

1. EXECUTIVE SUMMARY AND KEY RECOMMENDATIONS

EXECUTIVE SUMMARY

Since the last energy policy review of Russia conducted by the International Energy Agency (IEA) in 2002, there have been major developments especially in the sectors of hydrocarbon production, processing, exports and distribution. Investments in the upstream oil and gas sector have enabled Russia to maintain its position as one of the most important energy players globally, continuing its essential role in global energy supply. Crude oil and especially condensate production have reached historical highs against the backdrop of increasing global oil prices, higher investment and technology upgrades. New oil production centres were developed in East Siberia, and major crude oil exports to Asia, primarily to the People's Republic of China – where demand for Russian oil is increasing – have started. As refineries are being modernised and capacities expanded, production of oil products has increased and fuel quality has been improving to meet growing domestic demand. These changes have also supported Russia's economic growth during this period, its economic and energy sector modernisation and its own energy supply security.

Gas production and distribution have been diversified, with legacy production increasingly replaced with new production areas and fields. Companies other than Gazprom, in particular Novatek and increasingly also Rosneft, have expanded gas production, obtained access to the gas transmission system, taken significant shares in the wholesale gas market and consolidated their assets through acquisitions. Gazprom is playing a key role in Europe's gas supply and has expanded its gas exports to Europe over the past ten years and developed new gas export infrastructure. Russian companies are now preparing to supply more gas to the booming Asian markets, including in partnership with foreign companies following the partial liberalisation of liquefied natural gas (LNG) exports. The government has adopted an important package of oil and gas tax reforms aimed at unlocking the development of Russia's next generation of hard-to-recover and frontier hydrocarbon resources. The IEA welcomes the progress made in the liberalisation of the gas market, especially the most recent partial liberalisation of LNG exports.

However, in spite of record high liquids production (close to 11 million barrels per day) and oil price levels (about USD 110 per barrel for the Urals), Russia's oil and gas sectors are no longer sufficient to ensure steady and robust economic growth as the economy has slowed since the end of 2012 to growth levels of around 1.5%. In order to maintain oil production and export volumes at the current historically high levels, Russia will need to develop new resources, maximise the remaining potential at existing brownfields, make the transport sector more efficient, and develop gas use for transport.

The power sector has also undergone profound reforms, which have enabled it to successfully liberalise, to attract investments to progressively replace ageing infrastructure and meet growing demand. The IEA supports further efforts aimed at completing the

liberalisation of the power market. Infrastructure in the electricity and heat sectors is ageing and needs rapid replacement and modernisation: This poses risks to the country's energy security (especially for heat and power supplies), as well as its competitiveness and well-being.

Tackling the challenge of reforming district heating systems is complex but an essential step to foster security of heat supply and attract investments in the modernisation of ageing generation and transmission infrastructure, as well as to support investments in electricity and heat co-generation.¹ Regulatory preparations are underway, but changes have been insufficient in past years in order to address the challenges.

Overall, energy markets in the area of gas, electricity and heat could be more efficient and deliver better quality, prices and service to end users.

The energy intensity of the Russian economy has improved since the 2000s but is still about two times higher than average IEA levels and has been slightly increasing in past years. Russia's energy-intensive goods are facing increasing global competition in domestic and export markets, especially since regulated wholesale gas prices have been raised to a level close to USD 100 per 1 000 cubic metres, as electricity prices have increased and as energy efficiency investments in the industrial sector, but also in the residential sector, have not occurred at the required pace. Russia has started to develop a policy and regulatory framework to unleash its substantial energy efficiency potential – a key potential driver of economic modernisation and sustainable growth, provided that large-scale deployment is achieved. The IEA particularly commends Russia for having started to consider ambitious and comprehensive demand-side management policies, especially with the introduction of energy efficiency legislation. Nonetheless, these much-needed policy and legislative measures have not delivered in a timely fashion and stated objectives are not on track to be met. A strong and effective energy efficiency policy would foster the competitiveness of the Russian economy, help diversify economic activity, increase energy exports and enhance energy supply security. The modernisation of the Russian economy and energy sector depends to a large extent on energy efficiency deployment as the potential is huge in the industrial, residential, transport sectors and especially in the district heating and power generation sectors. In most of these areas, it can be achieved at relatively low cost.

Finally, the carbon intensity of the Russian economy, measured as carbon dioxide (CO₂) emissions per real gross domestic product (GDP), is 60% higher than the average of IEA member countries. As the government has recognised, there is much scope to limit CO₂ emissions, yet a comprehensive and effective strategy combining climate and energy policy will need to be developed and implemented as Russia is likely to be negatively affected by climate change. Developing renewable energy sources in Russia can foster sustainable economic growth and energy security, especially in remote regions. Energy efficiency would also be a pillar of an effort to reduce and even stop the growth in greenhouse gas emissions.

While a number of policies and measures aimed at modernising the energy sector and increasing its efficiency and sustainability are being developed or implemented, further reforms are needed. Russia's energy policies remain at a turning point, on both the supply and demand sides, and with regard to their role in the economy. The current economic slowdown in Russia offers a reminder of the need to implement economic and

1. Co-generation refers to the combined production of heat and power.

energy policy reforms, and for energy policies to promote the competitiveness and modernisation of the Russian economy. Russia now has an opportunity to accelerate current efforts and turn the entire energy sector, in addition to the oil and gas pillars, into a driver of robust and sustained economic growth. Yet addressing all these challenges will require large investments in a range of USD 100 billion per year over the next 20 years, mainly from private domestic and foreign sources. Installing a political, regulatory, fiscal and legal environment that is conducive to investments will be essential if Russia is to rapidly modernise its energy sector.

REFORMS TO FOSTER INVESTMENTS INTO INFRASTRUCTURE AND ENERGY EFFICIENCY

Greater energy efficiency would be a winner for the Russian economy, as the current energy inefficiency throughout the energy sector and overall economy is an obstacle to sustainable and robust GDP growth. Moreover, ageing infrastructure, in particular in the areas of electricity and district heating, requires urgent investments. Four key steps could help foster investments to modernise assets and improve energy efficiency.

Regulated tariff levels, subsidies and cross-subsidies

Regulated prices remain in place mainly for the wholesale industrial gas market and for the heat, gas and electricity retail markets. In gas, the regulated wholesale gas price is close to market levels, or even perhaps above the market level in areas close to production locations, given that independent suppliers sell gas with a profit margin at slightly lower prices. Yet in distant areas, the regulated wholesale gas price may not allow all supply costs to be recouped, and Gazprom remains the sole supplier. In the retail market, gas supplies to the residential sector are not attractive to independent companies due to low tariff levels. In the heating sector, the tariff/price formation methodologies, tariff levels and duration of regulated tariffs are often blocking much-needed modernisation investments.

Progressively raising regulated tariffs for the residential sector to incentivise energy efficiency investments, adopting tariff conditions that foster modernisation investments in the heat supply chain, and fostering competition in the wholesale gas market across the entire gas grid, are needed steps. The government's recent decision to freeze regulated tariff increases may have limited a loss in competitiveness in the short term and inflation, but is sending the wrong signal for energy efficiency and is likely to slow down infrastructure investments as well as end-use energy efficiency investments. If competitiveness of Russian industry is the challenge, the government should focus on measures to cut the underlying production costs. Moreover, cross-subsidies remain in the heat, electricity and gas sectors. These need to be removed, and the government is preparing such steps in the area of heat and electricity co-generation. The removal of remaining subsidies and cross-subsidies are key to eliminating market distortions and to letting market mechanisms become drivers of economic and consumer behaviour changes.

De-linkage of social and energy policy and inclusion of strong quality of service requirements

The government should de-link social and energy policy and liberalise, in particular, retail electricity and gas tariffs, while protecting the most vulnerable consumers with separate social transfers. This step could be achieved progressively but would send the right signals

to suppliers and end users. In addition to social transfers, end users could benefit from consumption-based billing and thus be able to lower their consumption and the impact of bills, especially if there are programmes to improve the energy efficiency of buildings. At the same time, quality of service requirements should be expanded and enforced to raise consumer confidence and incentivise investments by energy providers, in particular in the heat sector. There should also be penalties for non-payments.

As the Russian economy modernises, quality of supplies, freedom to choose suppliers at the retail level, and consumer involvement, will become increasingly important, especially in the areas of district heating and power distribution.

Metering in the district heating sector

There is a good record in the deployment of meters in the electricity sector, yet a major obstacle to investments into the heat supply chain remains the insufficient deployment of heat meters in the residential sector. While apartment-level meters would be too expensive and technically challenging to deploy in old buildings, the rapid and quick countrywide deployment of building-level automated metering and regulation substations is an essential condition to create the right framework conditions for investments in district heating infrastructure. This would also allow consumption-based billing and improve the quality of heat supply, while providing incentives to reduce losses along the heat supply chain.

Access to finance and fiscal incentives

Access to finance remains a major challenge. Federal budget funding for energy efficiency or district heating modernisation remains insufficient. Private banks have not yet developed services tailored to energy efficiency investments in the industrial sector or the residential sector. Finally, a state fund that would provide affordable credits to municipalities, regional governments and homeowners, as well as offer guarantees, is seen as a possible efficient tool that could fill market gaps in this key area.

In parallel, a predictable fiscal framework that is easy to understand and has strong incentives known and understood by all relevant stakeholders, is another important factor that could facilitate investments in energy efficiency and infrastructure modernisation, in particular in the residential and industrial sectors.

FOCUS ON EFFECTIVE REGULATION AND IMPLEMENTATION

Streamlining and co-ordinating policies, strengthening priorities, and focusing on implementation would help to quickly unleash Russia's enormous energy efficiency potential and reap much greater economic and social benefits.

Russia over past years has a good track record of passing appropriate framework legislation, such as on energy efficiency or the heat sector, yet a major challenge is to turn targets and objectives into reality. As in many countries, policy co-ordination among the numerous ministries involved, as well as implementation of policies, legislation and regulation, are often a challenge: Dozens of sub-laws and regulatory acts need to be prepared, voted on and co-ordinated; the information needs to be made available; and implementation needs to be monitored and controlled, which requires human and institutional capacities to do so. In the area of energy efficiency or district heating, there are co-ordination challenges

at the federal level and between the federal and regional/local levels, as well as challenges pertaining to knowledge- and capacity-building at the regional and local levels. Key stakeholders need to be empowered, to know what their opportunities, challenges and options are and how best to develop and implement the most appropriate strategies.

There are also cases of unpredictable frameworks with frequent changes in objectives, and contradictory and missing regulation and sub-regulation. Last but not least, there is often an insufficient focus on implementation, monitoring and enforcement, in particular in the area of energy efficiency in the residential and public sector.

MORE EFFICIENT MARKETS

Accelerating the needed modernisation will also require continuing to foster the efficiency of energy markets by further encouraging competition and transparency. On the institutional side, the Federal Anti-monopoly Service needs to be further empowered, especially to monitor the situation in the retail oil market as well as in the electricity and gas sectors, particularly for issues related to access to infrastructure and consumer protection. Regional Energy Commissions need to have the required capacity and authority to fully fulfil their responsibilities and should be fully transparent and accountable, such as in setting heat tariffs. Compliance and competition oversight need to be further fostered, and overall, the government should consider the benefits of encouraging further privatisations and reducing the dominance of state-controlled companies. They tend to be less efficient than private actors per se and impede competition and efficiency in markets. At minimum, strengthening public audits, fostering accountability, and corporate governance of state companies, but also of private companies in the market, would be required to incentivise them to work fully efficiently.

An efficient gas market is essential for the efficiency of the power market, which is largely reliant on gas-fired power generation. The gas market would benefit from fully free, fair and efficient access to the gas transmission infrastructure and from fair competition between Gazprom and independents.

In the power sector, in order to successfully complete the liberalisation process, Russia will need to consolidate the electricity market reforms. This includes the completion of governance and the retail market reforms and the creation of a fully competitive wholesale energy and capacity market. More competition in the wholesale and retail markets is a key prerequisite to unlocking investments for the modernisation of assets, in particular of Russia's large fleet of co-generation plants.

DEVELOPING THE MOST COST-EFFICIENT OIL AND GAS RESOURCES AND ADJUSTING EXPORT STRATEGIES

Russia's oil production and exports are likely to decrease in the long term due to a combination of lower liquids production and higher consumption of domestic products.

Several steps could be taken to maintain liquids production at current high levels over the long term, thus avoiding a decline driven by the depletion of West Siberian brownfields. These steps include: developing tight oil; enhanced oil recovery (EOR); and new greenfields in East Siberia, the Far East and the Arctic, onshore and offshore. Among these options, EOR appears to be a step to which the government is giving the least required attention.

To attract the necessary level of investments in the upstream, the government needs further flexibility and adaptability in regard to the tax reform packages already adopted. A progressive move towards profit-based taxation merits serious consideration. Regulation framing the participation of foreign companies in joint ventures should be further streamlined to reduce risks and facilitate credit and risk taking, and access to production areas of small and medium-sized companies should be supported.

In order to keep oil and oil product exports at high levels, which is in the interest of the state budget and is important for the global oil supply balance, the government should further encourage the use of gas for the transportation sector, in particular for public transportation, rail transportation and trucks.

Finally, Russia has a golden opportunity to develop pipeline gas and LNG exports, in particular to the Asia Pacific markets where gas demand growth is the strongest, as Russia's resources are well located. Overall, success in developing gas exports to Asia will depend on developing the most cost-effective projects in a timely and reliable manner. The government, in co-ordination with companies should consider likely commercial and fiscal benefits, in terms of higher market shares, higher corporate revenues and budget revenues from taxation, from adjusting the gas pricing mechanisms in long-term contracts.

KEY RECOMMENDATIONS

The government of the Russian Federation should:

- *Consider a set of policy adjustments and reforms to foster investments in energy infrastructure and energy efficiency, including: the immediate removal of cross-subsidies and progressive removal of subsidies; the full deployment of meters in the heat sector; better access to finance and appropriate fiscal incentives; focus on quality of energy supply service; and a de-linkage of social policy from energy policy.*
- *Focus on effective regulation and implementation of legislation and regulation, through swifter institutional co-ordination and empowerment at the federal level and between the federal and regional/local levels, through monitoring and enforcement strategies.*
- *Promote more efficient energy markets, in particular the gas, oil and electricity markets, through greater competition and market-based pricing, strengthened corporate governance standards and transparency of markets.*
- *Ensure the development of Russia's most cost-efficient oil and gas resources, in particular through EOR, and take steps to maximise the oil and gas export potential, including the accelerated development of gas for the transportation sector and commercial export strategy adjustments.*