shareholder of the company with a stake of 51.6%. After UES reorganisation on July 1, 2008 UES' stake will be transferred to the government-controlled MRSK Holding, which will remain a majority shareholder. Lukoil and Rosneft with 20% and 10% respectively will be minor shareholders in MRSK South after July 1, according to our estimates. We estimate free float of MRSK South to reach 19% by that time.

Chart 87: UES ownership in MRSK South is 51.6%




Source: FSK

Chart 88: MRSK South potential shareholder structure




Source: Company data, Merrill Lynch estimates

Table 17: MRSK Urals fact sheet

| | |
|---|---|
| Area of operations, '000sqkm | 514.6 |
| Population, mn | 12.0 |
| Length of lines, incl. cables, '000km | 141.0 |
| Transformation capacity, GVA | 29.6 |
| Electricity distribution, 2007, mnkWth | 82.4 |
| Electricity losses | 8.8% |

Source: Rosstat, Company data

MRSK Urals location

Source: Company data

# MRSK Urals

Urals interregional disco was established on February 28, 2005. MRSK Urals manages the RSKs in the following four regions: Kurgan, Perm, Ekaterinburg (Sverdlovsk region) and Chelyabinsk. The population of the MRSK Urals' area of responsibility comprises 12mn people.

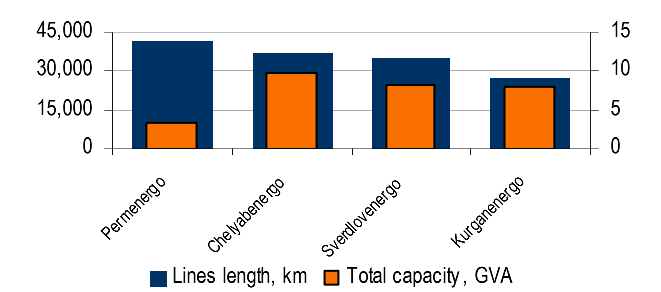
## Region overview

The Urals region is the industrial heart of the country, with high concentration of metallurgy, fertilizers industry, machinery, power generation, chemical and petrochemical plants. Main military hardware plants, a heritage from the Soviet Union, are also located here. With a territory of 3% of Russia as a whole, it represents 7% of total GRP. The industrial production of Urals region is likely to show impressive growth rates over the coming years.

## Production

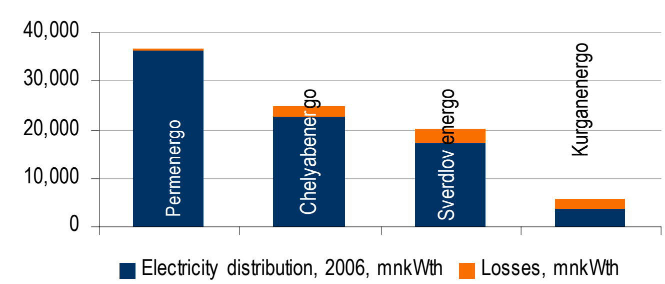
MRSK Urals' capacities include more than141 thousand km of lines and about 35 thousand of transformer substations with the total capacity of 29.6GVA. The company distributed 79.8 mn MWth of electricity in 2006 with the average loss rate standing at 9%, which is in-line with the country's average.

Chart 89: MRSK Urals – length of lines & transformer capacity




Source: Company data, FSK

Chart 90: Electricity losses vary from 7% to 12%

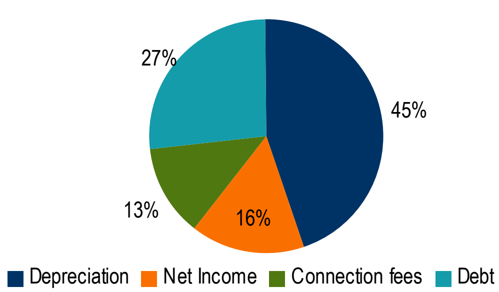



Source: Company data, FSK

## Investment program

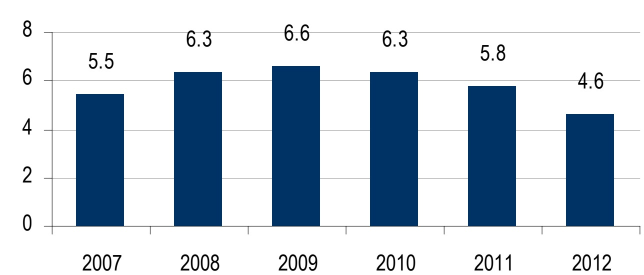
The company is planning to invest RUB29.7bn (US$1.2bn) for the period of 2008-12. Based on the MRSK Urals' capex amount and average costs of construction for the industry in Russia we estimate the company to commission about five thousand km of lines and 2GVA of transformer capacity by 2012. According to our estimates, depreciation will be the main source of the company's investment program financing.

Chart 91: Investment program - financing sources




Source: Company data

Chart 92: Investment program - capex breakdown, RUBbn

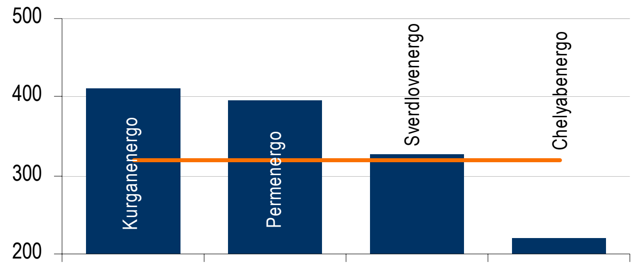



Source: Company data

## Tariffs and pricing

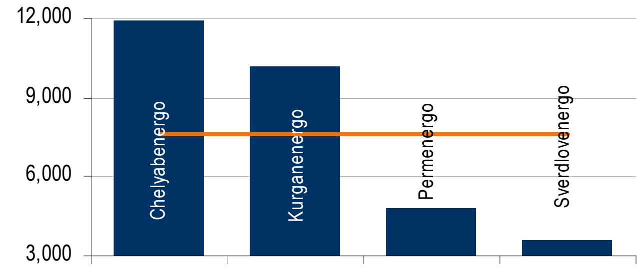
Chelyabenergo and Kurganenergo have the highest connection charges set within MRSK Urals. Kurganenergo together with Permenergo, on the other hand, have the highest electricity distribution tariffs in MRSK Urals.

Chart 93: RSKs distribution tariff, RUB/kWth & MRSK weight. average




Source: FST, Merrill Lynch estimates

Chart 94: RSKs connection fee, RUB/kWt & MRSK weighted average

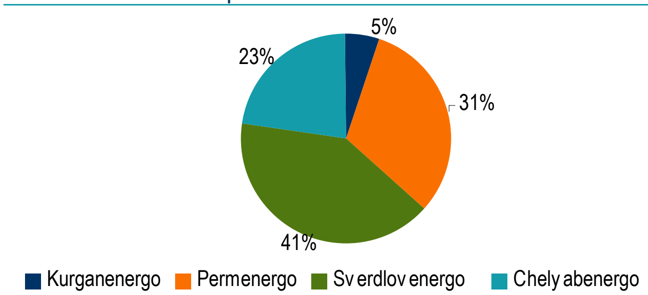



Source: FST, Merrill Lynch estimates

## Shareholder structure

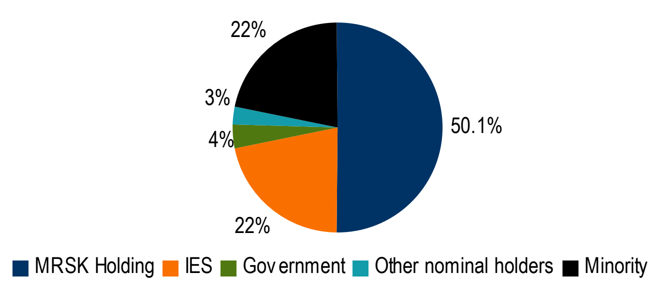
In December, 2007 – January, 2008 shareholders of all RSKs included in MRSK Urals approved the conversion ratios and converted their shares to the shares of MRSK Urals, except Kurganenergo. The company which is controlled by the former top-manager of UES Artem Bikov, will remain MRSK Urals' subsidiary. After UES' reorganisation on July 1, 2008, the former monopoly's stake in each of the companies will be transferred to MRSK Holding. As a result the holding company will control 50.1% of MRSK Urals. IES Holding with 22% stake is a strategic shareholder in MRSK Urals. Free float of the company will reach 22%, according to our estimates.

Chart 95: UES ownership in MRSK Urals is 50.1%




Source: FSK

Chart 96: MRSK Urals potential shareholder structure




Source: Company data, Merrill Lynch estimates

Table 18: Tyumenenergo fact sheet

| | |
|---|---|
| Area of operations, '000sqkm | 1,435.2 |
| Population, mn | 3.3 |
| Length of lines, incl. cables, '000km | 38.3 |
| Transformation capacity, GVA | 23.8 |
| Electricity distribution, 2007, mnkWth | 69.0 |
| Electricity losses | 3.1% |

Source: Rosstat, Company data

Tyumenenergo location

Source: Company data

# Tyumenenergo

Tyumenenergo operates in Yamalo-Nenetsk, Khanty-Mansiysk and Tyumen regions. The area of the company's operations of 1435 thousand sq. km is inhabited just by 3.3 mn of people.

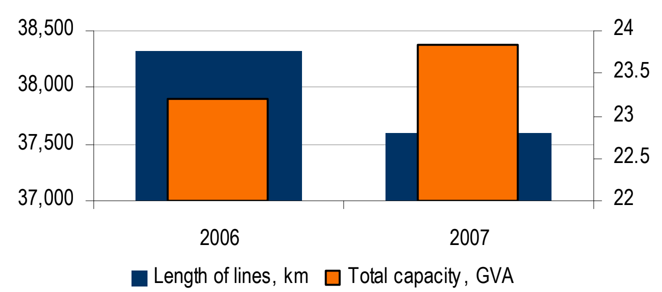
## Region overview

Tyumen region is the largest oil-province in the country (over 70% of total production), whose GDP totals 12% of the country in general. Oil and gas extraction is the main contributor to the regions' well-being, followed by electric power generation, petrochemical industry and wood processing. The population density is very low, however, with only 2 persons per sq. km.

## Production

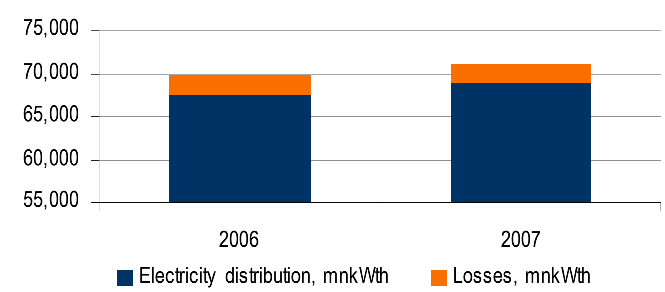
Tyumenenergo owns about 38 thousand km of lines and six thousand substations with transformer capacity of approximately 24GVA. In 2007 the company distributed 69 mn MWth (2% growth YoY). Tyumenenergo has the lowest loss rate of 3.1% in comparison to the other Russian discos. Average loss rate for the industry is estimated at about 8.7%.

Chart 97: Tyumenenergo – length of lines & transformer capacity




Source: Company data, FSK

Chart 98: Electricity losses stand at 3%

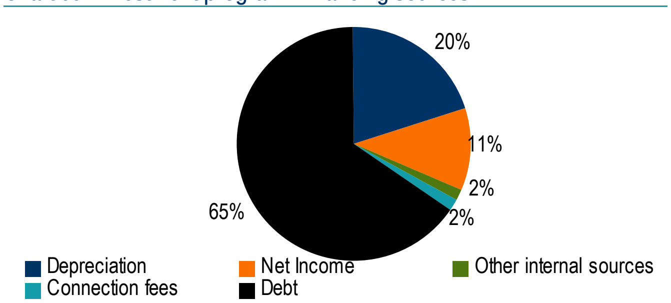



Source: Company data, FSK

## Investment program

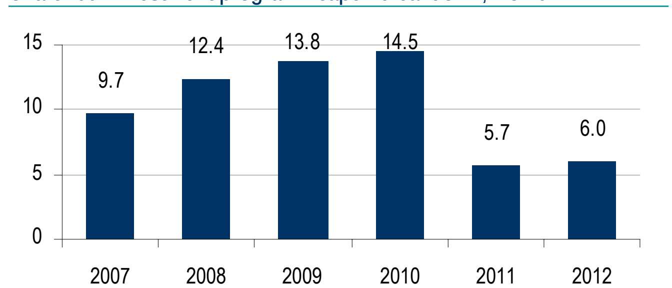
Tyumenenergo's investment program for 2008-12 is expected to reach RUB52.3bn (US$2.2bn). Based on the company's capex amount and average costs of construction for the industry in Russia we estimate Tyumenenergo to commission about five thousand km of lines and 2GVA of transformer capacity by 2012. According to our estimates and unlike other Russian discos, debt will be the main source of the company's investment program financing.

Chart 99: Investment program - financing sources




Source: Company data

Chart 100: Investment program - capex breakdown, RUBbn

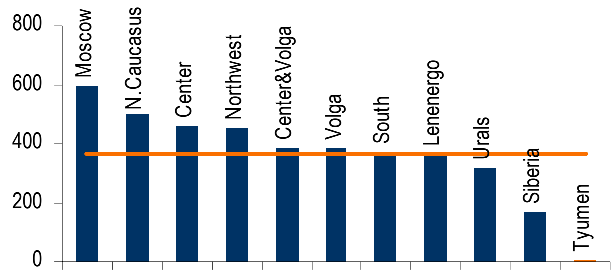



Source: Company data

## Tariffs and pricing

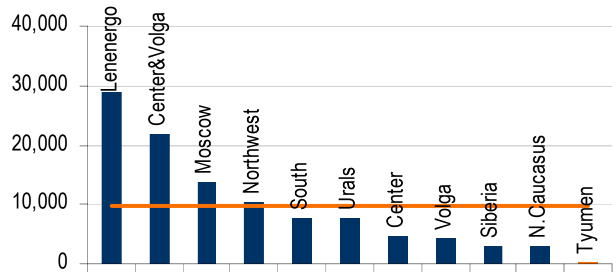
Tymenenergo has the lowest distribution and connection charges in the industry.

Chart 101: RSKs distribution tariff, RUB/kWth & MRSK weight. average




Source: FST, Merrill Lynch estimates

Chart 102: RSKs connection fee, RUB/kWt & MRSK weighted average

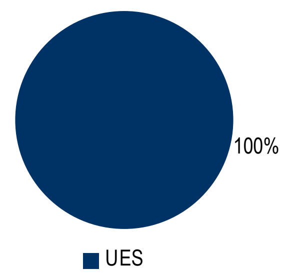



Source: FST, Merrill Lynch estimates

## Shareholder structure

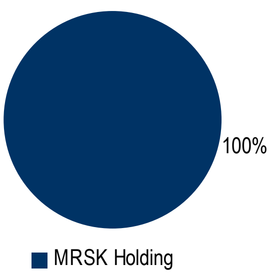
Tumenenergo is 100% subsidiary of UES and will remain under 100% control of MRSK Holding after UES reorganisation on July 1, 2008. The company is not planning IPO by the end of 2008.

Chart 103: UES ownership in Tyumenenergo is 100%




Source: FSK

Chart 104: Tyumenenergo potential shareholder structure




Source: Company data

Table 19: MRSK Siberia fact sheet

| | |
|---|---|
| Area of operations, '000sqkm | 3,700.0 |
| Population, mn | 11.9 |
| Length of lines, incl. cables, '000km | 267.0 |
| Transformation capacity, GVA | 42.6 |
| Electricity distribution, 2007, mnkWth* | 99.8 |
| Electricity losses | 7.9% |

*Excluding Tyvaenergo
Source: Rosstat, Company data

MRSK Siberia location

Source: Company data

## MRSK Siberia

Siberia interregional disco was registered in Krasnoyarsk on 4 of July 2005. The Company was established to effectively run distributive power supply grid of Siberian region. Initially the company included the following seven regional grid companies: Buryatenergo, Krasnoyarskenergo, Kuzbassenergo, Omskenergo, Tomsk disco, Khakasenergo, and Chitaenergo. On January 31, 2008 shareholders of Tyvaenergo also approved merger of the company to MRSK Siberia.

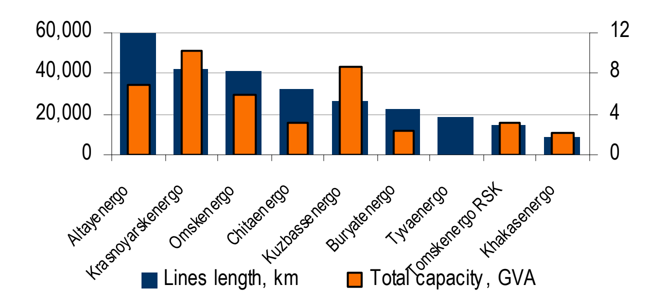
### Region overview

Siberian region is the largest in terms of territory – 24% of Russia as a whole. Unfortunately, the population density is only 3 persons per sq km, but in terms of GDP in 2005 the Siberian region represented 8% of Russia's total output. The harsh and cold climate hampers industrial production, as it puts higher requirements for energy efficiency. The main industries are steels and non-ferrous metals, as well as oil & gas extraction and machinery. The infrastructure of the region is poor as well, but the continuing natural resource exploration is likely to release enormous growth potential, as the region is abundant with natural resources. At the south the region borders Mongolia and China, which also offers trade opportunities.

### Production

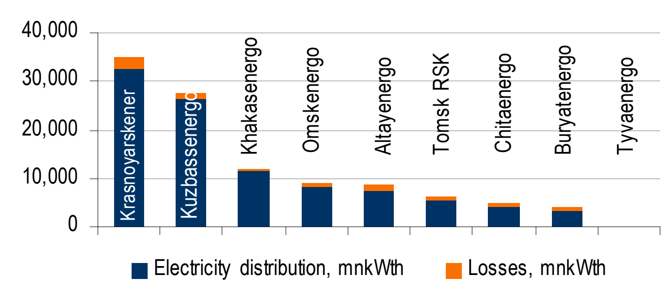
MRSK Siberia owns 267 thousand km of distribution lines and more than 37 thousand substations with 42.6GVA of transformer capacity. The company's electricity loss rate of 7.9% is relatively low compared to the Russian average of 8.7%. In 2006 MRSK Siberia transmitted about 100mn MWth of electricity.

Chart 105: MRSK Siberia – length of lines & transformer capacity




Source: Company data, FSK

Chart 106: Electricity losses vary from % to %

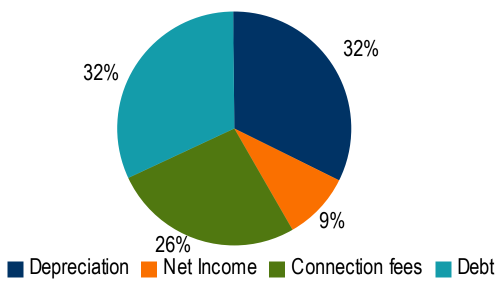



Source: Company data, FSK

### Investment program

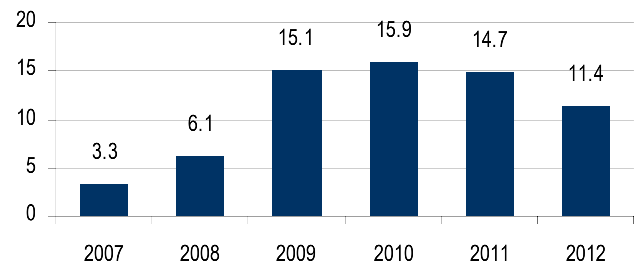
In 2008-10 MRSK Siberia plans to commission about 1'700km of lines and to expand its capacity by 1GVA. The company's capex for the period is estimated to reach RUB37.1bn (US$1.5bn). The disco intends to attract actively debt financing, which will finance MRSK Siberia's investment program by 32%. Internal company sources (net income and depreciation) will account for 41%, while the rest will be made up by payments for connection to the grid.

Chart 107: Investment program - financing sources




Source: Company data

Chart 108: Investment program - capex breakdown, RUBbn

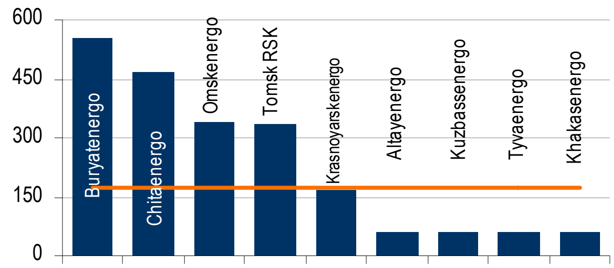



Source: Company data

### Tariffs and pricing

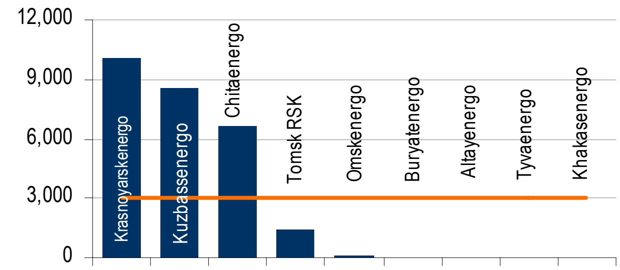
The most difficult situation with new customers' connection is observed in Krasnoyarsk and Kemerovo (Kuzbassenergo) regions. At the same time these regions have relatively low distribution tariffs. In Buryatiya, Altay, Khakasiya and Tyva connection charges are set to zero.

Chart 109: RSKs distribution tariff, RUB/kWth & MRSK weight. average




Source: FST, Merrill Lynch estimates

Chart 110: RSKs connection fee, RUB/kWt & MRSK weighted average

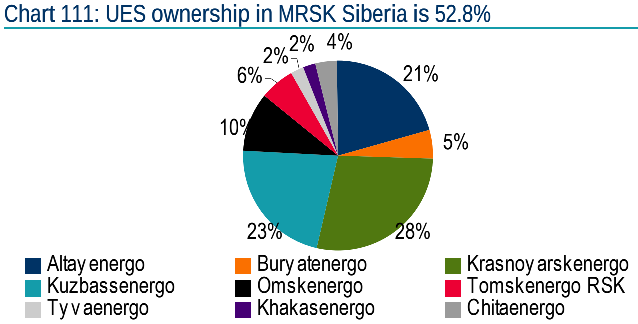



Source: FST, Merrill Lynch estimates

### Shareholder structure

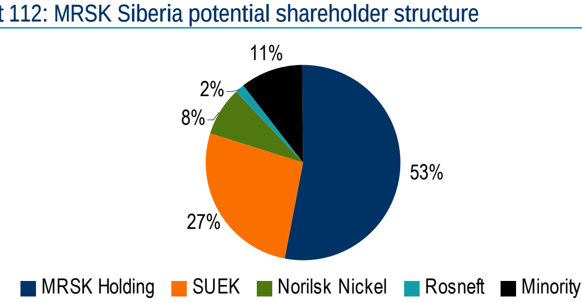
In December, 2007 – January, 2008 shareholders of all respective RSKs approved the conversion of their shares to the shares of MRSK Siberia. After UES' reorganisation on July 1, 2008, the former monopoly's stake in each of the companies will be transferred to MRSK Holding. As a result the holding company will control 52.8% of MRSK Siberia. SUEK will be a blocking stockholder in the company. Norilsk Nickel as well as Rosneft will own minority stakes in MRSK Siberia, 8% and 2% respectively. We estimate free float to reach 11% after July 1.

Chart 111: UES ownership in MRSK Siberia is 52.8%




Source: FSK

Chart 112: MRSK Siberia potential shareholder structure




Source: Company data

## MRSK North Caucasus

Interregional disco of N.Caucasus was established in August, 2007. The company manages electricity distribution capacities in the following Russian regions: Stavropol, Dagestan, Chechnya, Ingushetiya, Karachaevo-Cherkessiya and Kabardino-Balkariya.

Table 20: MRSK North Caucasus fact sheet

| | |
|---|---|
| Area of operations, '000sqkm | 246.4 |
| Population, mn | 8.6 |
| Length of lines, incl. cables, '000km | 104.6 |
| Transformation capacity, GVA | 9.3 |
| Electricity distribution, 2007, mnkWth | 11.2 |
| Electricity losses | 22.3% |

Source: Rosstat, Merrill Lynch estimates

MRSK North Caucasus Location

Source: Company data

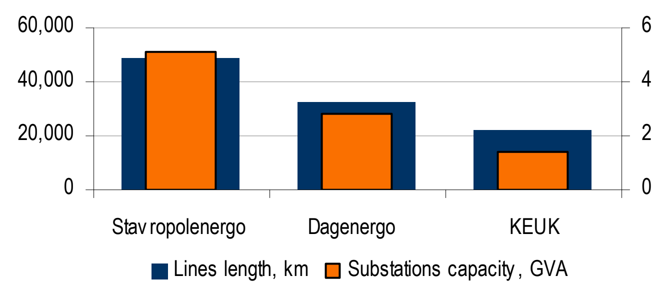
### Region overview

The North Caucasus region is most poorly developed due to a number of reasons, above all its tough mountainous landscape and political instability, especially in Chechnya, Ingushetiya and Dagestan. Although the region has large renewable energy potential, lack of demand within the region and poorly developed infrastructure delay the development of the territory. Oil processing and light manufacturing may be main areas of industrial revival.

### Production

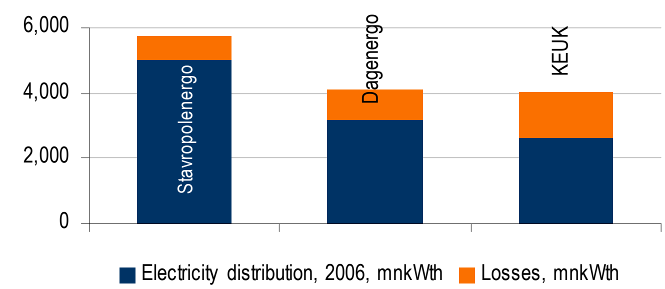
MRSK N.Caucasus production facilities include 105 thousand km of lines and cables and more than 200 thousand substations with total capacity of c9GVA. The company is characterised by significant amount of losses (22.3% vs. Russian average of 8.7%) in the process of electricity distribution. In 2006 MRSK N.Caucasus useful sales reached 10.7mn MWth.

Chart 113: MRSK N.Caucasus – length of lines & transformer capacity




Source: Company data, FSK

Chart 114: Electricity losses vary from % to %

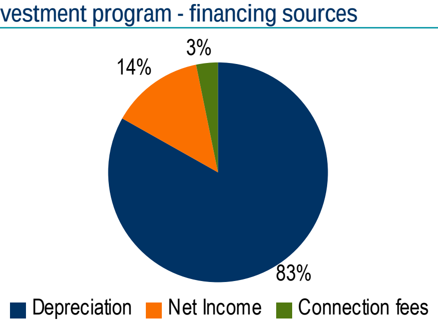



Source: Company data, FSK

### Investment program

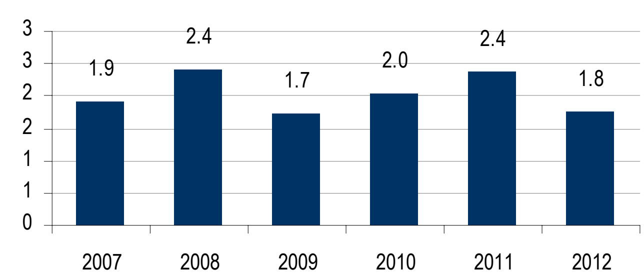
For the period of 2008-10 MRSK N.Caucasus plans to build about 400 km of lines and increase its transformer capacity by 0.3GVA. The company plans to spend RUB6.2bn for its investment program for this period. The main source of financing will be depreciation.

Chart 115: Investment program - financing sources




Source: Company data

Chart 116: Investment program - capex breakdown, RUBbn

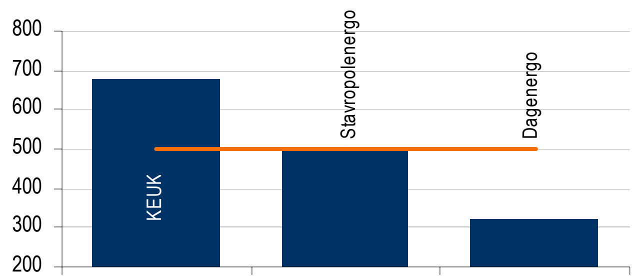



Source: Company data

## Tariffs and pricing

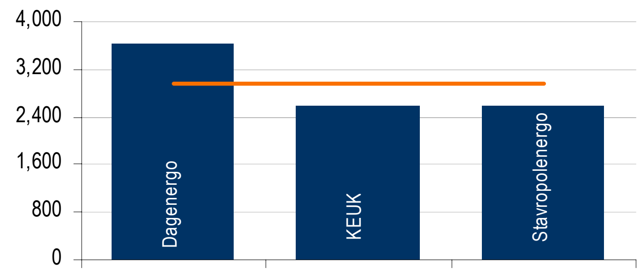
Despite connection charges are the highest in Dagestan, electricity distribution tariff in the region is the lowest. The region also experiences the highest losses of electricity (35%). The largest distribution tariff is set for KEUK (Ingushetiya, Karachaevo-Cherkesiya and Kabardino-Balkariya).

Chart 117: RSKs distribution tariff, RUB/kWth & MRSK weight. average




Source: FST, Merrill Lynch estimates

Chart 118: RSKs connection fee, RUB/kWt & MRSK weighted average

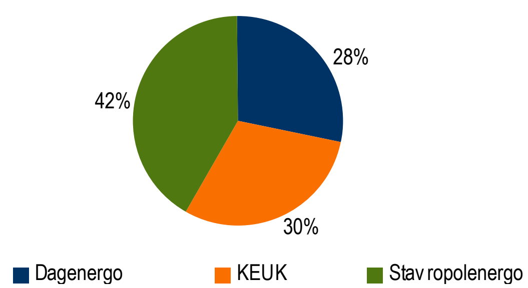



Source: FST, Merrill Lynch estimates

## Shareholder structure

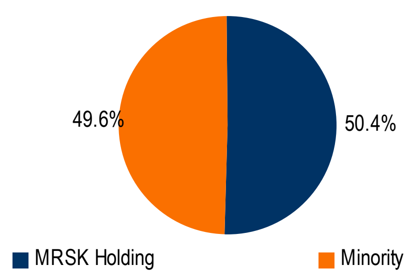
Currently UES is a controlling shareholder of the company with a stake of 50.4%. After UES reorganisation on July 1, 2008 UES' stake will be transferred to the government-controlled MRSK Holding, which will remain a majority shareholder.

Chart 119: UES ownership in MRSK N.Caucasus is 50.4%




Source: FSK

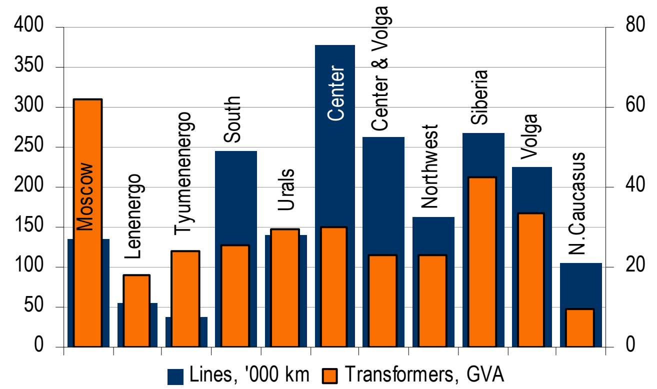
Chart 120: MRSK N.Caucasus potential shareholder structure




Source: Company data

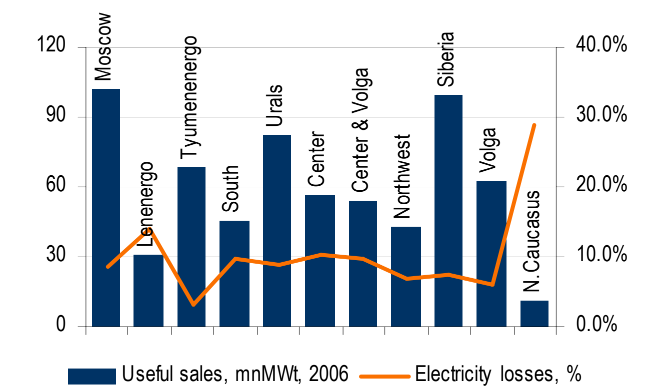
# MRSKs – overview

Chart 121: MRSKs - length of lines, km & transformer capacity, GVA



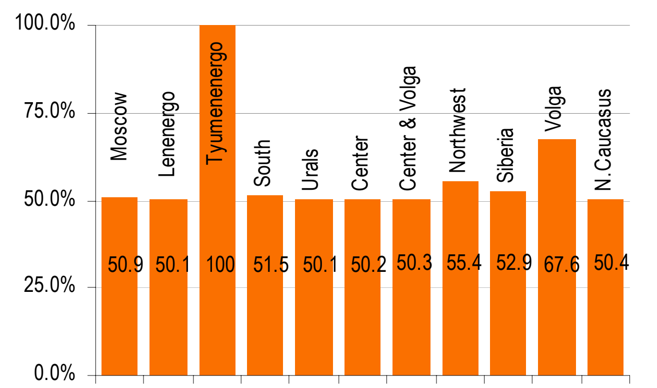

Source: Company data, Merrill Lynch estimates

Chart 122: MRSKs – electricity distribution, MWth and losses, %



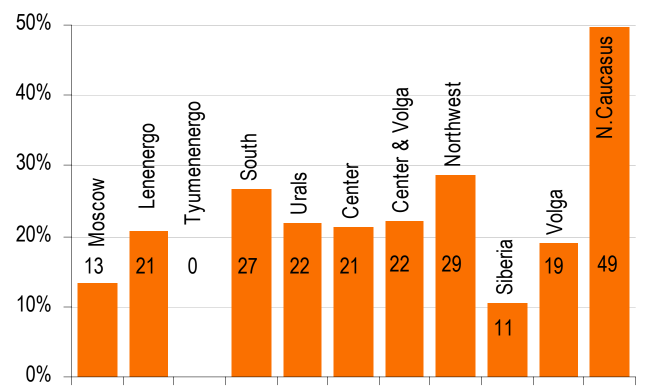

Source: Company data, Merrill Lynch estimates

Chart 123: MRSKs: MRSK Holding share




Source: Company data, Merrill Lynch estimates

Chart 124: MRSKs: expected free float




Source: Company data, Merrill Lynch estimates

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| Investment rating | Total return expectation (within 12-month period of date of initial rating) | Ratings dispersion guidelines for coverage cluster* |
|---|---|---|
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| Neutral | ≥ 0% | ≤ 30% |
| Underperform | N/A | ≥ 20% |

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