



**Draft as of September 5, 2017**

**PROGRAM**  
**SEPTEMBER 7, 2017 (THURSDAY)**

**08:00 – 10:00 REGISTRATION OF PARTICIPANTS**

*Early registration is necessary for security reasons. Coffee will be available to the participants.*

**10:00 – 11:00 FORUM OPENING CEREMONY AND SPECIAL ADDRESSES**

***Plenary Hall, Palace of Peace and Reconciliation***

Chair: Jambulat Sarsenov, Vice Chairman, KAZENERGY Association

- Kanat Bozumbayev, Minister of Energy, Kazakhstan
- Kimmo Tiilikainen, Minister of Housing, Energy and the Environment, Finland
- Ilia Eloshvili, Minister of Energy, Georgia
- Grzegorz Tobiszowski, Secretary of State, Ministry of Energy, Poland
- Jiří Koliba, Vice Minister of Industry and Trade, Czech Republic
- Tor Fjaeran, President, World Petroleum Council (WPC)

**11:00 – 12:30 INTERACTIVE DISCUSSION “ENERGY TRANSITION: SECURITY, ACCESSIBILITY AND SUSTAINABILITY”**

***Plenary Hall, Palace of Peace and Reconciliation***

Co-Chair: Matt Sagers, Managing Director, Russian and Caspian Energy, IHS Markit

Co-Chair: Uzakbai Karabalin, Vice Chairman, KAZENERGY Association

**KEYNOTE REPORT: KAZENERGY NATIONAL ENERGY REPORT 2017**

- Adam Sieminski, James R. Schlesinger Chair for Energy and Geopolitics, Center for Strategic and International Studies (CSIS), United States of America

Participants:

- Kanat Bozumbayev, Minister of Energy, Kazakhstan
- Urban Rusnak, Secretary General, International Energy Charter
- Sun Xiansheng, Secretary General, International Energy Forum
- Sakari Oksanen, Deputy Director-General, IRENA
- Jim Nicholson, Senior Vice President, Argus Media Ltd
- Almassadam Satkaliyev, Chairman of the Board, Samruk-Energy JSC, Chairman of the WEC Kazakhstan National Committee

After the collapse of world oil prices three years ago, and numerous attempts by the oil powers to fix them at a painless level and thus save their resource-dependent economies, the world started talking about the need for speedy transition to sustainable development. Challenges associated with the growth of production and consumption, depletion and irreparability of natural resources, low energy prices, and inability of the international oil export cartel to ensure security and accessibility of the world energy system fostered deformation of national economies, regardless of political systems and economic models. It negatively affected social development of a number of states as well. Achieving the goals of sustainable development

and quality of life of the nations largely depends on the concerted global measures to strengthen energy system. The only reasonable solution would be protecting the environment, applying energy-saving and exchanging scientific ideas and industry experience.

For Kazakhstan, transition to sustainable development is a vital need. Most of socioeconomic problems of the country are due to historically developed imbalance between production and consumption. New National Energy Report (NER) prepared in 2017 by KAZENERGY Association in cooperation with IHS Markit is intended to give a comprehensive insight into the current situation and development prospects of the basic sectors of Kazakhstani economy which make up the country's fuel-and-energy industry. The report presents studies on geopolitical and economic changes that have significantly affected the economy and energy of Kazakhstan. It also assesses Kazakhstan's potential of using renewable energy sources, implementation of green initiatives, and reduction of energy and resource intensity of the economy, including in relation to Astana EXPO 2017.

*Under this interactive panel discussion, participants are encouraged to discuss the following:*

- Energy balance and energy security.
- Dynamics of oil prices and achievement of sustainable energy development goals.
- The strategy of the future for Kazakhstan and related paradigm shift.
- Mitigating the contradictions between climate and development goals for fossil fuel-based economies.
- Changing the architecture of the world energy market: potential of the Republic of Kazakhstan.

**11:00 - 14:00 PROGRAM SESSION:**

**III FORUM OF THE KAZENERGY WOMEN'S ENERGY CLUB**

**"Women in the Energy Sector. Expanding the Future Boundaries"**

*Conference Hall 4, Palace of Peace and Reconciliation*

**12:30 - 13:30 PRESS CONFERENCE AND SIGNING OF AGREEMENTS**

*Press Center, 3<sup>rd</sup> floor, Palace of Peace and Reconciliation*

*By invitation only*

**12:30 - 14:00 LUNCH BREAK**

*Dining Hall, 3<sup>rd</sup> floor, Palace of Peace and Reconciliation*

*By invitation only*

**14:00 - 15:30 PROGRAM EVENTS - 3 PARALLEL SESSIONS**

Sustainable development of major oil & gas projects	Integration of energy markets - challenges and prospects	IX National Conference "Extractive Industries Transparency Initiative"
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**14:00 - 15:30 PROGRAM SESSION:**

**"SUSTAINABLE DEVELOPMENT OF MAJOR OIL & GAS PROJECTS"**

*Plenary Hall, Palace of Peace and Reconciliation*

*Within the framework of the 20th anniversary of the PSA on the Northern Caspian and Karachaganak project.*

Chair: Matt Sagers, Managing Director, Russian and Caspian Energy, IHS Markit

Participants:

- Makhambet Dosmukhambetov, First Vice Minister of Energy, Kazakhstan (tbc)

- Oryn Sultanov, Senior Vice President for Major Nonoperating Assets and Offshore Projects, NC “KazMunayGas” JSC
- Nikolay Gorban, General Director, Caspian Pipeline Consortium JSC
- Bruno Jardin, Managing Director, North Caspian Operating Company N.V.
- Murat Zhurebekov, General Director, PSA LLP
- Renato Maroli, General Director, Karachaganak Petroleum Operating B.V.
- Olivier Lazare, Country Chair, Shell Kazakhstan
- Luca Vignati, Executive Vice President, Central Asian Region, Eni

Oil and gas industry in Kazakhstan over the past two decades has demonstrated incredible growth, mainly due to investments into the large projects by foreign corporations and the national holding, the latter represented in all large and medium-sized projects. As far back as during the acquisition of independence, such projects have resulted in the development of such giant oil and gas fields as Karachaganak and Kashagan which now ensure the growth of oil production in Kazakhstan.

The global agreements on the development of the Karachaganak and Kashagan fields were signed 20 years ago, in November 1997, as a part of the visit of President Nursultan Nazarbayev to Washington, the USA. It has marked a new stage in the economic development of independent Kazakhstan, which in the next two decades was largely determined by the oil and gas potential.

These mega-projects already cover all operational costs and bring profit to shareholders and the Republic of Kazakhstan. Expanding production at the fields will increase extraction of hydrocarbon raw materials in the country, placing it on a par with the world's largest oil and gas producers. High technological level and, correspondingly, high cost of these facilities, instability and low prices for oil on world markets and growing demand for Caspian hydrocarbons among world consumers make these projects vulnerable and stable at the same time. What is going to be discussed in this session is foreseeable future of Karachaganak and Kashagan with regard to new challenges in global energy.

*Under this program session, participants are encouraged to discuss the following:*

- Historical context of 1997 Production Sharing Agreements in Kazakhstan;
- Government policy and interests of foreign investors;
- Twenty years of sustainable development under PSA framework: examples of Karachaganak and Kashagan;
- Challenges and ways forward for new foreign investment in Kazakhstan’s oil and gas sector.

**14:00 - 15:30    PROGRAM SESSION:  
**"INTEGRATION OF ENERGY MARKETS - CHALLENGES AND PROSPECTS"**  
***Conference Hall 3, Palace of Peace and Reconciliation*****

- Chair: Magzum Mirzagaliyev, Vice Minister of Energy, Kazakhstan

Welcoming remarks:

- Magzum Mirzagaliyev, Vice Minister of Energy, Kazakhstan
- Dr. Urban Rusnák, Secretary General of the International Energy Charter
- H.E. Mr. Traian Laurentiu Hristea, Ambassador, Head of the European Union Delegation to the Republic of Kazakhstan
- Leonid Shenets, Director of the Energy Department, Eurasian Economic Commission
- Thomas Helm, Resident Representative of the Konrad-Adenauer-Stiftung in the Republic of Kazakhstan

Participants:

- Nuriya Rakhmetova, Deputy chief of the oil and gas policy unit, Department of energy, Eurasian Economic Commission
- Professor, Dr. Anatoly B. Zolotukhin, Counsellor on International Affairs, Russian State Gubkin University of Oil and Gas
- Dick Benschop, VP JV Excellence, Upstream Joint Ventures, Shell
- Nuriya Rakhmetova, Deputy chief of the oil and gas policy unit, Department of energy, Eurasian Economic Commission
- Nurlan Sadykov, First Vice- Chairman, JSC National Energy Holding Company, Kyrgyz Republic
- Manas Baltabayev, Assistant to the Chairman of the State Committee of Industry, Energy and Subsoil Use of the Kyrgyz Republic

Regional cooperation and integration processes are a growing trend throughout the world, including under the Energy Charter process. The European Union (EU) continues to improve the rules of single energy market, gradually expanding it in accordance with the Treaty on the Energy Community. The Eurasian Economic Union (EEU), which is a locomotive of regional economic integration in the post-Soviet space, strives for similar goals for integration and liberalization through building a single energy market. Long-term cooperation of the EEU states will be aimed at ensuring efficient operation of single energy markets, joint development and use of energy-efficient technology, joint construction of energy infrastructure facilities, development of transit potential, expanded use of renewables and alternative energy sources.

The EU member countries, just like the Eurasian Economic Union member states, share general principles of the Treaty to the Energy Charter. As a politically neutral and multilateral instrument for international energy cooperation, the International Energy Charter forms a necessary platform for exchanging the experience in integrating energy markets.

The goal of the session is to provide a forum for the exchange of the best practices and lessons learned in the evolution of the European energy market, as well as to discuss the difficulties and prospects in building a single energy market under the Eurasian Economic Union.

*Under this program session, participants are encouraged to discuss the following:*

- Strengthening of integration processes and energy security;
- Current status of the European energy market;
- Eurasian Economic Union: towards a unified energy market;
- Energy infrastructure of the Caspian region for the efficiency of oil and gas supply and transit to the European market.
- Investment opportunities for real integration of energy markets.

**14:00 - 15:30 PROGRAM SESSION:**

**IX NATIONAL CONFERENCE “EXTRACTIVE INDUSTRIES TRANSPARENCY INITIATIVE”**

**Part I – “EITI INTEGRATION INTO THE STATE SYSTEMS OF OPEN DATA MONITORING”**

***Conference Hall 2, 1<sup>st</sup> floor, Palace of Peace and Reconciliation***

Chair: Timur Toktabayev, Vice Minister for Investments and Development, Kazakhstan, Deputy Chairman, National Council of Stakeholders

Participants:

- Zhenis Kassymbek, Minister for Investments and Development, Kazakhstan
- Asset Magauov, Vice Minister of Energy, Kazakhstan
- Akbatyr Nadyrbayev, Chairman of the Committee for Geology and Subsoil Use, Ministry of Investments and Development, Kazakhstan
- Bolat Akchulakov, General Director, KAZENERGY Association
- Natalia Korzhova, President, Financial Academy JSC, Ministry of Finance, Kazakhstan;
- Tatyana Sedova, EITI Consultant, World Bank

- Jahangir Nigmatov, EITI National Secretariat, Tajikistan
- Dina Narezhneva, EITI National Secretariat, Ukraine

Implementation of the EITI has an impact on many areas of the economy, and is also an example for other projects being implemented in Kazakhstan. Implementation of the Initiative has a positive effect on the image of the country and investment attractiveness of its energy sector.

This year, a pilot project to integrate the EITI into public systems for open data monitoring ("mainstreaming") was launched in Kazakhstan. Its main objective is to eliminate duplication of data in the EITI reports with the already existing reports of companies and the Government taking into account available open data. The goal is to optimize the reporting system in the field of subsoil use. With the automated process of collecting and monitoring information, it is possible to reduce reconciliation and analysis costs, both in EITI reports and in other types of research aimed at correct governance in the extractive sector.

At the same time, the EITI Report must be supplemented with the information required by the EITI Standards, which is not disclosed in current reporting systems and sources.

*Under this program session, participants are encouraged to discuss the following:*

- Progress in EITI implementation in Kazakhstan, current objectives;
- Results of a pilot study on integrating the EITI into the public systems (mainstreaming);
- Preliminary results on the entitlement (validation) process, training activities carried out;
- Results of validation in Tajikistan and Kyrgyzstan;
- Progress of EITI implementation in Ukraine;
- Role of the EITI in the activities of extractive companies.

**15:00 - 16:00 PRESENTATION ON MAIN ACHIEVEMENTS OF THE 20<sup>TH</sup> ANNIVERSARY ACTIVITIES OF CNPC IN THE REPUBLIC OF KAZAKHSTAN**

*Press Center, 3<sup>rd</sup> floor, Palace of Peace and Reconciliation*

**15:30 – 16:00 COFFEE BREAK AND NETWORKING**

**16:00 - 18:00 PROGRAM EVENTS - 4 PARALLEL SESSIONS**

Affordable, reliable and sustainable energy sources	Energy efficiency and innovation: key factors to reach the scope of global energy transition	IX National Conference “Extractive Industries Transparency Initiative”	IX KAZENERGY Youth Forum “Student Energy Challenge” Competition
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**16:00 - 18:00 PROGRAM SESSION:**  
**“AFFORDABLE, RELIABLE AND SUSTAINABLE ENERGY SOURCES”**  
*Plenary Hall, Palace of Peace and Reconciliation*

Chair: Uzakbai Karabalin, Vice Chairman, KAZENERGY Association

Participants:

- Wang Dongjin, Vice President, CNPC, President, PetroChina Co. Ltd.
- Pedro Miras Salamanca, Vice President Program, World Petroleum Council (WPC)
- Wei Yuxiang, Vice President, CNPC Kazakhstan
- Paulina Mirenkova, Associate Director, Russian and Caspian Energy, IHS Markit
- Ashley Sherman, Senior Caspian Research Analyst, Wood Mackenzie
- Per Magnus Nysveen, Senior Partner & Head of Analysis, Rystad Energy

Sustainable development of the world requires access to affordable, reliable, sustainable and modern energy sources. It is important to realize that for a long period of time fossil fuels will remain the main energy source able to meet growing energy needs of countries. The energy received from renewable sources already competes (quite successfully in many countries) with traditional energy, but it will not be able to completely supersede it from the energy production structure in the foreseeable future. Using renewable energy will help meet the growing energy demand and, thereby, support fiscal and environmental sustainability. In general, ensuring equal access to modern energy sources will require all market players to mobilize adequate resources and stable investment throughout the value chain in the energy sector, from the development of primary energy resources to final consumption. Governments need to develop a long-term vision of sustainable energy services that allows producers and consumers to respond to a dynamic energy market. Among other things, it should include access to modern energy services for vulnerable population groups.

*Under this program session, participants are encouraged to discuss the following:*

- Future energy structure;
- Business models to improve access to affordable and reliable energy sources;
- Experience of world energy producers and consumers in achieving energy security;
- The importance of fossil fuels in the transition to a sustainable energy system of the future;
- Stable investment to achieve sustainable energy development goals.

**16:00 - 18:00** **PROGRAM SESSION:**

**“ENERGY EFFICIENCY AND INNOVATION: KEY FACTORS TO REACH THE SCOPE OF GLOBAL ENERGY TRANSITION”**

***Conference Hall 3, Palace of Peace and Reconciliation***

Chair: Steffen Joest, Deputy Director Division Energy Systems and Energy Services, German Energy Agency (DENA)

Participants:

- Baurzhan Smagulov, Chairman of the Board, JSC “Institute for the Development of Electric Power and Energy Saving (Kazakh Energy Expertise)”
- Akihiko Miyamoto, President, New Energy and Industrial Technology Development Organization (NEDO)
- Scott Foster, Director, Sustainable Energy Division, UNECE
- Leonid Shenets, Director, Department of Energy, Eurasian Economic Commission

To reach the global aims of energy transition, Energy Efficiency is not only a key factor but must be strengthened by innovation and technological development. The energy system of the future has to consume less energy than today. Drivers are the governmental instruments and guidelines, on one hand, and market-oriented incentives for technological development and implementation, on the other hand.

To promote the development and implementation of new technologies, as well as create conditions for innovation transfer and facilitate the transition to green economy, the International Center for Green Technologies and Investment Projects “Future Energy” is to be established in the city of Astana as a part of EXPO-2017 legacy.

Guided by the terms ‘digitalization’ and ‘Industry 4.0’, panelists will discuss which innovative technologies may change energy consumption.

*Under this program session, participants are encouraged to discuss the following:*

- Energy "transition" and reform of the energy market;
- Promotion of sustainable energy progress;

- Energy efficiency and new technologies: problems, ideas and solutions;
- Astana International Center for Green Technologies and Investment Projects “Future Energy”.

**16:00 - 18:00** **PROGRAM SESSION:**  
**IX NATIONAL CONFERENCE “EXTRACTIVE INDUSTRIES TRANSPARENCY INITIATIVE”**

**Part II (continuation) – “BENEFICIARY RIGHT IN KAZAKHSTAN”**  
***Conference Hall 2, 1<sup>st</sup> floor, Palace of Peace and Reconciliation***

Chair: Akbatyr Nadyrbayev, Chairman of the Committee for Geology and Subsoil Use, Ministry for Investments and Development, Kazakhstan

Participants:

- Ruslan Baimishev, Director of the Subsoil Use Department, Ministry for Investments and Development, Kazakhstan
- Oliana Valigura, Representative of the EITI International Secretariat
- Pavel Lobachev, Moderator, NGO Dialogue Platform
- Maxim Kononov, Deputy Executive Director, Republican Association of Mining and Metallurgical Enterprises

The Subsoil Law fully implemented the historical mission entrusted to it to develop previously discovered fields and form a system for general regulation of exploration and extraction of solid minerals and hydrocarbons. However, in view of the impact of day-to-day realities of the market economy and global struggle for investment on the international arena, the subsoil use sector in our country needs a new, more progressive, integrated and systemic legislation. To this end, adoption of the Subsoil and Subsoil Use Code is planned by the end of the year, the draft of which already takes into account the EITI issues, in particular obligation to disclose the beneficiaries of companies and provide EITI reporting. In addition, partakers consider contract disclosure problems as a still-welcomed EITI requirement.

Disclosure of contracts and licenses is one of the most important steps that countries implementing EITI can take to promote more efficient management of extractive resources. Transparency of contracts helps to establish constructive relations between peoples, companies and government, reducing conflict and promoting stability in this sector. This helps establish realistic expectations about the terms and conditions of extraction which facilitates the collection and forecasting of government revenues. Disclosure of contracts also provides greater opportunities for stakeholders to monitor compliance with obligations, which encourages all parties to act responsibly while implementing the project.

*Under this program session, participants are encouraged to discuss the following:*

- Draft Code on Subsoil and Subsoil Use, relevance, transparency;
- Supporting the EBRD in enhancing the potential to disclose beneficiaries;
- NGO participation in EITI implementation at regional level;
- Relevant problems in the beneficial right;
- Readiness of companies to disclose beneficiaries;
- Transparency of contracts.

**16:00 - 19:30** **PROGRAM SESSION:**  
**IX KAZENERGY YOUTH FORUM**  
**INTELLECTUAL TEAM COMPETITION “STUDENT ENERGY CHALLENGE”**  
***Conference Hall 4, Palace of Peace and Reconciliation***

**16.00 – 19.30** **COMPLEX OF TESTING AND CAREER ORIENTATION «PROFESSIONAL CAREER»**  
***Special testing room, Palace of Peace and Reconciliation***

**19:00 – 21:00** **COCKTAIL RECEPTION DEDICATED TO THE FORUM OPENING**  
*Atrium Hall, 3<sup>rd</sup> floor, Palace of Peace and Reconciliation*  
*By invitation only*

**\*\*\*\* END OF THE FIRST DAY OF THE FORUM \*\*\*\***



## SEPTEMBER 8, 2017 (FRIDAY)

### 09:00 – 10:00 REGISTRATION OF PARTICIPANTS

*Coffee will be available to the participants.*

### 10:00 - 11:30 PROGRAM EVENTS - 4 PARALLEL SESSIONS

Exploration and hydrocarbon resources: foresight into the future	Clean energy - contribution to the future	New technologies and solutions in the nuclear industry: implementation of digital technologies	IX KAZENERGY Youth Forum "Learning for Life"
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### 10:00 - 11:30 PROGRAM SESSION:

#### **"EXPLORATION AND HYDROCARBON RESOURCES: FORESIGHT INTO THE FUTURE"**

***Plenary Hall, Palace of Peace and Reconciliation***

Chair: Baltabek Kuandykov, President, Kazakhstan Society of Petroleum Geologists

Participants:

- Uzakbai Karabalin, Vice Chairman, KAZENERGY Association
- Akbatyr Nadyrbayev, Chairman, Committee of Geology and Subsoil Use, Ministry for Investments and Development, Kazakhstan
- Kurmangazy Iskazyev, Chairman of the Board, "Exploration & Production "KazMunayGas" JSC
- Max Brouwers, Vice-President Exploration Europe, Russia & CIS, Royal Dutch Shell
- Janeen Judah, President, Society of Petroleum Engineers (SPE)
- Bazar Yeskozha, Deputy General Director for Exploration, Firm Almex Plus LLP

There is no complete alternative to oil and gas as an energy resource. However, the era of "light oil" is becoming a thing of the past, and, according to experts, oil production is expected to decline in 20-25 years. Therefore, it makes sense that the petroleum community members share the opinion about the need to replenish the resource base through exploration of more deep-lying horizons. This, in turn, involves application of new approaches and technologies. Experts estimate the oil reserves of the Peri-Caspian depression at around 60 billion tons, which resulted in the initiation of the large-scale international project "Eurasia". Its implementation will provide the oil and gas industry with stable resource base, a kind of a "strategic reserve" of hydrocarbon raw materials.

*Under this program session, participants are encouraged to discuss the following topics:*

- Dominant role of oil and gas in the global energy balance and a place of geological exploration in it;
- Risks of an energy supply deficit in the world market without exploration and development of new fields;
- "Eurasia" – new trends in oil and gas exploration, a strategic reserve of Kazakhstan;
- Innovative technologies in geological exploration;
- Viability of geological exploration projects amid crisis and changes;
- New investment incentives for exploration.

### 10:00 - 11:30 PROGRAM SESSION:

#### **CLEAN ENERGY - CONTRIBUTION TO THE FUTURE**

***Conference Hall 2, 1<sup>st</sup> floor, Palace of Peace and Reconciliation***

Chair: Igor Lobovsky, President, Global Energy Association on Development of International Energy Research and Projects

Participants:

- Michael Graetzel, Professor of Physical Chemistry, Ecole Polytechnique Fédérale de Lausanne (**video address**);
- Steven Griffiths, Member of the Global Energy Prize International Award Committee, Vice President for Research and Associate Provost, Masdar Institute of Science and Technology, Interim Executive Vice President of Research, Khalifa University of Science and Technology (KUST)
- Rae Kwon Chung, Member of the Global Energy Prize International Award Committee, High-level Expert and Leaders Panel (HELP) on water and disasters, Adviser to the Chair, Contributor to the reports of the IPCC, awarded the Nobel Peace Prize in 2007
- Remigijus Lapinskas, President, World Bioenergy Association (WBA)
- Angelina Davydova, Director, Russian-German Office for Environmental Information

What will the future energy landscape look like? Of course the future belongs to clean energy but over what timeframe will clean energy have a significant impact and in which sectors? Every country has a role in our energy future but differing circumstances lead to different strategies and roadmaps. Environmental concerns from greenhouse gas emissions that result from energy generation are global, but the major environmental impacts that will result from such emissions are yet to be realized. The Paris Agreement of 2015 demonstrated the world's growing commitment to climate change mitigation with more than 170 countries signing a new climate accord. In line with the ambitions of the accord, advanced technologies for green energy are gradually supplanting conventional hydrocarbon-based energy, which now accounts for two-thirds of the global greenhouse gas emissions. Henceforth, the global need is to reduce the emissions level by more than half relative to current levels by 2030, providing a sustainable future for future generations. According to the IEA, installed capacity of the green power sector grew by a record 153 GW in 2015, mainly due to wind and solar power plants, and there is more to come. Nuclear energy does its bit as well, although in selected countries.

Today, clean energy sources provide much less energy than existing conventional energy source, but clean energy is the future. The problem at hand is when will this future arrive and what we can do to accelerate it.

*Under this program session, participants are encouraged to discuss the following:*

- Green, clean energy: fashionable, but is it profitable?
- What is needed to further stimulate investment into clean energy technologies?
- Is state support and subsidization still needed for clean technology adoption? What are the best policy approaches?
- Clean energy is the path forward for sustainability in the power sector but what about transportation and industry?
- What are the prospects for clean energy in different national and regional contexts?

**10:00 - 11:30 PROGRAM SESSION:**

**“NEW TECHNOLOGIES AND SOLUTIONS IN THE NUCLEAR INDUSTRY: IMPLEMENTATION OF DIGITAL TECHNOLOGIES”**

***Conference Hall 3, Palace of Peace and Reconciliation***

Chair: TBA

Participants:

- Alexander Merten, President, Rusatom International Network
- Pavel Bruk, Deputy Director for System Engineering & IT, ASE Group
- Miras Kasymov, Chief Director for Transformation, NAC Kazatomprom

- Nikolay Godunov, Vice President, Eurasia, Corporate IT Systems, ABB in Russia and CIS
- Representative of Wonderware (tbc)
- Representative of Assystem (tbc)

Construction and operation of large energy facilities are often associated with significant risks of budget overruns and increase in timing of the implementation of production tasks. Every year, new technologies come to NPPs' design, construction and operation process. Today, when the world is on the threshold of the 4th industrial revolution, and the world economy is experiencing a digital transformation, these technologies become critical, because they significantly affect the quality, timing and cost of complex engineering facilities. Every year we get the opportunity to build objects faster, to operate for less.

Modern IT-tools allow solving these problems by systematization and modeling of all business processes. Nuclear energy, as in one of the most high-tech industries, actively develops and implements digital technologies, which can be applied also in other energy sectors. Experience and results of application of such technologies will be discussed within the framework of the session, organized with the support of Rosatom State Corporation and NAC Kazatomprom.

*Under this program session, participants are encouraged to discuss the following topics:*

- Industry 4.0 for nuclear energy sector;
- What business model and strategy should a business have for switching to the digital economy (alliances, consortia, M&A)?
- Digital platforms for the life cycle management of capital facilities in industry: Optimization of cost and implementation period of complex projects;
- Services based on digital platforms for construction process participants (equipment catalog, analytics etc.);
- Technological facilities for digital companies (BIM, BIG DATA, artificial intelligence, CAD, Blockchain, etc.): Which technologies the future belongs to?
- Best practices of applying digital technologies in nuclear industry.

**10:00 - 14:00** **PROGRAM SESSION-13:**  
**COMPLEX OF TESTING AND CAREER ORIENTATION «PROFESSIONAL CAREER»**  
*Special testing room, Palace of Peace and Reconciliation*

**10:00 - 14:00** **PROGRAM SESSION-13:**  
**IX KAZENERGY YOUTH FORUM “LEARNING FOR LIFE”**  
*Conference Hall 4, Palace of Peace and Reconciliation*

**11:30 – 12:00** **COFFEE BREAK AND NETWORKING**

**12:00 – 13:30** **PROGRAM EVENTS - 4 PARALLEL SESSIONS**

Intellectual electric power industry: from production optimization to improving the quality of supply	Energy efficiency and energy saving: a hidden resource	Renewable energy: global development trends	IX KAZENERGY Youth Forum “Learning for Life”
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**12:00 - 13:30** **PROGRAM SESSION:**  
**“INTELLECTUAL ELECTRIC POWER INDUSTRY: FROM PRODUCTION OPTIMIZATION TO IMPROVING THE QUALITY OF SUPPLY”**  
*Plenary Hall, Palace of Peace and Reconciliation*

Chair: Dominique Fache, Member of the Board of Directors, “Sophia Antipolis” Science Park, Chairman of the Board of Directors, Russian Technology Foundation, Member of the Board of Directors, KEGOC JSC

Participants:

- Bakytzhan Kazhiyev, Chairman of the Board, KEGOC JSC
- Almassadam Satkaliyev, Chairman of the Board, Samruk-Energy JSC
- Roman Berdnikov, First Deputy General Director, Rosseti PJSC
- Wang Yongxiang, Chairman of the Board, Huaneng International Power Development Corporation
- Andrey Kokoulin, General Director, Emerson Kazakhstan

Modernization of economy’s technological base and transition of a number of industries to new technological structures will place an increasingly marked demand for quality energy. The focus here is on the intellectual power industry, which can fully meet growing demand for high-quality energy services: the need to reduce outages and breakages in the supply of energy, high frequency and voltage requirements, etc. Traditional industrial consumers shape new requirements to the quality of electricity due to increased use of complex electrical equipment, electronics, and the need for stability of technical processes.

An important issue is availability of different, cascaded electricity tariffs for consumers within one region and even one city or street, the reason of which is a large number of energy transmission organizations. To increase reliability of power supply and smooth different tariffs, it is necessary to create mechanisms for their consolidation.

*Under this program session, participants are encouraged to discuss the following:*

- Intellectual electric power infrastructure;
- “Digitalization” of power industry as a platform for an innovative breakthrough;
- The world’s best approaches to the electricity market;
- Challenges and new ways of managing the industry;
- Smart electric power: a regional aspect.

**12:00 - 13:30** **PROGRAM SESSION:**  
**“ENERGY EFFICIENCY AND ENERGY SAVING: A HIDDEN RESOURCE”**  
***Conference Hall 2, 1<sup>st</sup> floor, Palace of Peace and Reconciliation***

Chair: Fuad Serikov, Director General, Kazakh Institute of Oil and Gas JSC

Participants:

- Kosman Aytmukhametov, Deputy Mayor of Astana
- Zdeněk Zbytek, Chairman of the Board, Consortium "CZET - Czech Energy Conservation Technologies"
- Petr Krupčík, Deputy Chairman of the Board, SKODA PRAHA a.s.
- Jan Šíp, General Director, Mavel
- Jaroslav Fila, General Director, Thermona
- Igor Jex, Vice President, Czech Technical University in Prague

Energy efficiency and energy saving are key elements of the modern concept of world energy development. The scale of global investment in energy efficiency and energy saving has been significant in recent years. The work towards energy efficiency requires technological progress and development. Governments should strengthen political and economic support for innovative activities in the field of energy-saving technologies. Tools implemented in different countries, including minimum energy efficiency standards for administrative and residential buildings, industrial facilities, and transport, are not powerful enough or not acting at all. Public-private partnerships are seen as a reliable mechanism to attract investments, including in the waste

sector. To increase the effectiveness of work in this area and identify a hidden resource, proper state policy is needed.

*Under this program session, participants are encouraged to discuss the following:*

- Issues and problems of complex solution of energy saving and energy efficiency;
- Formation of national infrastructure in the field of energy saving;
- Encouraging the use of energy-saving equipment;
- Modernization of energy enterprises: development and implementation of new environmentally friendly cost-effective innovative technology;
- Effective use of energy resources;
- New technology and the latest trends in the development of the European power industry;
- R&D in the field of energy saving and energy efficiency;
- Opportunities for financing energy projects under turbulent market conditions.

**12:00 - 13:30 PROGRAM SESSION:  
"RENEWABLE ENERGY: GLOBAL DEVELOPMENT TRENDS"  
Conference Hall 3, Palace of Peace and Reconciliation**

Chair: Arman Satimov, Advisor to the Chairman, KAZENERGY Association

Participants:

- Arman Kashkinbekov, General Director, Association of Renewable Energy of Kazakhstan, Vice President, Enzen
- Nurlan Kapenov, General Director, Samruk Kazyna-United Green LLP
- Nurlan Sak, General Director, The First Wind Power Plant LLP
- Ruslan Rakymbay, General Director, Primus Power Kazakhstan LLP
- Valentina Kretschmar, Senior Advisor on Energy Research in the CIS, Wood Mackenzie
- Nikolay Radostovets, Executive director, ULE "Republican Association of Mining and Metallurgical Enterprises"

Renewable energy sources (further – RES) began their dynamic growth just 15 years ago, and already play an important role in power generation in many countries. The share of RES in Germany amounted to over 30%, in the Nordic countries – over 50%; China, Brazil, South Korea, Costa Rica, Ukraine, Denmark and many other countries are seeing a sustainable growth.

The implementation of all options for the international Renewable Future Energy Roadmap - REmap – in most countries of the world is expected to increase the share of renewable energy sources from 20% to 70% by 2030.

In 2015-2016, the UK, Germany, Denmark, Brazil and other countries have first seen the cases where the cost of electric power generated from clean energy resources was lower as compared with conventional energy resources.

The prime cost of construction and operation of the newest solar and wind power stations falls every year, which is the opposite trend of a steady increase in the capital cost of developing new, hard-to-reach oil and gas fields.

The costs of construction and operation of brand new solar and wind power plants fall year by year, which is an opposite trend of sustainable increase in the capital cost of development of new remote oil and gas fields. Many European countries have come to a decision to stop using internal combustion engines by 2025 году, replacing cars and motor vehicles with electric, environmentally friendly and clean ones.

*Under this program session, participants are encouraged to discuss the following:*

- Prospects for the development of the world electric power industry in light of growing demand;

- Role of renewable energy sources in the new global power mix;
- Advanced technologies in green power industry and cost reduction;
- "Grid parity" – the point of crossing the energy Rubicon which enables consumers to get cheaper electric power from renewable energy sources;
- Further growth issues in alternative energy and their solutions;
- Renewable Future Energy Roadmap – REmap: administrative barriers and prospects;
- Development of renewable energy in Kazakhstan: necessary steps after Astana EXPO-2017 to develop the industry.

**13:30 – 14:00 PRESS CONFERENCE**

*Press Center, 3<sup>rd</sup> floor, Palace of Peace and Reconciliation  
By invitation only*

**13:30 - 15:00 LUNCH BREAK**

*Dining Hall, 3<sup>rd</sup> floor, Palace of Peace and Reconciliation  
By invitation only*

**15:00 – 17:00 PLENARY SESSION**

*Plenary Hall, Palace of Peace and Reconciliation*

**15:00 – 16:00 SPECIAL ADDRESSES**

*Plenary Hall, Palace of Peace and Reconciliation*

Chair: Timur Kulibayev, Chairman, KAZENERGY Association

- Bakytzhan Sagintayev, Prime Minister, Kazakhstan
- Arkady Dvorkovich, Deputy Prime Minister, Russian Federation (tbc)
- Ólafur Ragnar Grímsson, President, Iceland (1996-2016)
- Suhail Mohamed Al Mazrouei, Minister of Energy, United Arab Emirates
- Kairat Kelimbetov, Governor, International Finance Center Astana

**16:00 – 17:00 INTERACTIVE DISCUSSION WITH GLOBAL ENERGY LEADERS**

**“ENERGY OF THE FUTURE: TRANSFORMATION AND GROWTH STRATEGIES”**  
*Plenary Hall, Palace of Peace and Reconciliation*

Moderator: Chris Burns, Host of “The Network” program, Euronews

Participants:

- Sauat Mynbayev, Chairman of the Board, NC KazMunayGas JSC
- Andrew Brown, International Upstream Director, Royal Dutch Shell
- Neil Duffin, President, ExxonMobil Production Company
- Luca Cosentino, Executive Vice President, Energy Solutions, Eni
- Michael Borrell, Senior Vice President, Europe & Central Asia, Total
- Janeen Judah, President, Society of Petroleum Engineers (SPE)

Today, the world needs new models for a global energy market that will boost global economy and help to find a balance between economic development and preservation of the planet's ecosystem. This is our responsibility to the future generations.

The global community has designed a new model of the energy system based on sustainable development. The changes will affect not only rational and effective development of hydrocarbon resources and implementation of energy-saving technologies in production, but also broader involvement of alternative energy sources, including renewables, into the energy balance and responsibility of countries with regard to climate change. As a result of transformations, the energy system should become not only a goods-producing sphere, but also a service producer. Energy markets should be reformed in such a way that energy prices reflect the full cost, including emissions, while eliminating the disparity in subsidies in the market within the entire functioning system.

Kazakhstan stands for dialogue of all interested nations, governments, businesses, scientific community and international organizations in the interests of promoting sustainable development policy.

*Under this discussion, participants are encouraged to discuss the following:*

- Global energy in a changing environment;
- Agenda for sustainable development and political and economic dialogues;
- Experience of different countries in forecasting and achieving energy security;
- National strategies and plans for sustainable energy;
- Kazakhstan in the competitive energy environment.

**17:00 – 17:30 CLOSING OF THE FORUM: RESULTS AND FINDINGS OF MEETINGS**

***Plenary Hall, Palace of Peace and Reconciliation***

Moderator: Chris Burns, Host of “The Network” program, Euronews

**17:30 END OF THE XI KAZENERGY EURASIAN FORUM**

**19:00 – 21:00 GALA RECEPTION ON BEHALF OF CHAIRMAN OF KAZENERGY ASSOCIATION**

***Farhi Hall Astana Restaurant***

*By invitation only*

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