ENERGY EFFICIENCY AND ENERGY DEVELOPMENT
INTERNATIONAL FORUM - ‘RUSSIAN ENERGY WEEK’ PROGRAMME

October 3-7, 2017, Moscow
Programme accurate as at September 28, 2017

October 4, 2017

09:30–16:00  Session (closed event)
Manege, 1st floor
Presidium conference hall

GECF Ministerial Meeting

The Gas Exporting Countries Forum (GECF) brings together the world’s leading natural gas producers and exporters. The main objective of cooperation between GECF participants is to ensure reliability and security in supply and demand for gas and other energy resources. Russia attaches great importance to working with other gas exporting countries in the Forum, which was created to help achieve coordination between the countries with the most significant reserves of ‘blue fuel’.

09:30–10:45  Realizing the Potential of the Energy Sector
Manege, 2nd floor
conference hall A

Panel discussion
The Global Gas and Petrochemical Markets: Opportunities for Russia

The global gas and petrochemistry industry is growing at a rate consistently above world GDP. The sector is generating a stream of innovation which is transforming the outlook of the entire economy, increasing demand for the output of related industries, and creating new jobs and opportunities for processing companies. In Russia, the intensive development of petrochemistry has offered a platform for economic development in various regions of the country, including Eastern Siberia and the Russian Far East. At the same time, the global gas and petrochemicals sector is facing new challenges. The surplus in global capacity at a time of slowing economic growth and tougher environmental requirements is causing the markets for petrochemical products to remain volatile, with access to new markets limited by creeping protectionism. What trends will determine the development of the gas and petrochemicals sector over the next 30 years? How can Russian gas and petrochemicals companies ensure that their products remain competitive in key markets? What reserves do Russian manufacturers have for cutting costs: geographically diversifying sales, digitization, R&D, developing new advanced materials, other measures?

Moderator:
• Alexey Bobrovsky, Head of the Economic Programme, Russia 24 TV Channel

Panellists:
• Arkady Dvorkovich, Deputy Prime Minister of the Russian Federation
• Gulomjon Ibragimov, Deputy Prime Minister of the Republic of the Republic of Uzbekistan
• Dmitriy Konov, Chairman of the Management Board, SIBUR Holding
• Rustam Minnikhanov, President of the Republic of Tatarstan
• Zou Wenzhi, Deputy Director General, Foreign Cooperation Office, China Petrochemical Corporation (Sinopec Group)
• Daniel Yergin, Vice Chairman, IHS Markit

09:30–10:45  Global Energy: Challenges and Sustainable Development
Manege, 2nd floor
conference hall D

Panel discussion
The Future of the Electricity Industry: How Power Systems and Consumers Are Set to Change

Experts predict that global demand for electricity will increase by 25–30% in the next 20–30 years. The main sources of growth in demand will be residential and commercial properties, as well as industry and transport. Geographically speaking, India and Africa are set to see the fastest growth rates, whereas in OECD countries demand is expected to remain stable due to the development of the digital economy and improvements in energy efficiency, which is counterbalancing electrification. Nonetheless, the accuracy of these predictions remains in doubt due to a large number of uncertainties. Discussions are ongoing with respect to how rapidly electric car use will spread and new...
technologies for storing and transmitting energy will be implemented; how competitive generation from renewables will be once state subsidies from European countries come to an end; and how quickly environmental standards for energy companies will be toughened. How are different countries realizing their energy strategies in order to ensure energy security in these new times? What steps must Russia take to maintain its existing competitive advantages and leading positions in energy resource and technology markets? How will electricity demand and consumption change over the next 30 years? Breakthrough technologies in electricity: can we expect a ‘black swan’? Stimulating innovation in electricity: whose job is it? How is Russia’s power supply system set to change?

Moderator:
- Evelina Zakamskaya, Anchor, Russia 24

Panellists:
- Denis Fedorov, General Director, Gazprom Energoholding
- Vyacheslav Kravchenko, Deputy Minister of Energy of the Russian Federation
- Pavel Livinsky, General Director, Rosseti
- Pekka Lundmark, President, Chief Executive Officer, Fortum Corporation
- Dietrich Moeller, President for Russia and Central Asia, Siemens AG
- Klaus Schafer, Chief Executive Officer, Uniper
- Alexey Tsedenov, Head of the Republic of Buryatia
- Pavel Zavalny, Chairman of the Committee on Energy, State Duma of the Federal Assembly of the Russian Federation

11:00–12:15
Manege, 2nd floor conference hall A

Global Energy: Challenges and Sustainable Development
Panel discussion
Finding a New Balance on the Oil Market
Since oil prices fell in 2014, global producers have found themselves at a crossroads: should they help to balance the oil market by voluntarily limiting production, or continue to compete for market share, taking advantage of the exit of producers with high production costs? A number of countries, including both members and non-members of OPEC, have chosen the first option, and, as a result of voluntary limits on production, have succeeded in temporarily stabilizing prices. Other countries, which again include both members and non-members of OPEC, have taken advantage of the situation to expand into markets that are now less populated. Market unease is being contributed to by growing competition in the use of new production technologies and in energy consumption, which in the long term could significantly alter the energy balance and the configuration of the oil market.

What are the strategic consequences of tactics chosen in the face of the oil market surplus? What influence is oil market competition having on the spread of alternative energy sources and technologies; in particular, electric vehicles? What mechanisms for regulating the oil market – cartel agreements, sanctions, or international cooperation – demonstrate the greatest potential? What approach should oil market participants adhere to in order to make maximum use of their existing competitive advantages in production costs, geography, or infrastructure? Which is more important in the long term – the market or prices?

Moderator:
- Daniel Yergin, Vice Chairman, IHS Markit

Panellists:
- Vagit Alekperov, President, Member of the Board of Directors and Chairman of the Management Committee, LUKOIL
- Alexander Dyukov, Chairman of the Management Board, Chief Executive Officer, PJSC Gazprom Neft
- Natalya Komarova, Governor of Khanty-Mansi Autonomous Area–Yugra
- Sergey Kudryashov, General Director, Zarubezhneft JSC
- Kirill Molodtsov, Deputy Minister of Energy of the Russian Federation
- Dmitriy Pumpyanskiy, Chairman of the Board of Directors, Tube Metallurgical Company (TMK)

11:00–12:15
Manege, 2nd floor conference hall B

Realizing the Potential of the Energy Sector
Roundtable
The Future of the Coal Industry against the Background of a New Climate Agenda
Tougher environmental requirements and an expected reduction in coal’s contribution to electricity generation on the European and Asian markets have become substantial challenges for everyone involved in the coal industry. In response to these new challenges, coal producers are actively implementing more environmentally friendly technologies, attempting to occupy new product niches,
and increasing product quality. Technologies for generating electricity and chemicalizing coal are being improved. The Russian coal industry is continuing to restructure itself, create new coal extraction centres in the east of the country, and develop rail and port infrastructure to better support exports. At the same time, the growth of inter-fuel competition and market volatility is reducing the effectiveness of industry forecasts. Is the accessibility of coal, coupled with the development of clean energy and chemical technologies, enough to maintain demand for coal in future? What share of coal in the fuel mix can be considered environmentally sustainable at present levels of industrial development?

Moderator:
- Anatoly Yanovsky, Deputy Minister of Energy of the Russian Federation

Panellists:
- Gennady Alekseev, General Director, HC SDS-Coal
- Pavel Shtark, General Director, Management Company Mechel-Mining LLC
- Alexey Tsedenov, Head of the Republic of Buryatia
- Boris Yatsenko, Partner, Head of the Metals & Mining Group in Russia and the CIS, EY

11:00–12:15 Manege, 2nd floor conference hall C

Global Energy: Challenges and Sustainable Development

Roundtable
The Role and Potential Development of Nuclear Energy in the Global Energy Mix

Current trends in the development of the world economy are focused on creating a new energy system that will entail a shift towards a careful and responsible approach to consuming the Earth’s resources through balancing technological development and preserving the natural environment. Building this low-carbon future will be impossible without developing nuclear power, one of the key components of green energy, a point that was particularly focused on during the Paris Climate Change Conference in 2015. Currently, only 30% of global energy is low-carbon energy, and 11% of this comes from nuclear power plants. How are specific countries and companies investigating options for achieving the optimal energy mix of the future, including through a combination of nuclear power and renewable energy sources? What environment needs to be created and what kind of efforts need to be made in order to develop nuclear energy, which could include the use of international cooperation mechanisms? Which aspects of developing nuclear energy require particular attention when launching and implementing a nuclear programme for long-term sustainable development?

Moderator:

Panellists:
- Bruno Barretto, President, Eletrobras Eletronuclear
- Peter Chiba, General Director, MVM
- Alexey Likhachev, Chief Executive Officer, ROSATOM State Atomic Energy Corporation
- William D. Magwood IV, Director General, Organisation for Economic Co-operation and Development Nuclear Energy Agency (NEA OECD)
- Henri Proglio, Chairman, Chief Executive Officer, EDF (2009 - 2014)

11:00–12:15 Manege, 2nd floor conference hall D

Panel discussion
Russian–European Cooperation: The Path to Global Improvements in Energy Efficiency

Experts view energy efficiency as an important priority in global energy policy. Energy security and environmental safety, combatting climate change and ensuring access to energy all depend on it. However, despite energy saving measures adopted in recent decades, some 70% of global energy consumption still pays no attention to energy efficiency. Changes in the global energy situation – primarily the drastic drop in prices for traditional energy sources and the US’ exit from the Paris agreement – raise doubts over the global community’s resolve in optimizing energy consumption in the near future. In this regard, cooperation between the leading economies of the Old World – Russia and the EU member states – on effective energy use and ensuring a switch to green energy is particularly important. What are the fundamental issues in this cooperation and which tools are best? What are the barriers for this cooperation: how significant are they and how can they be overcome? What role should business play? Which energy efficiency technologies will be most in demand and how can integration between Russia and the EU be achieved in the field of technology? What are the perspectives of energy sector modernization in Russia? What kind of technological strong points may become its basis?
Moderator:
- Jacques de Boisséson, General Director, Total E&P Russie; General Representative in Russia, Total S.A.

Panellists:
- Alexis Conan, Chief Executive Officer, Russia and CIS, Legrand
- Anton Inyutsyn, Deputy Minister of Energy of the Russian Federation
- Torgeir Kypadland, President, Statoil Russia AS
- Philippe Pegorier, President, Alstom Russia; Member of the Board, Association of European Businesses (AEB)
- Mirko Sarovic, Minister of Foreign Trade and Economic Relations of Bosnia and Herzegovina
- Frank Schauff, Chief Executive Officer, Association of European Businesses
- Maxim Shereykin, General Director, Agency for Technological Development
- Johan Vanderplaetse, President, Russia and CIS, Schneider Electric

Front row participants:
- Bashir Chalabi, Chair, Energy Efficiency Committee, Association of European Businesses; Head of Regulatory Affairs, PBN Hill+Knowlton Strategies
- Max Gutbrod, Partner, Moscow Branch, Baker & McKenzie CIS, Limited

12:15–13:00
Manege, 1st floor
Rosseti stand,
presentation area

All-Russian MediaTEK Award Ceremony

Third MediaTEK All-Russian Contest for the Media, Energy Sector Press Services, and Regional Administrations*

The contest is open to federal and regional media organizations, journalists, corporate public relations departments in the fuel and energy sector, and regional administrations. Its main aims are to encourage increased professionalism in the way energy companies publicize their activities in the media, inform the public about projects in the fuel and energy sector, prompt new projects to raise awareness of professions in the fuel and energy sector, and emphasize the significance of the roles played by workers in the energy, oil, and gas industries. The results of the contest will be announced at the 'Russian Energy Week' Energy Efficiency and Energy Development International Forum.

* The list of competition winners taking part in the awards ceremony on October 4, 2017 must be confirmed by the MediaTEK Federal Organizing Committee: mediatek@minenergo.gov.ru. The awards ceremony will continue on October 5, 2017 as part of the Russian Energy Week Forum business programme.

Awards presented by:
- Alexander Novak, Minister of Energy of the Russian Federation
- Dmitry Peskov, Deputy Chief of the Presidential Executive Office of the Russian Federation, Press Secretary of the President of the Russian Federation

Members of the MediaTEK Expert Council:
- Andrei Bystritsky, Dean, Faculty of Communication, Media, and Design, National Research University Higher School of Economics
- Anton Inyutsyn, Deputy Minister of Energy of the Russian Federation
- Dmitriy Kiselyev, General Director, International Information Agency Rossiya Segodnya
- Sergey Koulushev, General Director, Eventica Communications
- Mikhail Komissar, Chairman of the Board of Directors, General Director, Interfax Information Services Group
- Igor Lobovskiy, President, The Global Energy Association on development of international research and projects in the field of energy
- Sergey Mishaylov, General Director, Russian News Agency TASS
- Margarita Simonyan, Chief Editor, Russia Today
- Elena Vartanova, Dean, Faculty of Journalism, Lomonosov Moscow State University
- Sergey Yakovlev, Chief Editor, Publishing House "Kommersant"; Editor-in-Chief, Newspaper "Kommersant"
Plenary session
Energy for Global Growth
An address by President of the Russian Federation Vladimir Putin

Moderator:
- John Fraher, Senior Executive Editor for Energy, Global Business and Finance, Bloomberg

Panellists:
- Seyed Mohammed Hossein Adeli, Secretary General of the Gas Exporting Countries Forum (GECF)
- Adnan Amin, Director-General of the International Renewable Energy Agency (IRENA)
- Mohammed Barkindo, Secretary General of OPEC

Panel discussion
Open Session of the Housing Reform Assistance Fund Supervisory Council

The Housing Reform Assistance Fund engages with the challenges of providing state support to resettle citizens from emergency housing, modernize communal infrastructure, implement energy-efficient technologies, and improve energy conservation in the housing and utilities sector, including by carrying out major repairs on apartment buildings. However, its period of operations is drawing to a close. Continuing to engage with these challenges in the long term, while taking into account the need to attract private funding to meet the goals of modernizing the housing and utilities sector as a whole, is at the heart of the present-day agenda for the sector and everyone involved in it. What has the Housing Reform Assistance Fund achieved in terms of developing the sector? What successes have been seen so far? Does the sector require continued state support? Who will implement this, and how? Is it important to create a separate development institute for the housing and utilities sector? What tools should be used to ensure the continued development of the sector? How can the investment climate in the sector be improved and private capital attracted to address these fundamental problems? During this open session, the Housing Reform Assistance Fund Supervisory Council plans to discuss the basic outcomes of the Fund’s efforts to engage with the challenges described, together with proposals from expert working groups on improving the investment climate in the Russian housing and utilities sector between 2018 and 2025, and to devise approaches and proposals for further development in the sector.

Moderator:
- Sergei Stepashin, Chairman of the Supervisory Board, Housing and Utilities Reform Fund

Panellists:
- Andrey Chibis, Deputy Minister of Construction, Housing, and Utilities of the Russian Federation
- Anton Inyutsyn, Deputy Minister of Energy of the Russian Federation
- Galina Khovanskaya, Member of the Supervisory Board, Chairman of the Committee of the State Duma on Housing Policy and Housing and Communal Services
- Stepan Kirichuk, Member of the Supervisory Board, First Deputy Chairman of the Council of the Federation Committee on Federal Structure, Regional Policies, Local Self-Governance, and Affairs of the North
- Alexandra Levitskaya, Advisor to the President of the Russian Federation
- Igor Shpektor, Member of the Supervisory Board, Chairman of the Civic Chamber Commission on Housing and Public Utilities, Construction and Roads

Panel discussion
Realizing the Potential of the Energy Sector

Developing Renewable Energy Sources in Russia: Scaling Up and Exporting Technology

Thanks to a systematic state policy and the active approach taken by leading companies, domestic renewable energy development is gaining momentum with every passing year. The number of new renewable energy facilities being commissioned is increasing, and these are smoothly taking their place in the national power grid and in isolated energy regions. New domestic technologies are being developed. Photovoltaic cells based on advanced Russian heterostructure technology have entered production this year. A number of major players have now entered the wind power sector, and have announced their intentions to localize high-tech manufacturing in Russia. International cooperation in science and technology is expanding rapidly, enabling the development of Russian renewable energy technologies that are in demand both at home and abroad. As a result, Russian renewable energy players are announcing plans to enter export markets. The Russian renewables sector as a whole is transitioning to a new phase of development. What position in Russia’s energy mix will renewable
sources occupy after 2024 and in the longer-term strategic perspective? What are the factors influencing the development of renewables in different sectors: on the wholesale and retail electricity and power markets, in distributed generation, and at the household level? In what areas should efforts be concentrated to achieve integrated development in the renewables sector, and how can state support for the sector be transformed accordingly? What practical steps must be taken to ensure the continued development of Russian technologies and the export of solutions based on them? Who could become an ally of Russian scientific and technological centres and manufacturers of equipment for sale on the European, Asian, and American markets?

Moderator:

- Georgiy Kekelidze, Chairman of the Board, Association for Renewable Energy «EUROSOLAR Russia»

Panellists:

- Adnan Amin, Director-General of the International Renewable Energy Agency (IRENA)
- Anatoliy Chubais, Chairman of the Executive Board, RUSNANO Corporation
- Alexander Chuvaev, Executive Vice President, Head of the Russia Division, Fortum Corporation
- Roberto Deambrogio, Head of Europe and North Africa, Enel S.p.A
- Kirill Komarov, First Deputy Chief Executive Officer for Corporate Development and International Business, The State Atomic Energy Corporation ROSATOM
- Igor Shakhray, General Director, Hevel
- Alexei Texler, First Deputy Minister of Energy of the Russian Federation

Front row participants:

- Aleksey Kaplun, Director of Prospective Development Department, RusHydro
- Annegret Lewak, Sales Director Central, East and North Europe, Meyer Burger Technology AG
- Klaus Thiessen, Creator, Technopark Berlin Adlershof

15:00–16:30 Manege, –2nd floor conference hall C

Global Energy: Challenges and Sustainable Development

Russia’s Foreign Energy Policy

Foreign energy policy is a key strategic priority for the Russian Federation. Its efforts in this area are not only helping to forge mutually beneficial trade links, but also ensuring energy security for the country and its partners. The implementation of international projects is strengthening the position of Russian companies in markets of interest, and raising the general level of competitiveness in the Russian energy industry. Furthermore, international cooperation in energy is helping to address current challenges in economic policy:

- Creating common energy markets within the Eurasian Economic Union
- Establishing the legal and political conditions in Europe for the smooth transit of Russian energy resources
- Developing transport infrastructure, reducing transit risks, and ensuring the competitiveness of Russian fuels
- Improving the efficiency of economic integration with countries in the Asia-Pacific region and increasing the supply of energy resources to growing Asian markets
- Promoting Russian interests in the outcomes of high-level multilateral events

Issues for discussion:

- The globalization of markets and ‘globally responsible’ energy policy – mutual influence and problems?
- Foreign energy policy as a system of long-term priorities and actions. The need to coordinate efforts to ensure predictability in global energy development.
- Russian foreign energy policy in a new environment: traditional and new directions.
- Alternative views of Russia’s role in global energy. New drivers behind traditional areas of foreign energy policy.
- Cooperation between Russian and foreign energy companies – what are the new roles and mutually beneficial prospects?
- The priority of economic viability in a time of sanctions. Attempting to work with foreign partners to adapt to negative conditions.
- Cooperation at the level of international organizations – positioning Russia and its potential contribution to a sustainable energy future?
- The role of old (OPEC, IEA) and new (IRENA, GECF) international organizations in the energy sector. Increasing the role of multilateral cooperation formats.

Moderator:

- Anatoly Yanovsky, Deputy Minister of Energy of the Russian Federation
Russian Energy Week 2017
Forum Programme

October 5, 2017

09:00–11:30
Manege, 2nd floor
conference hall A

Realizing the Potential of the Energy Sector
Panel discussion
The Digital Transformation of Russian Electricity

Building a digital economy is one of the key strategic challenges faced by the President and Government of the Russian Federation today. A major focus is the question of how issues and aspects of digitizing the national economy can be rethought on a sector-by-sector basis. Data and the information that can be gleaned from it must be considered as an independent factor in production that can influence performance, labour productivity, and the reliability and security of energy supplies. The most significant challenge facing the electricity sector is increasing the reliability and performance of Russia’s power grid by introducing risk-oriented management. Digital technologies are making it possible to optimize the way that limited resources are used, and to secure an improvement in energy supply reliability indicators while maintaining current cost levels. Digitization is creating an opportunity to review how sectoral reports are compiled and presented and to automate oversight procedures, reducing the burden on business. The Russian Ministry of Energy is setting out its vision for the digitization of the electricity sector. Groups of experts are developing a targeted vision for the future of electricity, discussing the latest issues in the digitization programme, evaluating steps already taken to develop individual aspects of the digital transformation, and setting out plans to develop and validate industry-specific products and solutions created within this new technological paradigm. The results of their work will be presented for discussion. Among those contributing their opinion to the wider discussion of these materials will be heads of ministries and agencies responsible for implementing the ‘Digital Economy’ programme, and representatives from technology companies and development institutes, as well as other Russian Energy Week participants.

Moderator:
• Vitaliy Nedelskiy, President, National Association of Industrial Internet Market Participants

Panellists:
• Andrey Cherezov, Deputy Minister of Energy of the Russian Federation
• Evgeniy Kovnir, Deputy Director, Young Professionals Department, Agency for Strategic Initiatives to Promote New Projects (Agency for Strategic Initiatives)
• Roman Shulginov, Vice President for Service Platform, Rostelecom

09:30–11:15
Manege, 1st floor
Presidium conference hall

International Mayors’ Summit on Energy Efficiency and Sustainable Growth in Cities

As a follow-up to the Moscow Mayors’ Meeting in 2016 and as part of the international Clean Energy Ministerial initiative, the Mayors’ Summit on Energy Efficiency and Sustainable Growth in Cities 2017 will be held. The session will include a discussion of international initiatives in the areas of energy-efficient lighting, implementing projects to demonstrate the application of renewable energy, and increasing energy efficiency in buildings and transport, as well as a large-scale Russian project from the Agency for Strategic Initiatives and the Ministry of Energy of the Russian Federation. The programme for the Summit includes the signing of a cooperation agreement between Russian cities and international organizations, as well as a presentation on a pilot research project to benchmark cities according to energy efficiency and sustainable development.

Moderator:
• Svetlana Chupsheva, Chief Executive Officer, Agency for Strategic Initiatives

Panellists:
• Adnan Amin, Director-General of the International Renewable Energy Agency (IRENA)
• Sergey Chebotarev, Head of Tambov City of Tambov Region
• Konstantin Gorobtsov, Kaluga City Head
• Kristina Haverkamp, Managing Director, DENA

Developments in technology are making the international energy sector ever more global in nature, and energy ever more accessible. At the same time, the climate agenda is aimed at minimizing any negative impact on the environment. Every country is participating in this process in its own way, as it simultaneously develops and implements new technologies. This is resulting in changes to the global energy balance, demand for energy resources and technologies, and the structure of the economy. For Russia, as for other countries, questions regarding the optimal strategy for development of the fuel and energy industry under these new conditions are becoming increasingly urgent. What does the future have in store for the cornerstone of present-day energy – hydrocarbons? What are the prospects for the cleanest of the hydrocarbons – gas? Is it the fuel of the future, or is its potential limited by competition with renewable energy sources? How can we best use the potential of hydrocarbons for developing the national and global economies? How can investment into energy be attracted in uncertain times? Where is the investor’s attention focused? How can a balance be struck between investment profitability and energy security in the global economy and the economies of individual states?

Moderator:
- Geoff Cutmore, Anchor, CNBC

Panellists:
- Eulogio Antonio Del Pino Diaz, Minister of People’s Power of Petroleum of the the Bolivarian Republic of Venezuela
- Alexey Kudrin, Chairman of the Board, Center for Strategic Research Foundation; Deputy Chairman, Economic Council under the President of the Russian Federation
- Alexey Likhachev, Chief Executive Officer, ROSATOM State Atomic Energy Corporation
- Leonid Mikhelson, Chairman of the Management Board, Member of the Board of Directors, NOVATEK
- Alexander Novak, Minister of Energy of the Russian Federation
- Daniel Yergin, Vice Chairman, IHS Markit

Realizing the Potential of the Energy Sector

Developing Exchange Trading in Russian Oil

The customary pricing mechanism for oil, which is based on the use of existing price benchmarks as a method for determining fair market price, has recently come under fire amid a significant reduction in oil recovery from fields which form the physical basis for the best-known pricing benchmark. Pricing must be improved by establishing new benchmarks based on oil streams which are more stable from the point of view of production volumes and qualitative characteristics. Establishing benchmarks through direct quotation will help to establish prices with greater precision. Russia is following this trend
In November 2016, trading in deliverable futures based on Urals oil was launched at the Russian Commodities and Raw Materials Exchange. These are accessible today to all major Russian oil companies and key Russian brokers, who are being joined by non-resident companies: oil traders and financial institutions. How can this project be further developed? What impact could developing exchange trading in Urals oil have on the Russian economy?

**Moderator:**
- Kirill Molodtsov, Deputy Minister of Energy of the Russian Federation

**Panellists:**
- Larisa Azimova, General Director, Settlement Depository Company (Joint Stock Company) (SDCO (JSC))
- Atanas Djumaliev, Head of Operations at Global Commodities, VTB Capital
- Anatoliy Golomolzin, Deputy Head, Federal Antimonopoly Service of the Russian Federation (FAS Russia)
- Vyacheslav Mischenko, Head of Argus, Russia and FSU
- Jorge Montepeque, Vice President, Trading & Shipping, Eni SpA
- Alexey Rybnikov, President, Chairman of the Board, SPIMEX

**10:00–11:15**

**Global Energy: Challenges and Sustainable Development**

**Roundtable**

**Safety in the Fuel and Energy Industry: New Challenges**

Fuel and energy industry facilities are viewed as targets for terrorist attack owing to their importance to the national economy and the potential scale of the destructive consequences and impact on the public of such an attack. In order to avert potential threats, a regulatory framework has been developed for these facilities and is constantly being amended. Experts are particularly concerned by the accessibility of unmanned drones which could be used to damage facilities. A need is emerging to develop solutions which will offer effective protection for fuel and energy facilities from threats of this kind.

**Issues for discussion:**
- Regulations for safeguarding the security of fuel and energy sector facilities
- Enforcing and improving Russian legislation on the security of fuel and energy sector facilities (Russian Ministry of Energy, RusHydro, and other companies)
- Protecting fuel and energy sector facilities from unauthorized drone use (Russian Ministry of Energy, Kobra, Vidar, Stilsoft Group, Marine Complexes and Systems)
- The role of government monitoring in safeguarding the security of fuel and energy sector facilities (Russian Ministry of Energy, National Guard of Russia)

**Moderator:**
- Valeriy Konurkin, First Vice Rector, Institute of Continuous Education Top Managers and Specialists of Fuel and Power Industries

**Panellists:**
- Igor Fokin, Head of Control Department of the Fuel and Energy Complex, Deputy Head of the Department of State Control, The National Guard of the Russian Federation
- Tamara Fraitsova, Rector, Federal State Autonomous Educational Institution of Additional Professional Education "Institute of Improvement of Professional Skill of Executives and Specialists of Fuel and Energy Complex"
- Yuriy Khamchichev, Chief Advisor of Security Council Office of the Russian Federation
- Aleksandr Klopopov, Deputy General Director for Anti-Terrorism, Economic and Information Security, RusHydro
- Yuriy Lipatov, Member of the Committee on Economic Policy of the Council of Federation of the Russian Federation
- Dmitriy Melenov, Officer of the National Antiterrorism Committee, Federal Security Service of the Russian Federation
- Yuriy Senturin, State Secretary, Deputy Minister of Energy of the Russian Federation
- Sergey Shabalin, Head of Division of Regulatory and Legal Regulation of Safety of Fuel and Energy Complex Facilities, Ministry of Energy of the Russian Federation

**Front row participants:**
- Aleksandr Dunskiy, General Director, Marine Complexes and Systems
- Sergey Smykov, General Director, VIDAR
- Yuri Stoyanov, General Director, Stilsoft Group
- Denis Zakharov, Commercial Director, KOBRA
A factor for national and international rating agencies examining the investment attractiveness of the Russian Federation (both as a whole and regionally) is the connection of electricity consumers’ power receivers to electrical grids. The main criteria for determining accessibility to the power grid are the time, money and the number of steps required to be connected. Reaching high accessibility requires the direct involvement of all parties concerned. This year, the preliminary results of a five-year project (2013–2017) by Rosseti Group focused on the long-term development of the power grid and technological connection will be shared at the Forum. Current issues related to the electric grid sector will come under discussion, in particular concerning connection services (connecting preferential consumers, shortfalls in revenue, regulating relationships with third parties), the importance of an accessible power grid infrastructure (priority development of power grids), and important matters concerning the formulation of plans and programmes to develop the power sector in the Russian regions.

Moderator:
• Stephan Solzhenitsyn, Senior Partner, McKinsey & Company

Panellists:
• Roman Berdnikov, Member of the Management Board, First Deputy General Director, Rosseti
• Mikhail Kolesnikov, Vice President, All-Russian Non-Governmental Organization of Small and Medium-Sized Business OPORA RUSSIA
• Vyacheslav Kravchenko, Deputy Minister of Energy of the Russian Federation
• Evgeny Nikora, Deputy Governor of the Murmansk Region

Realizing the Potential of the Energy Sector

Panel discussion
Available Networks: Projects, Experience, Current Issues

Realizing the Potential of the Energy Sector

Roundtable
Heating Supply Reform: New Stimuli and Initial Results

July 31, 2017 saw the enactment of Federal Law No. 279-FZ ‘On implementing changes to Federal Law ‘On the heating supply’ and other legislative acts of the Russian Federation relating to the improvement of the heating supply system’. The availability of a new model for the thermal energy market is ushering in a transition from state regulation of all heating supply tariffs using the ‘cost plus’ method to contractual agreement of predictable long-term heating prices for consumers. In order to protect the interests of the end consumer, the price is limited by the cost of heat estimated using the best technology available, from an alternative thermal energy source – local boiler plants. The public commitment to achieving a new standard of heating supply for communities is enshrined in the Agreement on the Performance of the Heating Supply System, concluded between municipal authorities and Russia’s Unified Heat Supply Organization (ETO). This agreement is proving to be a transparent tool for attracting private investment into the heating supply system. A key role will be played by the ETO, which is becoming a single point of accountability within the heating supply system for consumers and government. In order to be able to perform this function, the ETO is being given the powers it needs to optimize and develop the heating supply system in accordance with the agreed plans. New quality requirements are being introduced with respect to service provision and the organization of consumer relations. At the same time, the authorities have a broader selection of tools for oversight of ETO operations, including antitrust measures. The new model on the thermal energy market is encouraging improvements in efficiency, the establishment of new standards, and the attraction of private investment into the heating supply sector. The current challenge is putting this model into action: where and when this model will be implemented in Russia’s regions. Major domestic energy holdings have amassed sufficient know-how and resources to use this model to invest in upgrading the heating supply of Russian towns. The decision is for regional and municipal leaders.

The discussion will consider the following questions:
• The new model on the heating market as a development tool: advantages for consumers, regional authorities, and the sector as a whole.
• Subjective factors in implementing the new model: how can effective cooperation be ensured between regional authorities and energy companies?
• Practical aspects: changing the relationship between the ETO and other heating supply organizations (heating networks, thermal energy sources) as the new model for the heating market is implemented.
• The Agreement on the Performance of the Heating Supply System – a tool for increasing efficiency, establishing new standards, and transparently attracting private investment into the heating supply system.
• Key timeframes in the transition to the new model and the challenge of minimizing risks to the consumer; government powers and the responsibilities of heating suppliers.

Moderator:
• Stephan Solzhenitsyn, Senior Partner, McKinsey & Company
Panellists:

- Dmitriy Feldman, Head of the Administration of Rubtsovsk
- Vyacheslav Kravchenko, Deputy Minister of Energy of the Russian Federation
- Mikhail Kuznetsov, Chairman of the Board, General Director, Member of the Strategy Committee, “Siberian Generating Company”
- Svetlana Nikonova, Deputy General Director for Economy, Quadra - Power Generation
- Roman Nizhankovskiy, Deputy General Director - Executive Director, PJSC T Plus
- Pavel Shatskiy, First Deputy General Director, Gazprom Energoholding

12:00–13:15

Manege, 2nd floor conference hall A

Panel discussion

Realizing the Potential of the Energy Sector

Increasing the Efficiency of Oil Extraction: Meeting the Challenges

Despite a fall in the quality of reserves at existing fields, the volume of oil extracted in Russia over the last five years has increased by 30 million tonnes annually. This is the result of the extended application of secondary and tertiary enhanced oil recovery techniques, penetration of new production regions, and more active development of hard-to-recover and shelf reserves. Within just a year, the volume of horizontal drilling in Russia increased by nearly 20% and accounted for 35% of the total volume of operational drilling, oil recovered on the continental shelf increased by 17%, and development of hard-to-recover reserves by 12%. A full set of measures have been developed and implemented in Russia in order to maintain the level of oil recovery achieved in the present economic environment and reduce reliance on suppliers of high-tech equipment. This includes government support measures for extraction from hard-to-recover reserves, an import substitution programme for critically important equipment, and new advances in scientific research and experimental design. Which technologies could help to increase the efficiency and environmental safety of Russian oil extraction? What projects that have been implemented or are being implemented are helping to reduce technology dependence? Is there potential for increasing recovery from mature and unconventional fields in the current economy?

Panellists:

- Nikolay Buynov, Chairman of the Board of Directors, JSC «INK-Capital»
- Sergey Kudryashov, General Director, Zarubezhneft JSC
- Kirill Molodtsov, Deputy Minister of Energy of the Russian Federation
- Gilles Nougier, Vice President for Oil and Gas in Europe, Schneider Electric

12:00–13:15

Manege, 2nd floor conference hall B

Panel discussion

Realizing the Potential of the Energy Sector

‘Energynet’ Projects and Initiatives: a Contribution Towards the Development of ‘New Energy’

Questions of how best to develop electrical energy are more pressing than ever before. On one hand, the sector is anticipating significant changes in the next 10–15 years, with new kind of markets, active consumers, aggregators, and other market participants in one way or another combining different kinds of activity. On the other hand, already solvable challenges surrounding modernizing and intellectualizing electrical energy, renewing key funds, and improving organizational structures are no less important, and should play their part in a strategic vision of the sector’s future. How will new ‘Energynet’ markets and market participants affect the development of electrical energy? What effect are ‘Energynet’ projects having on the formation of ‘new energy’? What correction must traditional paths of development in the sector undergo in connection with initiatives and projects being developed as part of the National Technology Initiative (NTI)? How can barriers to the development of ‘new energy’ be overcome?

Moderator:

- Alexey Kulapin, Director of the State Energy Policy Department, Ministry of Energy of the Russian Federation

Panellists:

- Oleg Dubnov, Vice President, Executive Director, Cluster of Energy Efficient Technologies, Skolkovo Foundation
- Evgeniy Olkhovich, Deputy General Director for Strategic Development, Rosseti
- Alexei Texler, First Deputy Minister of Energy of the Russian Federation
- Vladislav Vorotnitsky, Deputy General Director for Marketing and Sales, Tavrida Electric; Head of the Subgroup “Reliable and Flexible Networks”, National Technology Initiative “Energynet”
Front row participant:
- Members of the EnergyNet working group

12:00–13:15
6th Global Energy Summit
Creating a Synthesis between the Three Es (Economy, Environment and Energy) as a Factor in Our Planet's Health: The Hydrocarbons Era – Opening Up Opportunities for the Development of New Technologies

Moderator:
- Oksana Derevyanko-Ghozzi, Head of Business Programmes, Russia Today

Panellists:
- Adnan Amin, Member of the International Award Committee of the Global Energy Prize; Director-General, International Renewable Energy Agency (IRENA)
- Dominique Fache, Director, Sophia Antipolis Foundation; Chairman, Russian Technology Foundation (RTF)
- Boris Katorgin, Global Energy Prize Laureate 2012; Academician, Russian Academy of Sciences; Head, Scientific and Educational Center "Energy-Physical Systems" at "Moscow Aviation Institute"
- Yuri Petrenya, Chief Executive Officer, Power Machines
- Thorsteinn Ingjolfsson, Global Energy Prize Laureate 2007; General Director, Innovation Centre Iceland

12:00–13:15
Realizing the Potential of the Energy Sector
Panel discussion
Shining a Light on New Technologies: Making Quick and Noticeable Improvements to the Quality of the Urban Environment

The presence of good-quality lighting has become an important element in the quality of life of city residents and an important part of the work of many municipal leaders. At the same time, municipalities face challenges in attracting private investment, and suffer from a lack of experience when it comes to creating an attractive environment using decorative lighting and selecting equipment based on new technologies. The discussion will consider the best global and Russian practices in transitioning to energy-efficient urban lighting, ensuring that mistakes can be avoided and the best use made of investment, as well as an initiative developed by the Russian Ministry of Energy and the Agency for Strategic Initiatives to make funds for modernizing street lighting accessible to municipalities and regions.

Panellists:
- Andrey Mayorov, General Director, United Energy Company
- Sergey Sakharov, Head of Administration of Suzdal

14:00–15:15
Realizing the Potential of the Energy Sector
Presentation on the Heating Supply Efficiency Ranking

In 2017 the Russian Ministry of Energy, together with the regions of the Russian Federation and the expert community, began work on creating a heating supply efficiency ranking for communities in the Russian Federation. This ranking is applied to municipalities at the regional level. At the federal level, it is applied to regions. The ranking evaluates the efforts of administrative bodies at all levels to establish conditions facilitating a reliable, failure-free heating supply, reduce levels of specific fuel consumption, apply modern technology, update heating supply systems, implement planned measures, and increase energy efficiency among consumers. The ranking seeks not only to measure progress, but also to identify and promote best practices. The results of the regional ranking will be discussed with the involvement of regional and municipal energy, housing, and utilities ministries, energy companies, and experts for future use by the Russian Ministry of Energy, as well as by experts in public oversight.

Moderator:
- Vasily Polivanov, Vice-President, Head of the Committee for Technical Regulation and Standardization, NP "Russian Heat Supply"

Panellists:
- Anton Inyutsyn, Deputy Minister of Energy of the Russian Federation
- Dmitry Kudryashov, Deputy Governor of Kemerovo Region for Housing & Communal
14:00–15:15

Panel discussion

Inevitable Growth: New Renewable Energy Projects in Russia’s Regions

Use of renewable energy resources has undergone rapid geographical expansion in recent years, becoming a key feature of the majority of regional initiatives. The active growth of this new segment of the electricity sector is due largely to the adoption in 2014 of a number of regulations at the federal level intended to stimulate the generation of electricity from renewable sources. The initial outcomes of wind, solar, and small scale hydropower projects implemented so far as decentralized energy systems have not only demonstrated their technical and environmental potential, but have also proven the economic viability of implementing energy facilities of this kind. Is it already possible to talk about the potential of replicating tried and tested solutions? Are regions ready to diversify their electricity generation infrastructure? Are renewable energy projects attractive from an investment point of view? What effect are renewable energy projects having on regional socioeconomic development?

Moderator:
- Anton Usachev, Director, Russian Solar Energy Association

Panellists:
- Amin Askerov, Strategy and Investment Director, JS «United Heat Energy Company»
- Aleksey Kolodeznikov, First Deputy Chairman of the Government of the Republic of Sakha (Yakutia)
- Evgeny Nikora, Deputy Governor of the Murmansk Region
- Viktor Pazdnikov, Minister of Territorial Development of the Zabaikalsky Krai
- George Rizhinashvili, Member of the Management Board, First Deputy Director General, RusHydro
- Igor Shakhray, General Director, Hevel

14:00–15:15

Roundtable

Petroleum Refining in Russia: Large-Scale Modernization and New Challenges

A programme to modernize petroleum refining in Russia is successfully under way. Dozens of facilities have been modernized in the last five years. The average petroleum refining depth is now close to 80%, and exceeds 98% at some facilities. New refining capacities are being installed in Leningrad Region and the Republic of Bashkortostan, and major investment projects are being realized in the Far Eastern Federal District. In spite of this rapid development, the refining sector is vulnerable to a number of risk factors which could put a brake on the investment process. These include surplus capacity in Europe and Asia, the growing popularity of the electric car, sanctions-related risks, and planned reduction in oil export duties. What has large-scale modernization achieved for the sector and for consumers? What is the demand forecast for engine fuel, taking into account the uncertainties represented by the development of the electric car? What future directions will be taken by oil product streams?

Moderator:
- Sergey Shchelkalin, Partner, Head of Corporate Tax, KPMG in Russia and the CIS

Panellists:
- Kirill Molodtsov, Deputy Minister of Energy of the Russian Federation
- Alexey Sazanov, Director of Tax Policy and Customs Schedule Department, Ministry of Finance of the Russian Federation
Realizing the Potential of the Energy Sector

Investments in Russia’s energy sector over the past five years have exceeded RUB 18 trillion. The sector accounts for more than 25% of all investment in the nation every year. Modernization programmes that are ambitious in size and timescale are currently being implemented in the petroleum refining and electricity industries, new petrochemical facilities are being constructed, projects to develop natural resource deposits in Eastern Siberia and hard-to-recover oil fields are under way, new pipelines are being laid, and transport capacity is being expanded to the west and to the east. Completing these projects effectively is key to ensuring the Russian Federation’s energy security and economic development. Yet there are a number of global and local factors that make the industry’s task more difficult. Over the past 50 years, in spite of all the technological breakthroughs, global productivity in major construction has barely increased. Whilst projects have become increasingly complicated, the methods and tools used to implement them have changed very little. According to McKinsey Global Institute, the level of digitization in the construction industry sits just above that of agriculture. As a result, an overwhelming majority of projects are experiencing considerable overruns in terms of completion date and budget and, when commissioned, the finished products often underperform. The successful implementation of megaprojects in Russia is being held back still further by a complex geopolitical situation, the fact that the domestic market for engineering, procurement, and construction contractors is at the early stages of development, the turbulence on the market for general construction contractors, the limited availability of highly competent project specialists to act as clients, and a number of specific regulatory limitations. What is the primary factor that is limiting the successful implementation of major investment projects in the Russian energy sector? Considering the current global political situation and development factors in the construction industry, which major investment project models would be most effective for the Russian energy sector (or its separate subsectors) in terms of meeting deadlines, staying within budget, and delivering quality products? In your opinion, what key role should the state play in improving the effectiveness of investment projects in the energy sector? Which new technologies are most promising and relevant to Russia in terms of increasing productivity in major construction projects?

Moderator:
- Maksim Varshavskiy, Partner, McKinsey & Company

Panellists:
- Petr Bezukladnikov, Vice President of the Expert-Analytical Directorate, Bank for Development and Foreign Economic Affairs (Vnesheconombank)
- Nico Paetzold, General Director, Siemens Gas Turbine Technologies LLC
- Leonid Sorkin, Chairman of the Board of Directors, Vice President, Honeywell
Realizing the Potential of the Energy Sector

Meeting between Chief Engineers of Power Distribution Companies: ‘Technology and Investment Policy: Repair or Replace?’

A significant amount of power grid equipment has practically zero residual value, yet has remained in use thanks to periodic technical examination and repair. At the same time, companies do not have sufficient resources to completely upgrade fixed assets. Companies are faced with the challenge of finding an optimal balance between maintaining dilapidated equipment for comparatively low repair and operational costs, and replacing it with expensive modern equipment which will save money on subsequent maintenance. What are the best practices among chief engineers in distinguishing equipment that can be repaired from equipment that should be replaced? To what extent can modern digital equipment help improve economic performance indicators? In which areas is the latest digital technology already proving advantageous?

Moderator:
- Alexander Pilyugin, First Deputy General Director, Chief Engineer, IDGC of Centre

Panellists:
- Vsevolod Ivanov, First Deputy General Director, Chief Engineer, PJSC Moscow United Electric Grid Company
- Oleg Shamshovich, Deputy Director - Chief Engineer, Bashkirenergo LLC

October 6, 2017

Plenary session

Uniting the Efforts of the Infrastructure Sector and the Regions to Achieve Economic Growth

The development of infrastructure is becoming an issue of decisive importance in today’s economy. It creates opportunities for meeting consumer demands – both industrial and domestic – as fully as possible. The construction of energy, urban, telemetry, social, financial, and transport infrastructure enables people to realize their plans, spurs new business growth and development of technological solutions, and attracts investment and qualified specialists. Big data and other smart technologies are making it possible to plan infrastructure projects with greater precision, in a way which is oriented towards demand (including potential demand). A large contribution to the development of infrastructure is being made at a regional level, where there is high awareness of local needs. What factors are influencing the development of infrastructure in Russia’s regions? What infrastructure does the Russian economy need more of? What is hindering the development of international infrastructure? Do possibilities exist for cross-sectoral collaboration in constructing and modernizing infrastructure which could achieve a synergistic effect for the economy?

Moderator:
- Evelina Zakamskaya, Anchor, Russia 24

Panellists:
- Oleg Belozerov, President, Chairman of the Board, Russian Railways
- Herman Gref, Chief Executive Officer, Chairman of the Executive Board, Sberbank
- Peter Herweck, Executive Vice President for Industry, Member of the Executive Committee, Schneider Electric
- Pavel Livinsky, General Director, Rosseti
- Alexander Novak, Minister of Energy of the Russian Federation
- Maksim Reshetnikov, Governor of Perm Territory
- Sergei Sobyanin, Mayor of Moscow
10:00–11:15
Manege, 1st floor
Presidium conference hall

**All-Russia Forum on Promoting an Energy-Saving Lifestyle and Information Transparency in the Fuel and Energy Industry**

The Russian fuel and energy sector plays a special role in the social and economic development of the country, accounting for more than 22% of GDP even in the present highly volatile state of the global markets. A reliable energy supply for tens of millions of consumers and the importance of energy to the federal budget ensure that the public pays close attention to the state of the sector. Resolving substantial investment and production challenges and securing legal support for these solutions has necessitated greater information transparency within the sector. Between 2013 and 2016, companies and regions began to consolidate their efforts to promote an energy-saving lifestyle, as well as professions in the fuel and energy sector and social and environmental activism, with support from the Ministry of Energy. During the All-Russia Forum, the results of joint work done in 2017 will be presented, together with an analysis of the #TogetherBrighter festival, the MediaTEK contest, and other examples. Sector-wide challenges for 2018 will also be identified. Forum participants will include representatives from energy companies, regional energy and housing and utilities ministries, and the media.

**Panellists:**
- Dmitriy Bobkov, Director of Information Policy and Public Relations Department, Rosseti
- Aleksandr Byrikhin, Deputy Director for Public Relations and Communications, JSC SUEK
- Valery Fedorov, Director General, Russian Public Opinion Research Center (VCIOM)
- Anton Inyutsyn, Deputy Minister of Energy of the Russian Federation
- Artem Korolev, Director, Charity Foundation “Nadezhnaya Smena”
- Oleg Leshuk, Vice President for Business Development, ADV
- Natalia Nikolaeva, Deputy General Director, Medialogia
- Yuliya Panshuta, Coordinator of the Regional Organizing Committee in the Krasnodar Territory, All-Russian festival of energy saving #TogetherBrighter

10:00–11:15
Manege, 2nd floor conference hall D

**Realizing the Potential of the Energy Sector**

**Meeting between Chief Engineers of Heating Supply Companies**

Rapidly expanding urban populations and the associated increase in housing stock are contributing to a greater burden on urban infrastructure. The centralized heating supply system found in Russian cities, which dates back to the Soviet period, offers enormous potential for efficiency gains. At the same time, significant wear and tear on heating infrastructure is placing fresh demands on the technology for renovating and overhauling the network, while the ever-increasing rate at which people are having their own weather-sensitive heating systems installed is presenting head engineers with new challenges in terms of balancing and ensuring the reliability of heating supplies. During this annual meeting, head engineers and energy specialists from heating supply companies will discuss current problems in the sector based on real case studies and exchange experience of solving challenges faced by companies.

**Moderator:**
- Vasily Polivanov, Vice-President, Head of the Committee for Technical Regulation and Standardization, NP “Russian Heat Supply”

**Panellists:**
- Parviz Abdushukurov, Vice President for Thermal Business, Deputy General Director for Operations, Chief Engineer, Fortum
- Vladimir Bashkarev, General Director, Lipetsk Municipal Energy Company
- Igor Maksimov, Director of the “Heat” Division, “Siberian Generating Company”
- Igor Strenadko, General Director, “St. Petersburg Heating Grid”
- Aleksandr Vilesov, Director for Economics and Heat Sites, “T Plus”

10:00–11:15
Manege, 3rd floor restaurant for participants

**Global Energy: Challenges and Sustainable Development**

**Business Breakfast (closed event)**

**Diversifying the Defence Industry to Support the Energy Sector: A Strategy for Change. Make in Russia!**

**Moderator:**
- Oleg Bochkaryov, Deputy Chairman of Military-Industrial Commission under the Government of the Russian Federation

**Panellists:**
- Vladimir Artyakov, First Deputy General Director, Rostec
Panel discussion

**Modernizing Generating Capacity in the Electricity Sector: Problems and Prospects**

In the period since the reorganization of RAO UES, significant investment has been made in upgrading fixed assets for power generation. This has made it possible to avoid power shortages and reduce failures during the current period. As part of a proven programme of agreements to make capacity available on the wholesale market, significant capacity has been introduced in recent years, but as the terms of these agreements come to an end, investment in thermal generation is set to fall after 2020. At the same time, taking into account the amount of generating equipment from thermal power plants which has low technical and economic ratings and is set to be decommissioned in accordance with programme documents for the long-term development of RAO UES, even in the 'measured' scenario of increased demand for capacity, reductions in the installed capacity of operational power plants will require that they be outfitted with new generating capacity. In order to achieve sustainable development in the energy sector, market mechanisms must be created to support the modernization of existing and the construction of new generating capacity. In this connection, the question of possible forms and sources of funding for modernizing thermal generation in the medium term takes on a special significance. What are the potential mechanisms for financing modernization (extending the programme of agreements to provide capacity, implementing a new guaranteed investment mechanism, improving the principles of competitive capacity selection, or some other option?) What kind of generation should we be focusing on: generating electricity and thermal energy using combined heat and power plants, or prioritizing the development of electricity production using major power stations (GRES)? Where is the balance between consumer interests and those of producers of electricity and capacity? What is the optimal balance between domestic and imported equipment when it comes to modernizing thermal generation, and what are the potential capabilities of Russian power engineering with regard to meeting the growing demand for power engineering products?

**Moderator:**
- **Stephan Solzhenitsyn**, Senior Partner, McKinsey & Company

**Panellists:**
- **Boris Ayuyev**, Chairman of the Board, System Operator of the United Power System
- **Maksim Bystrov**, Chairman of the Board, Association "NP Market Council"
- **Alexander Chuvaev**, Executive Vice President, Head of the Russia Division, Fortum Corporation
- **Mikhail Ivanov**, Head of Department of Machine-Tool Building and Investment Machinery, Ministry of Industry and Trade of the Russian Federation
- **Nadezhda Izotova**, General Director, Russian Gas Turbines LLC
- **Vasiliy Kiselev**, Director, Energy Consumers Association
- **Alexei Kultyshev**, General Designer, Power Machines
- **Igor Mironov**, Director, Association "Council of Power Producers"
- **Vasily Nikonov**, Director, Energy Department, Rosneft
- **Denis Pasler**, Chairman of the Management Board, Acting General Director, T Plus
- **Semyon Sazonov**, General Director, JSC "Quadra - Power Generation"
- **Dmitry Vasilyev**, Head, Electrical Energy System Regulation Division, Federal Antimonopoly Service of Russia
- **Fedor Veselov**, Head, Department for Development and Reforms in the Electric Power Sector, Energy Research Institute of the Russian Academy of Sciences (ERI RAS)
- **Andrey Zhukovsky**, Director for Energy Markets, Unipro PJSC

**Presentation on the Energy Efficiency Ranking of Power Distribution Companies**

The Russian Ministry of Energy, in tandem with the expert community, presents the results of a project to rank power distribution companies by energy efficiency based on their operations in 2016 for discussion with participants. The ranking evaluates the efforts made by companies to reduce distribution losses, make use of modern technologies, and optimize the development of infrastructure. It seeks not only to measure progress, but also to identify and promote best practices. The results of the ranking will be discussed with the involvement of regional and municipal energy and housing and utilities ministries, energy companies, and experts in order to disseminate best practice.

**Moderator:**
- **Valery Presnyakov**, Editor-in-Chief, Power and Industry of Russia Newspaper
Global Energy: Challenges and Sustainable Development

Panel discussion
Technological Cooperation and Import Substitution in the Energy Sector: An Effective Response to the Risks of Sanctions

To effectively take the Russian fuel and energy sector forward and to utilize the potential raw material base, it is of vital importance to equip the country with its own strategically important technologies. Joint efforts in this area from the state and industry leaders have led to considerable progress being made. One successful area has been gas turbines, their production, monitoring, diagnostics and servicing. In the oil and gas industry, we have seen developments in technologies and equipment for extracting hard-to-recover oil, offshore operations, LNG production, and our ability to provide catalysts for oil refineries and petrochemical plants. International cooperation between scientists and technologists has also been growing rapidly, with foreign partners willing to cooperate on the Russian market and world arena. What have the policies for import substitution in the fuel and energy sector pursued jointly by the state and industry players achieved today? Is the current and projected future demand enough to drive the continued and effective development of import substituting technologies and equipment? Are additional state support measures required for the further development of manufacturing and servicing equipment in the Russian fuel and energy sector? What are the prospects for further reducing the dependence of the fuel and energy sector on imported technologies and equipment? Are potential foreign markets willing to acquire equipment manufactured in Russia, and who could assist Russian machine-builders in entering the international market?

Moderator:
- Vasily Below, General Director, Skolkovo Ventures

Panellists:
- Aleksandr Artyukhov, General Director, ODK
- Denis Fedorov, General Director, Gazprom Energoholding
- Mikhail Lifshitz, Chairman of the Board of Directors, Rotec
- Andrey Murov, Chairman of the Management Board, FGC UES JSC
- Vasily Osmakov, Deputy Minister of Industry and Trade of the Russian Federation
- Alexander Shokhin, President, Russian Union of Industrialists and Entrepreneurs (RSPP)
- Alexei Texler, First Deputy Minister of Energy of the Russian Federation

Front row participants:
- Sergey Arkhipov, Head of the Department of Technology Partnership and Import Substitution, PJSC Gazprom Neft
- Alexander Medvedev, Director for technical sales and product tracking, Tube Metallurgical Company (TMK)
- Valery Muruglets, Member of the Management Board, Head of Innovations, Investments and Costs Management Division, «INTER RAO»
- Pavel Revel-Muroz, Vice-President, Transneft

Meeting (closed event)
All-Russian Conference on Preparations by Electric Power Organizations for the Autumn/Winter Period 2017–2018

Issues for discussion:
- Results from monitoring of accident rates and the technical condition of power generation facilities during preparation for the autumn-winter period. Results of a Rostechnadzor evaluation of the readiness of power industry entities to operate in the autumn-winter period.
- The energy balance at UPS Russia for the 2017/2018 autumn-winter period, major risks and problem issues.
- Tariff regulation and financial estimates on the power markets
- Reports from power distribution companies on the progress of preparations at power facilities for the 2017/2018 autumn-winter period. Problems
- Reports from power generation companies on the progress of preparations at power facilities for the 2017/2018 autumn-winter period.
- Regional issues surrounding outcomes of the 2017/2018 autumn-winter period. Brief comments from the floor on issues falling within the oversight of the Russian Ministry of Energy.
Roundtable

Cooperation with International Organizations: How to Achieve Maximum Effect

Russia has long benefitted from the support of the United Nations Development Programme. The country subsequently founded a trust fund, together with the UNDP, with the aim of supporting sustainable development in programme countries. How can the effectiveness of projects be ensured? Will the experience gained from cooperation at this first stage help Russia to become an effective donor and create an effective mechanism for investment? Is it possible to create a synergy between this new project and integration processes within the Eurasian Economic Community? The session will include a discussion of best practices at the UNDP Regional Bureau, as well as a presentation and discussion of the challenges faced by the regional project ‘Legislative regulation to promote energy efficiency in the countries of the Eurasian Economic Union’.

Moderator:
- **Alexander Averchenkov**, Manager of the Trust Fund for Development, United Nations Development Programme (UNDP) Regional Center for Europe and CIS

Panellists:
- **Diana Harutyunyan**, Climate Change Programme Coordinator, United Nations Development Programme (UNDP) in Armenia
- **John O’Brien**, Regional Technical Advisor on Climate Change Mitigation, United Nations Development Programme (UNDP) Regional Bureau for Europe and CIS
- **Natalia Olofinskaya**, Regional Technical Specialist for Climate Change Adaptation, Europe and CIS, United Nations Development Programme (UNDP) in Russia

14:00–15:15

Realizing the Potential of the Energy Sector

Roundtable

Efficiency and Safety in the Coal Industry: Best Practices and Innovative Technologies

Restructuring the coal industry has made it possible to shut down some of the least profitable mines with the most geologically complex seam development conditions. This has helped to reduce the rate of occupational accidents in the sector. The rate of accidents with a fatal outcome has fallen threefold since 2000. In order to continue to reduce the risk of major accidents, the Russian Ministry of Energy created a special commission in 2016, which compiled a list of mines carrying a high accident risk and developed a plan of action to increase safety. Following implementation of the plan, only four of an original group of 20 mines carrying a high risk of accident are set to remain open. Other strategies for reducing the risk of accidents include improving life support systems and personal protective equipment for miners, maintaining rescue services in a state of readiness, and other measures for increasing mine safety. How is implementation of the plan progressing? How noticeable are changes to safety measures in mines? Do the products manufactured by safety equipment companies meet the needs of miners? What innovative projects in mining safety are being implemented in Russia today?

Issues for discussion:
- The status of industrial safety and occupational health in the Russian coal sector
- Best practices (open cut and underground mining operations)
- Implementation of new innovative projects, progress and prospects

Moderator:
- **Sergey Mochalnikov**, Director, Department of Coal and Peat Industry, Ministry of Energy of the Russian Federation

16:00–18:00

Session (closed event)

50th Session of the APEC Expert Group on Energy Efficiency and Conservation

Panellists:
- **James Kendell**, Vice President, Asia Pacific Energy Research Centre (APERC)
- **Pengcheng Li**, Secretary, Energy Conservation Secretariat, China National Institute of Standardization
- **Ren Liu**, Assistant to the Researcher, China National Institute of Standardization
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<td>16:00–18:00</td>
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<td>Meeting between the Technical Directors of Coal Mining Companies</td>
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In this meeting, technical directors from coal mining companies (chief engineers, chief mechanics, chief surveyors, and chief geologists) will discuss current issues in the sector based on real case studies and exchange experience in solving challenges faced by companies.