

**CAREC ESCC: ENERGY ACTION
PLAN PILLAR 2**

**REGIONAL ENERGY
TRADE**

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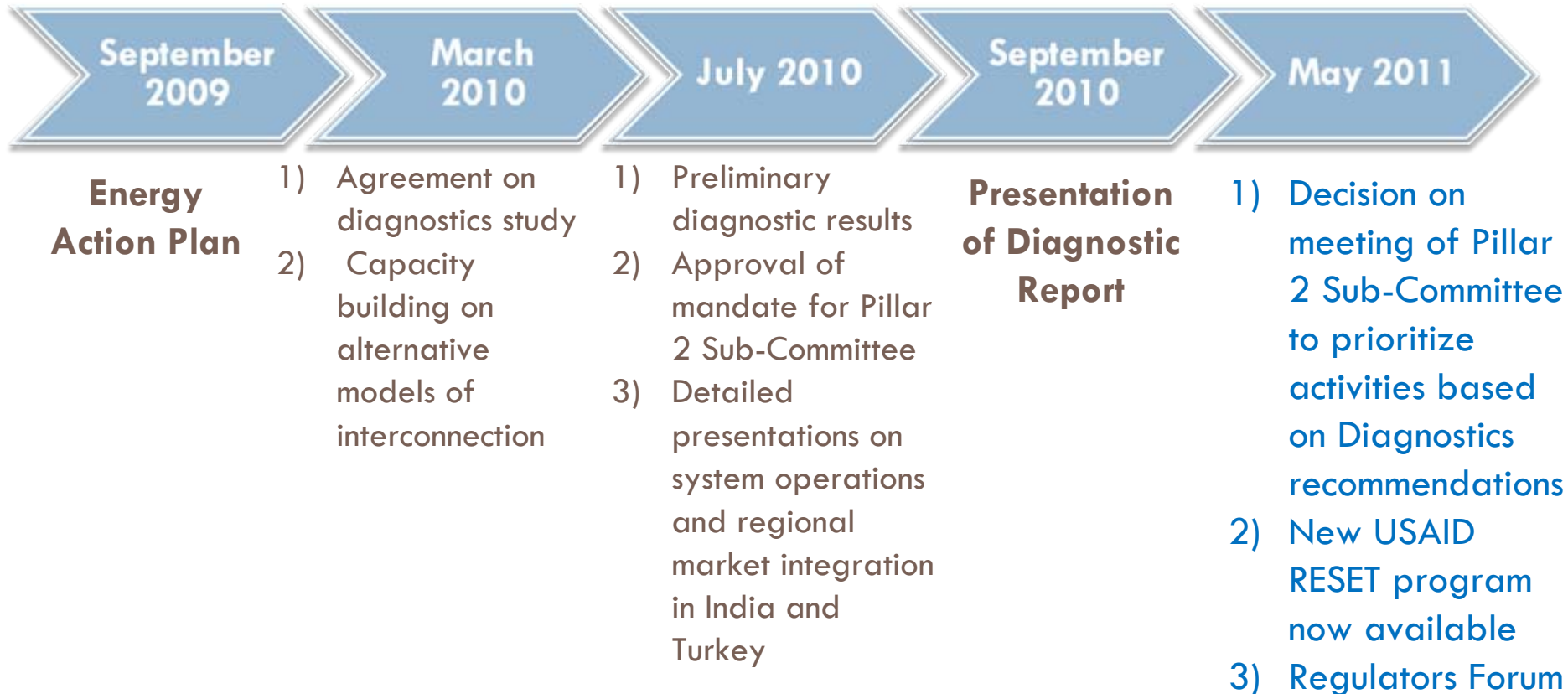
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REGIONAL ENERGY TRADE

OBJECTIVE:

To maximize the benefits of unified operation of the Central Asia power system



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DIAGNOSTIC: LOAD DISPATCH AND SYSTEM OPERATION
STUDY
FOR CENTRAL ASIA POWER SYSTEM

□ **Benefits of Coordinated Operations between Central Asian countries:**

With full coordination between all 5 Central Asia Countries

- Reduced costs from lower fuel use (**around \$1.5 billion during 2010-2012**)

Without Additional Investments

- Every 100 GWh of additional summer surplus from hydropower producing countries in summer would result in **savings of more than \$7.4 million**
- The need for available peak capacity **reduced by more than 130 MW during winter and 200 MW during summer.**

□ **Recommendations:**

- **Short-term:** Increase power trade without changes in national regulation or power sector organization (e.g., improved protections coordination)
- **Medium term:** Realize integrated power system operation benefits with modern tools (e.g. better commercial metering and supervisory control, and real time dispatch and settlements)
- **Long term:** To create an efficient regional energy market (e.g., implement regional scale generation and transmission projects)

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USAID RESET PROGRAM

December 2010, USAID announced the next phase of their energy sector partnership program in Central Asia, now called **Regional Energy Security, Efficiency and Trade (RESET)**.

This program will provide technical and advisory support that would help to:

- strengthen national and regional transmission system planning, control and coordination,
- develop efficient and sustainable investment in national and regional electricity systems,
- expand electricity trade within and beyond Central Asia, and
- build capacities for designing and implementing market-based solutions to regional issues.

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REGULATORY ENVIRONMENT

	Kazakhstan	Tajikistan	Uzbekistan	Kyrgyzstan	Mongolia	Pakistan	Azerbaijan
Wholesale Market	✓	✗	✗	✗	✓	✗	✗
Independent Regulator	✓	✗	✗	✗	✗	✓	✓
Unbundled Utility	✓	✗	✗	✓	✓	✓	✗
Private Ownership of assets	✓	✗	✗	✗	✓	✓	✓
Tariffs cover new investments	✗	✗	✗	✗	✗	N/A	N/A

The table is for illustrative purposes only. Information not included for all countries

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REGULATORY ENVIRONMENT – KAZAKHSTAN

CONTD.

- The electricity sector governed by the **Ministry of Industry and New Technologies**. They are in-charge of licensing new plants.
- The state owned Kazakhstan Electric Grid Company (KEGOC) runs the transmission network and the National Dispatch Center (NDC)
- The regional distribution companies (REK) are mostly privatized
- The tariffs are regulated by an independent body called the **Agency for Regulation of Natural Monopolies (ARNM)**.
- Transmission Tariffs
 - ▣ ARNM allows full cost recovery including new investments
 - ▣ Current tariffs are cost reflective (last update – August 2010) and thus KEGOC operates profitably.
- Distribution Tariffs
 - ▣ Cover only short term operational costs and excludes long term investments

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REGULATORY ENVIRONMENT – KAZAKHSTAN

- The **wholesale electricity market** is **fully liberalized** and operated using bilateral contracts between generators and wholesale consumers, or Electricity Supply Companies (ESOs) for direct sale of power.
- The current trading activities are concentrated in two parallel markets:
 - Market for bilateral purchase/sale contracts which accounts for 90-95% of traded volumes;
 - Market for short-term trading operated by Kazakhstan Operator of Energy and Capacity Market (KOREM) where about 5-10% of the volumes are traded;
 - A balancing market is also being operated in **simulation mode**. It would be run by KEGOC and is planned to be introduced shortly to complete the wholesale trading market.
- The Government intends to establish an electricity capacity market (ECM) aimed at attracting private investment as a means of addressing the capacity shortage. It would be operated by KEGOC.

GOING FORWARD- PROPOSED ACTIVITIES UNDER PILLAR 2

It is proposed for consideration of members to:

1. Organize training and capacity building in the area of:
 - developing and using international commercial agreements related to project development and power trade, strengthening transmission planning, metering cross-border power flows, and best practices in designing and operating power markets.
2. Regulatory Arrangements –
 - ▣ Countries with advanced regulatory frameworks from CAREC participants to share their experience in the next forum
 - ▣ Based on the interest, arrange to share international experience on specific topics at a subsequent date.
3. Discussion in the sub-committee to decide key priority actions which could be worked to improve regional trade, based on the diagnostic study. Agree on a suitable date for Pillar 2 Subcommittee meeting.



Thank you

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REGULATORY ENVIRONMENT - TAJIKISTAN

- The electricity sector in Tajikistan is dominated by hydroelectricity
- no wholesale electricity market
- The sector is governed by the Law “On Energy”. The Office of the President has the oversight of the energy sector through its Fuel and Energy Department.
- The regulatory function in the electricity sector is distributed between the Office of the President, the Ministry of Energy and Industry (MEOI) and the Ministry of Ministry of Economic Development and Trade (MEDT).
- The MOEI is responsible for awarding new licenses to new power plants.
- A separate TajikEnergoNadzor Agency under MOEI is responsible for the technical regulation.
- The Anti-Monopoly Committee, under the MEDT regulates the tariffs proposed by suppliers.
- There is no wholesale electricity market in Tajikistan and it does not trade electricity regionally. As a result it loses about 4-4.5 billion KWh of generation in the summer months and falls short by about the same amount during the fall-winter season.

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REGULATORY ENVIRONMENT – KYRGYZSTAN

- The electricity sector in Kyrgyzstan is liberalized with the presence of both government and private companies operating in the generation and distribution sectors.
- The electricity sector is governed by the Law “on energy”.
- Regulation of the electricity sector has been done by the Ministry of Energy (MOE). MOE controls and supervises the consumption of electricity, heat and natural gas by energy enterprises and all consumers, regardless of the form of ownership.
- Under the MOE, there are two bodies of regulation:
 - Department for the Regulation of Fuel and Energy Complex (FEC) that oversees tariffs, licensing, and dispute resolution and
 - State Inspectorate on Energy and Gas that is in charge of technical regulation.
- The last time the tariffs were increased in July 2009.
- High tariffs for industrial and commercial consumers cross-subsidize tariffs for households
- Tariffs for heat are subsidized by the state through revenues from electricity exports.

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REGULATORY ENVIRONMENT - UZBEKISTAN

- The electricity sector in Uzbekistan is owned by the government through Uzbekenergo, which is a joint stock company that controls generation, transmission and distribution.
- The sector is part of the Fuel and Energy Complex (FEC) headed by the deputy Prime Minister.
- The price and tariff regulatory functions of FEC are distributed among several state bodies.
- The Ministry of Finance has price setting functions regarding electricity and energy products.
- The Consolidated Administration for Price Setting in coordination with the Department of Financial management of Industry and Fuel, and Energy Complex Key Branches under the Ministry of Finance sets the tariffs for all forms of energy.
- All electricity end-users are differentiated by categories of tariff groups depending on their activities. The tariffs are based on full cost recovery.

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REGULATORY ENVIRONMENT - PAKISTAN

- Government owns about 60% of the generation capacity and 100% of the transmission and distribution
- Power sector regulation, including tariff setting, grant of licenses, prescription of performance standards, and related functions, is carried out by the National Electric Power Regulatory Authority (NEPRA).
- The electricity sector is unbundled with one transmission company and 8 distribution companies
- Main difficulty in implementing NEPRA's decisions has been on tariff determination not being actualized in consumer bills.
- Distribution Companies cannot directly contract generation companies for power.

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REGULATORY ENVIRONMENT - AZERBAIJAN

- ❑ Azerenerji JSC – a state monopoly and largest actor in the sector
- ❑ Controls about 100 % of generation, 100 % of transmission, 100% of dispatch, and 50 % of distribution
- ❑ BakiElektrikShebeke JSC is in charge of Baku distribution network
- ❑ Ministry of Industry and Energy oversees the sector, but has only nominal power
- ❑ Tariff Council sets all government-regulated tariffs, including electricity tariffs