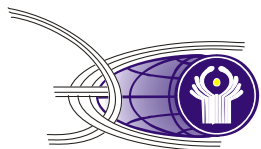


**EXECUTIVE COMMITTEE
ELECTRIC POWER COUNCIL OF THE COMMONWEALTH
OF INDEPENDENT STATES**



**THE PROSPECTS OF FORMING COMMON
ELECTRIC POWER MARKETS (CEPM) OF
THE COMMONWEALTH OF INDEPENDENT
STATES & THE EURASIAN ECONOMIC
UNION**





INTEGRATED POWER SYSTEMS OF THE CIS, GEORGIA AND BALTIC STATES POWER SYSTEMS



Baltic States:

Estonia

Latvia

Lithuania

Ukraine

Moldova

Belarus

Russia

Caucasus:

Georgia

Azerbaijan

Armenia

Kazakhstan

Kyrgyzstan

Tajikistan

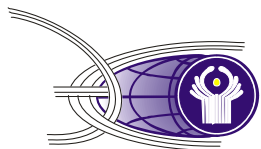
Turkmenistan

Uzbekistan

At present 8 of the 11 national power systems of the CIS countries realize synchronous parallel operation (except Armenia, Turkmenistan and Tajikistan).

The unification of power supply systems of the CIS states-participants operates in parallel with power supply systems of Latvia, Lithuania, Estonia and Mongolia.

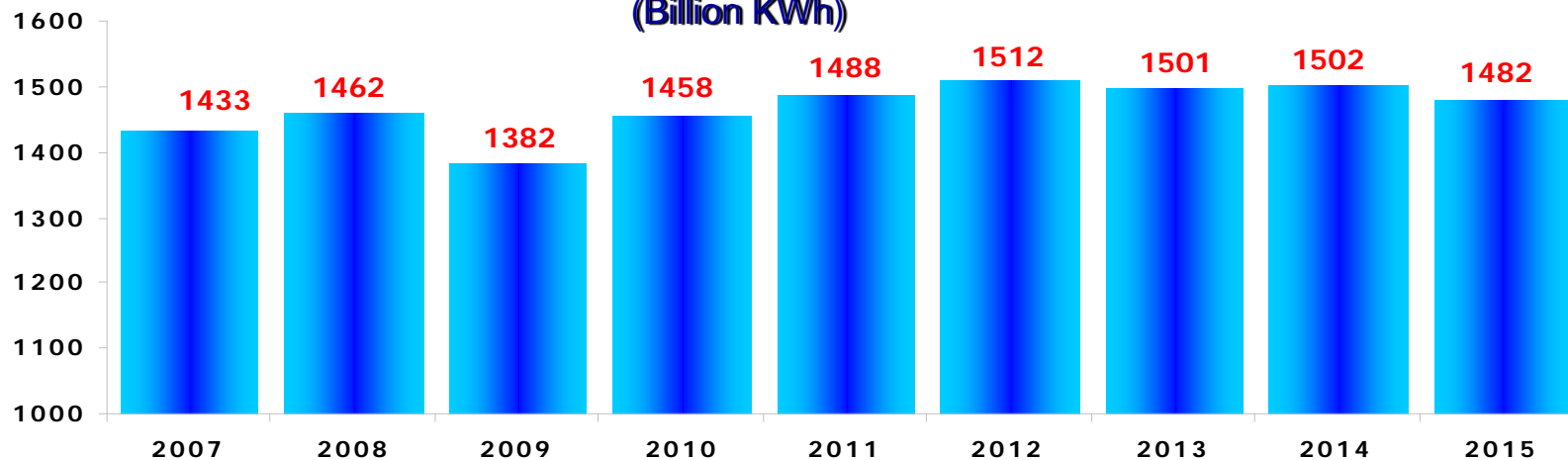
The exchange of electric power under other operational power exchange schemes with power supply systems of Georgia, Norway, Finland, Poland, Slovakia, Hungary, Iran, Afghanistan and China is carried out



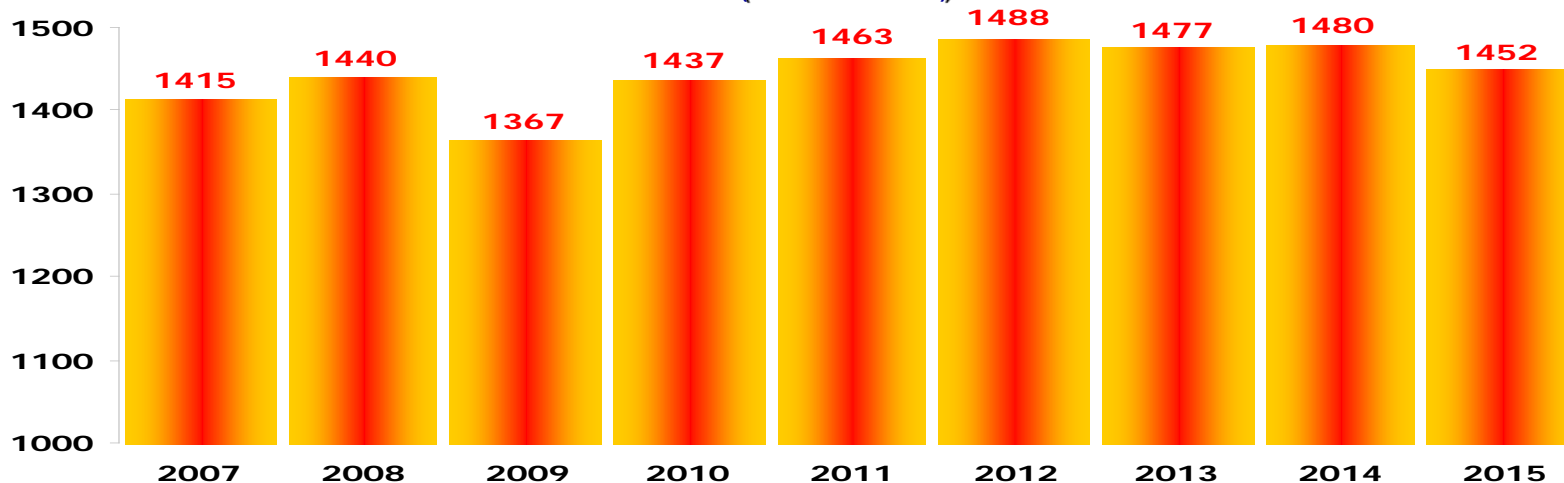
TECHNICAL AND ECONOMIC INDICATORS

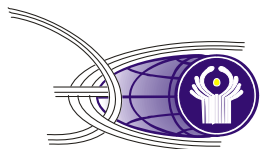


Power generation
in the interconnected power systems of CIS member states in the years 2007-2015
(Billion KWh)

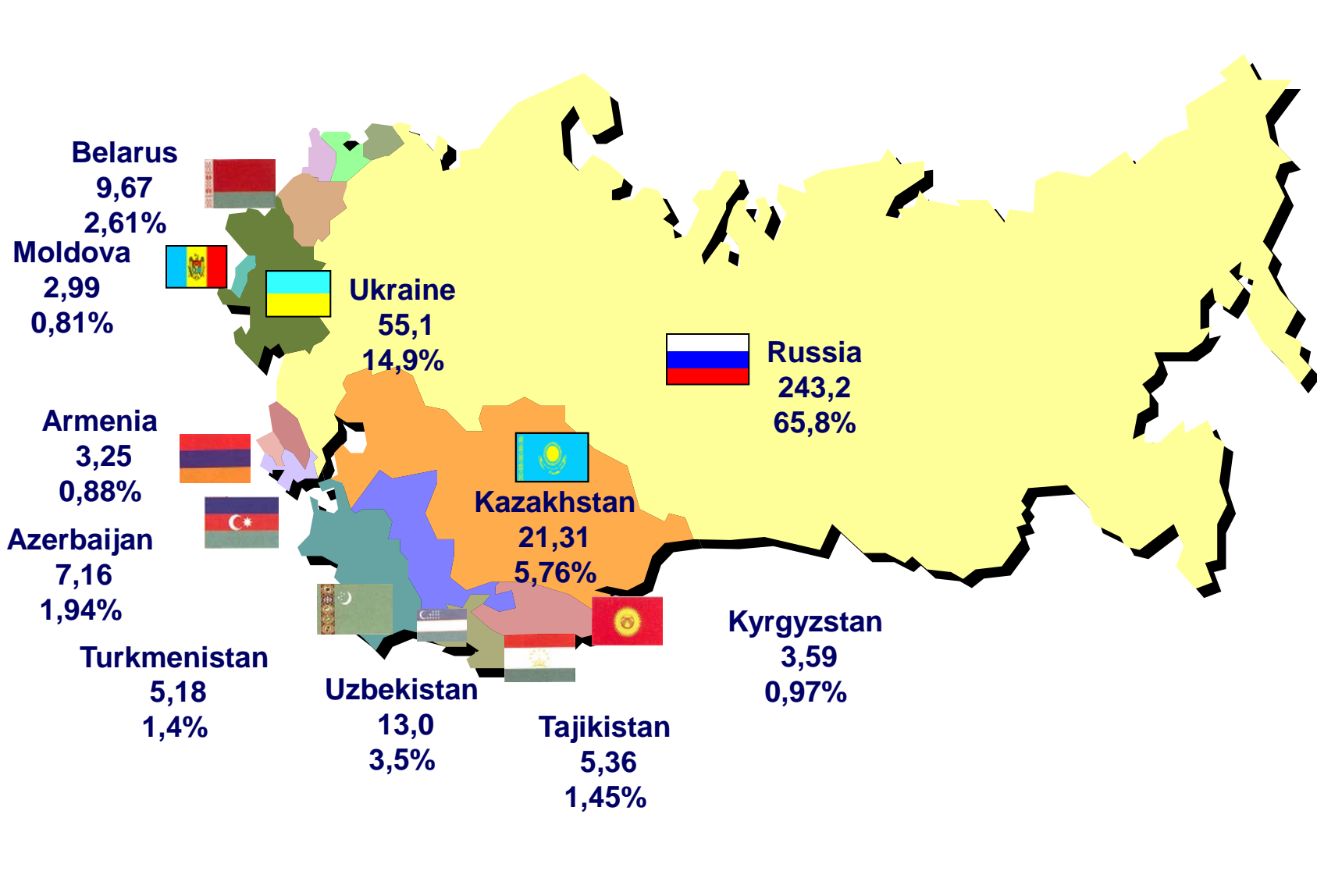


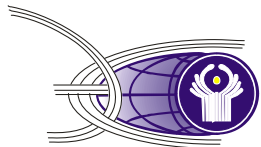
Electricity consumption
in the interconnected power systems of CIS member states in the years 2007-2015
(Billion KWh)





THE INSTALLED CAPACITY OF THE CIS IN 2015 - 369.8 GW





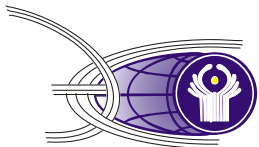
NORMATIVE DOCUMENTS FOR THE FORMATION OF CEPM

IN THE CIS

- ❖ Agreement on the provision of parallel operation of 25 November 1998, including the Protocol of 30 May 2012 amending the Agreement on the provision of parallel operation
- ❖ The Concept of formation of the CEPM (Decision of the CIS Council of Heads of Government of 25 November, 2005)
- ❖ The Agreement on the formation of the CEPM of CIS member states (Decision of the CIS Council of Heads of Government of 25 May, 2007) – signed by the **Republic of Armenia, Belarus, Kazakhstan, Kyrgyz Republic, Russian Federation, Republic of Tajikistan**
- ❖ Protocol on the stages of the CEPM of the CIS, including the application: General principles for cross-border trade in electricity (Decision of the CIS Council of Heads of Government of 21 May, 2010)
- ❖ The updated summary schedule for the formation of the CEPM (Decision of the EPC of CIS of 21 October, 2016)

IN THE EAEU

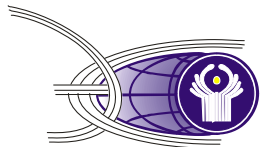
- ❖ Agreement on the Eurasian Economic Union of 29 May 2014, including the Annex №21
- ❖ The Concept of formation of the CEPM of EAEU (Decision of 8 May 2015)
- ❖ The draft Programmes of the formation of the CEPM, approved May 27, 2016 Advisory Committee on electric power at the College of EEK and agreed at the meeting of October 10, 2016 the leaders of the authorized bodies of the EAEU states



ACTION PLAN FOR CO-OPERATION BETWEEN EEK AND CIS EPC on 10 June 2016



- It includes identifying areas of harmonization of processes of formation of the CIS and EAEU CEPM. Approval and execution of activities aimed at ensuring the harmonization of the Parties of the conceptual provisions of the documents on the formation of the CIS and EAEU CEPM
- We agreed on mutual consideration the available and being developed from the Parties of the provisions, rules and regulations for the formation and operation of the CIS and EAEU CEPM



ACTIVITIES AND DOCUMENTS FOR DEVELOPMENT

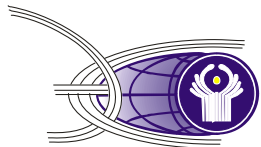
Within the framework of the summary schedule for the formation of the CIS CEPM



- o Implementation of activities in accordance with Section II of Action Plan on cooperation between EEK and CIS EPC on 10 June 2016
- o Preparation of draft the Procedure for settlement of interstate power flows deviations from the agreed value (2017)
- o Preparation of draft the Procedure for the distributing the bandwidth of inter-state transmission lines between the export-import activity parties (2018)
- o Preparation of draft the Procedure for compensation of costs related to the implementation of the transit of electricity through the grid of the CIS member states (2018)
- o and others

Within the framework of the draft Programme of the formation of the EAEU CEPM

- o Preparation of proposals for the central organization of trade day-ahead
- o Draft International Agreement on the formation of the Union CEPM including common rules for access to services of natural monopolies in the electricity sector (adoption of July 1, 2019)
- o Rulebook common electricity market of the Union, including:
 - o mutual trade rules of electrical energy
 - o rules for determining and distributing the bandwidth of inter-state transmission lines;
 - o rules of information exchange
- o Formation of the Union CEPM technological basis
- o and others



FORWARD-EFFECTS OF ENTRY OF CIS and EAEU CEPM



Forecasted financial effect from the input of the CEPM according to SKM Market Predictor is 90-100 million euros per year*, in the calculated proportions: the Russian Federation (13%), Kazakhstan (28%), Belarus (22%), the Kyrgyz Republic (19%), RA (17%)

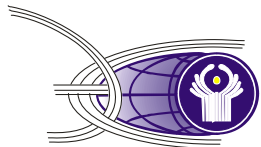
- ✓ By increasing capacity utilization interconnection networks within the CIS and EAEU;
- ✓ Due to the optimum load generation;
- ✓ It is assumed that the additional cost effect can give a "day ahead market" by reducing the deviation between planned and actual overflows

*It requires concerted developed CEPM model to carry out correct calculations

** There is a mismatch of the planned exports and imports of electricity in the EAEU

- Total capacity balance of the EAEU member states and the Republic of Tajikistan on the basis of long-term development programs shows an increase in the capacity balance surplus of 11-12% (to 4575 MW for the Union, to 5595 MW with RT) from 2016 (39,915 MW for the Union, 45,141 MW with RT) on 2020 (44490 MW for the Union, 50736 MW with RT)
- Total balance of electricity of the EAEU member states shows an increase in electricity export plans 3 times (15.938 mln. KWh) from 2016 (8.048 mln. KWh) and 2020 (23.986 mln. KWh)
- About 50% of this volume falls on trade within the EAEU member states
- There is an objective necessity for the coordination of programs of perspective development of electric power industry of CIS and EAEU

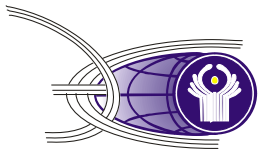
*** Belarus binds terms of formation of the CEPM and the common gas market (2025 г.)



QUESTIONS OF CENTRALIZED TRADING OF ELECTRICITY ON THE CEPM OF THE EAEU AND CIS



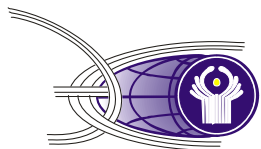
- Who are the participants in the national electricity market must obtain the right of access to the centralized trading of electricity on the CEPM of the Union in the initial phase?
- What part of the electrical energy must be traded on a CEPM of the Union?
- How should (could) considered the payment capacity the formation of electricity prices on the centralized trading on a CEPM of the Union?
- Does necessary to establish in every Member State tariff for the transmission interstate (transit) of electricity for the effective functioning of the centralized trading within the CEPM of the Union?
- Is there a necessary to establish a common minimum amount of generation / consumption to allow the admission of participants to centralized trading on the CEPM of the Union?
- Could be bidding electricity in CEPM of the Union on several trading platforms?
- Is it advisable to selection within the CPM of the Union trade zones for the organization centralized trading in futures contracts and day-ahead (eg, Kyrgyzstan – Kazakhstan - Russia, Russia - Belarus, Russia - Armenia, etc.)?
- How do you envision the mechanism (procedure) account technological limitations, including bandwidth MGLEP, the implementation of centralized trading of electricity?
- Do you allow the possibility of market distribution of bandwidth of interstate cross sections on the basis of auction?
- Do you allow you the absence of the country of the trading system defining the organization - "aggregator", which will ensure the collection and verification of applications for purchase / sale of electricity from the national participants, the direction of these applications in retail system the CEPM of the Union, as well as on the results of trading - the establishment of trade charts for national stakeholders?



DEVELOPMENT COOPERATION BETWEEN CIS EPC and EEK

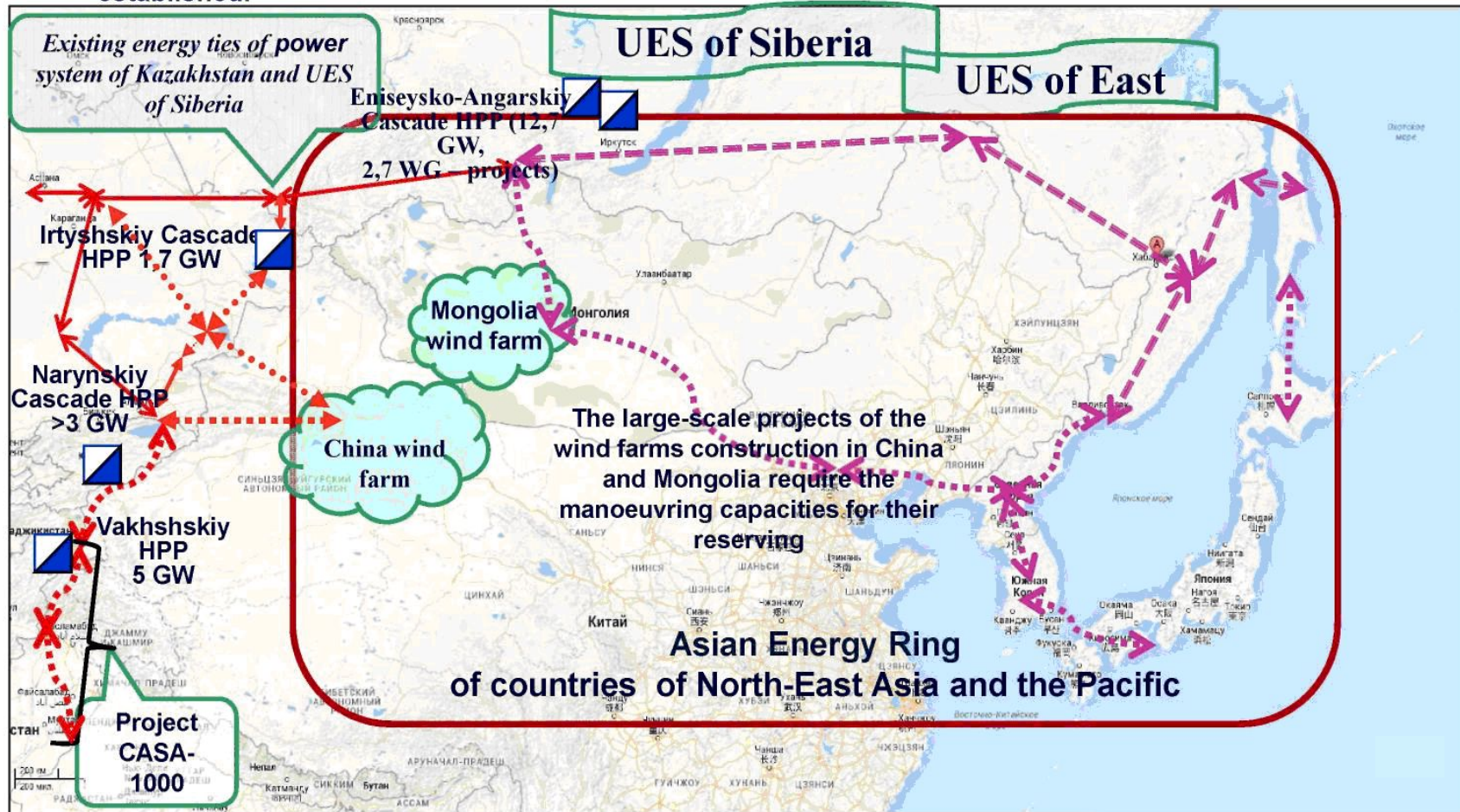


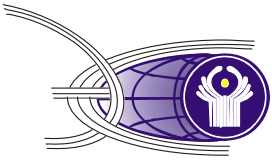
- The next step in the deepening of cooperation between EEK and CIS EPC could be the creation of a mechanism of harmonization and convergence of electricity markets of EAEU and the CIS, as well as other countries in order to improve the reliability of power systems and the development of mutually beneficial trade in electricity
- In the near future, it is advisable to talk not only about the harmonization of the normative legal and technical documents on the formation of a common market, but also the joint formation of technological and commercial bases of EAEU and CIS CEPM, the possible consolidation of resources within the framework of the formation of the CIS and EAEU CEPM



PARTICIPATION IN THE CREATION OF ENERGY RING OF THE ASIA-PACIFIC REGION

- Russia, Kazakhstan, countries of Central Asia can be interested in power supply to countries of Asia and the Pacific and in offering their capacities management
- The infrastructure of the UES of Central Asia and Kazakhstan is to be strengthened, the energy ties between Kazakhstan and Kyrgyzstan with the power systems of Northwest China are to be established.





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**THANK YOU
FOR YOUR ATTANTION**