



Energy Sector Progress Report and Work Plan (2011-2012)

**Senior Officials' Meeting on
Central Asia Regional Economic Cooperation
7-8 June 2011
Baku, Republic of Azerbaijan**

SUMMARY HIGHLIGHTS

- The CAREC Energy Action Plan Framework focuses on the three pillars: **energy demand-supply balance and infrastructure constraints; regional dispatch and regulatory development; and analysis of energy-water linkages**. A number of activities were undertaken under each pillar since the last Energy Sector Coordinating Committee (ESCC) meeting in September 2010 and in particular:
 - (i) Energy Demand and Supply Balance and Infrastructure Constraints
 - ADB Board approved a \$2 million TA in June 2010 to help Central Asian countries prepare a **regional power sector master plan**. The selected consulting company Fichtner commenced the activities on 6 December 2010. A comprehensive questionnaire was prepared and distributed in the four participating Central Asian countries (Kazakhstan, Kyrgyz Republic, Tajikistan, and Uzbekistan), on which data collection is based. This was followed by visits to each country where the structure and scope of the project were explained and the major milestones were specified. Discussions on the required information and data were held and additional forms for data collection were handed to the national organizations.
 - In March 2011, the first Pillar 1 Subcommittee meeting was held in Almaty where consultants presented the Inception Report. The participants commented on the report and approved the proposed methodology and implementation arrangements. The draft Final Report and draft medium term priority project list is planned to be presented at next ESCC meeting in October 2011.
 - (ii) Regional Dispatch and Regulatory Development
 - The World Bank conducted an **Energy Dispatch and Systems Operation Study for the Central Asian Power System** to provide a preliminary assessment of the opportunities and challenges in strengthening electricity dispatch and system operations across Central Asia. The results showed that, “electricity that is not supplied results in damages of at least \$200/MWh. Therefore, more than \$1.5 billion can be saved during three years (2010-2012) in the case of integrated operations.” The study recommendations will be considered by the subcommittee meeting planned for July/Aug 2011 to prioritize actions to promote regional trade.
 - To enhance synergy between various programs, the participants endorsed collaboration between the CAREC Energy Sector Coordinating Committee (ESCC) and USAID’s Regional Energy Security Efficiency and Trade program on the proposed topics presented during the deliberations. Uzbekistan deferred its endorsement.
 - (iii) Energy Water Linkages
 - The ESCC began a two-phase process to enhance independent, shared and robust analytical tools on regional energy-water linkages. The first phase was

initiated in February-March, 2011, via two-day national consultations, which were held in Kazakhstan, Kyrgyz Republic, and Tajikistan, and a one day workshop which was held in Afghanistan. The findings of the consultations can be found in the National Workshop Reports and Synthesis Report. Phase 2 works on building **an agreed upon energy-water model for Central Asia** will take place in the subcommittee meeting in Fall 2011.

(iv) Sector Projects

- A number of new projects are under development in the CAREC countries.

(v) Activities and Deliverables for 2011-2012

- The ESCC meetings will be convened at least two times a year. The next meeting will be held in October 2011 (proposed venue Almaty).
- Subcommittee Meetings:
 - Pillar 1, July 2011.
 - Pillar 2, July/ August 2011
 - Pillar 3, September 2011
- Capacity Building Activities
Several areas of capacity building activities were identified in the ESCC meeting which are listed in detail in Section III.
- The deliverables for the 10th MC are:
 - Energy Sector Progress Report and Work Plan
 - Draft Final Report of Power Sector Regional Master Plan
 - Draft medium term priority project list
 - Note on Collaboration between USAID's RESET Program and ESCC Energy Sector Action Plan (see attached)
 - National Workshop Reports and Synthesis Report on Phase 1 of the integrated energy-water analysis
 - Draft Demonstration of Energy-Water Model

I. OVERVIEW OF THE PROGRESS

1. The Central Asia Regional Economic Cooperation (CAREC) participating countries and multilateral institutions (MIs) began the implementation of the activities defined in the CAREC Energy Action Plan Framework (the Action Plan).¹ The activities primarily focus on the Central Asia energy corridor and will deliver investments, knowledge and capacity building, and policy advice in three areas: energy demand-supply balance and infrastructure constraints; regional dispatch and regulatory development; and analysis of energy-water linkages. The results would strengthen energy security and increase energy trade. This progress report focuses on the key developments in the energy sector since CAREC Senior Officials' Meeting in October 2010.² The report is prepared by the Energy Sector Coordinating Committee (ESCC), and is submitted to the Senior Officials for consideration in June 2011. The report will be updated after each ESCC meeting.³

2. Following the Action Plan, a number of new investment projects were identified and are under development. Diagnostic works in each of the three areas have been completed, and will help establish a shared understanding of opportunities for cooperation and follow up actions. As part of the CAREC results framework,⁴ the ESCC agreed on specific indicators to monitor and measure progress of the Energy Strategy. These indicators will provide annual data to the CAREC results framework and development effectiveness review (DEFr).

II. KEY DEVELOPMENTS

A. Pillar 1: Energy Demand and Supply Balance and Infrastructure Constraints

3. The preparation of Power Sector Regional Master Plan was endorsed by the CAREC Ministerial Conference in October 2009 and the funding of the technical assistance was approved by ADB in June 2010. The supervision of the preparation of the Master Plan is done by separate technical sub-committees established under the ESCC Pillar 1. The Master Plan must identify generation and transmission needs in Kazakhstan, Kyrgyz Republic, Tajikistan, and Uzbekistan, and also address the technical conditions for synchronous interconnection of Afghanistan system to Central Asian system. Consulting contract was awarded to Fichtner of Germany on 29th November 2010 with study scheduled to be completed by December 2011.

4. On 3-4 March 2011, members of Pillar 1 Subcommittee and representatives of ADB, World Bank, USAID, and Coordinating Dispatch Center met in Almaty to discuss the Inception Report of the Master Plan presented by Fichtner. The methodology, schedule and outputs were presented in the Master Plan was endorsed by sub-committee members. While members supported the initiative it is clear that national energy security is the primary consideration of each country with regional considerations following. Discussions also addressed choice of planning software to be provided under the project and need to consider stability criteria when examining interconnections.

5. The project also has strong linkages with USAID's Regional Energy Security Efficiency & Trade (RESET) Project, which supports the ESCC activities under Pillar 2.

¹ CAREC. *Energy Action Plan Framework*. 8th Ministerial Conference on CAREC. Ulaanbaatar, Mongolia.

² CAREC. *Energy Sector Progress Report and Work Plan (2010-2011)*. Senior Officials' Meeting on CAREC. Manila, Philippines.

³ The latest ESCC Meeting was held on 23-25 May 2011 in Baku, Azerbaijan. The meeting summary is at Appendix 1.

⁴ CAREC. *Results Framework*. 8th Ministerial Conference on CAREC. Ulaanbaatar, Mongolia.

B. Pillar 2: Regional Dispatch and Regulatory Development

6. The World Bank conducted a **diagnostics study** to identify opportunities and challenges in the combined Central Asia power transmission grid operations. This study included a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis and identified immediate opportunities, and was shared with ESCC in its September meeting. Preliminary model simulations indicated a potential saving of USD\$1.5 billion over three years, based on simplified assumptions. It pointed out that the main issue is to elevate the confidence of countries to benefit from regional integration through cooperation. The follow on work will be discussed by a sub-committee for the Pillar 2.

7. The RESET program of USAID would be leveraged for the benefit of the participating countries, where it could support objectives of the Pillar 2. While the RESET program is currently focused on advisory support to Tajikistan, Kazakhstan, Kyrgyz Republic and Afghanistan, it could also be extended to other CAREC countries in the future. Other CAREC participants could benefit by joining the training program organized with the help of RESET partnership.

8. ESCC proposed several activities for capacity building on areas related to the ESCC action plan, which are described in Section III.

C. Pillar 3: Energy Water Linkages

9. The Action Plan articulated a need to improve the analysis of energy-water linkages. A workshop in September 2009 (linked to the ESCC meeting) explored existing regional water and energy modeling, brought experiences from other basins and started to identify needs and a plan of action for the analytic and modeling effort. This workshop, followed by additional discussion in the region (including with International Fund for Saving Aral Sea (IFAs)) identified a range of analytical and modeling priorities.

10. As a result, the ESCC will begin a two-phase process to enhance independent, shared and robust analytical tools on regional energy-water linkages. The first phase is to be completed by Fall 2011 and will, through a consultative process involving both technical experts, government officials, youth and users, establish a consensus regional water-energy model structure, data requirements and supporting institutional platforms by addressing the Strategic Issues, Criteria and Metrics identified in the National Consultations in Feb-March 2011. Phase 1 will also prepare a demonstration decision support system (DSS) from existing free and publicly accessible information, including remote sensing and satellite imagery. This model will inform the consultations, building awareness on regional resources and interactions among water-using sectors.

11. The second phase of this effort, to be started in 2012, will implement the findings of Phase 1 to adapt and/or formulate an agreed upon model and analytical base for regionally integrated water-energy resource management. A dedicated subcommittee, consisting of specialists from energy and water-related sectors will guide this work.

D. Sector Projects

12. Energy efficiency in energy demand and supply, clean energy, and power trade are strategic priorities for CAREC countries. They represent the least-cost and low-carbon solutions to achieve and sustain energy security. They aim to cut the high energy intensity and increase

energy productivity. The countries are committed to invest in advanced and clean energy technology and practices to take advantage of the numerous savings and economic benefits. The Action Plan calls for investments in system rehabilitation and expansion, and in associated systems, such as supervisory control and data acquisition (SCADA), metering, and communication. Below are examples of major projects in these areas that have been initiated or approved since September 2010.

13. Kyrgyz power sector suffers from significant electricity losses due to theft, metering data manipulation, metering and billing errors, and dilapidated infrastructure. Kyrgyz Republic requested ADB to help bring transparency to the power sector, reduce losses, and enhance regional power trade through (i) developing an automated metering and data acquisition system at the wholesale level, (ii) rehabilitating selected substations, (iii) developing basic components of a SCADA system including a modern communication system in priority sections of the grid, (iv) studying the wholesale electricity transaction settlement mechanism (including import/export transactions), and (v) building the corporate and financial capacity of the national grid company. Total project cost is \$56 million of which ADB will finance up to \$44.8 million equivalent. The project was approved September 2010 and signed in December 2010. Recruitment of consultants is ongoing.

14. ADB is also ready to commence a project preparatory technical assistance to formulate a hydropower rehabilitation project in the Kyrgyz Republic. ADB has indicatively earmarked \$45 million to rehabilitate electrical and electro-mechanical equipment of some hydropower plants along the Naryn River. Consultants are expected to be mobilized in June 2011. The project is scheduled to be considered by the ADB Board in Quarter 1 of 2012.

15. The World Bank has approved in November 2010, an emergency recovery support project for Kyrgyz republic, which would support up to USD 35 million, through a combination of IDA credit and grant, to cover the rehabilitation of the damaged electricity, heat and gas networks in Southern parts (Osh and Jalalabad) and some urgent rehabilitation support for the electricity and gas networks in other areas. The project is under implementation.

16. Based on the request of the Government of Uzbekistan, ADB is in the process of launching a technical assistance to promote solar power development. The technical assistance will (i) make detailed assessment of site-specific solar resources, (ii) prepare feasibility studies for up to six sites of various scales and technologies, (iii) make recommendations on creating an enabling environment for solar power development, and (iv) formulate a solar development road map. The technical assistance is expected to begin July 2011.

17. As another key initiative to enhance energy efficiency in Uzbekistan, ADB is preparing a smart meter project that will increase utility's load management capability and reduce distribution losses. The project will install 1 million residential and commercial connection meters in the Bukhara, Samarkand, and Jizzakh regions. The feasibility study is under preparation, and the financing is expected to be approved by early 2012. The feasibility study also covers 1.5 million connections in Tashkent City, Tashkent region, and Syrdariya region, which is expected to be financed by the World Bank in early 2012. The total coverage of 2.5 million connections comprise half of the total national coverage of 5 million. It is expected that the investment requirements for both the ADB- and World Bank-assisted projects would be 200~300 million.

18. The Talimarjan Transmission Project for Uzbekistan with US\$ 140 million of IBRD loan was approved in March 2011. The project would support the Government of Uzbekistan's

objective of improving the reliability of the electricity supply to residential and business consumers in South-Western Uzbekistan and also help in power evacuation from 900 MW Talimarjan combined cycle gas based generation project assisted by ADB, and Japan International Cooperation Agency (JICA). The Talimarjan transmission project implementation is under progress. The technical assistance component of the project also covers an assessment of the wind power potential in Uzbekistan.

19. The Alma Transmission Project was approved on November 15, 2010 for an IBRD loan of \$78 million to Kazakhstan. It aims to support the Government of Kazakhstan's efforts to improve the reliability and quality of electricity in a way that is environmentally responsible and financially sustainable to the Almaty region. Expanding and upgrading the transmission system in the south, especially the Almaty Oblast, is urgently needed to prevent emergency situations and widespread supply cut-offs that hurt the economy and the population.

20. ADB plans to draw on its extensive knowledge and experience in energy efficiency (EE) and projects in Kazakhstan to assist the government to put in place a regulatory, legal and legislative framework to achieve its EE goals. As a first step, ADB and the Government have engaged consultants to conduct an energy efficiency diagnostic study (EEDS) to lay the groundwork for the development of EE in Kazakhstan. The EEDS will gather energy data, assess current status of EE in Kazakhstan, review and evaluate existing EE legal, legislative and regulatory environment, recommend actions for the Government of Kazakhstan to achieve its energy efficiency targets, develop strategies for stakeholders in the planning and implementation of EE projects, and identify priority investment areas and a preliminary pipeline of potential EE projects for future due diligence. This \$200,000 study will be finalized by July 2011.

21. Several initiatives for exploring and developing the power trading market between Central Asia and South Asian countries are ongoing. The progress on these initiatives is reported below:

- (i) CASA-1000 Project: The feasibility update has been finalized. The implementation steps would be finalized in the next Inter Governmental Council Meeting planned in June/ July 2011)
- (ii) Uzbekistan – Afghanistan – Pakistan electricity trade initial assessment is in progress. The consultants have prepared inception report, which is under review.
- (iii) Turkmenistan – Afghanistan electricity interconnection preliminary assessment is under progress.

22. Pakistan is undergoing severe power supply shortages. To address these shortages and improve efficiencies, ADB is preparing a project to rehabilitate and/or replace existing thermal generation facilities. The generation facilities to be replaced or rehabilitated will be identified and prioritized under a diagnostic study undertaken by the Agence Française de Développement, which should be finalized in May 2011. Upon completion of the diagnostic study, one or more power plants will be selected for replacement, or rehabilitation. ADB is acting on behalf of the Government to engage feasibility consultants. The shortlist has been finalized and consulting firms are preparing responses to the request for proposals. ADB Board consideration of the project is in 2012.

E. Others

1. Capacity Building

23. The ESCC and the CAREC Institute agreed to design and deliver training activities and research programs on pressing energy related topics, including training for CAREC energy regulators. The September 2010 ESCC defined specific topics. Resource persons have been identified and seminar was carried out at the May 2011 ESCC meeting on three most demanded topics:

- (i) Decision Support Software for Power System Planning & Operations;
- (ii) Carbon Finance Opportunities for CAREC - Case Study of Cross Border CDM Trade Between India and Bhutan
- (iii) Regional metering system for cross border power flows

III. WORK PLAN IN 2011-2012

1. Energy Demand and Supply Balance and Infrastructure Constraints

24. The Interim Report for Energy Sector Regional Master Plan will be completed in June and discussed at the second Pillar 1 Subcommittee meeting in Tashkent in July 2011. The draft Final Report will be presented at the next Pillar 1 Subcommittee and ESCC meetings in October 2011. After consolidation of comments from ESCC members, a draft medium term priority project list for investments will be prepared and presented to Senior Officials Meeting and Ministerial Conference in November 2011. The study is scheduled to be completed by December 2011.

2. Regional Dispatch and Regulatory Development

25. The ESCC completed the diagnostics study in September 2010 and the final report was delivered in October 2010. For the year 2011, it is planned to :

- i) Organize a meeting of the sub-committee in July/August 2011 to agree on key priority actions which should be undertaken to improve regional trade, based on the diagnostic study completed in October 2010.
- ii) 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 other areas identified in paragraph 29.

3. Energy Water Linkages

26. The ESCC completed the preliminary diagnostics study in October 2009, which was expanded in country discussions in September 2010 and presented to ESCC. National workshops to define the analytical parameters and strategic focus of an energy-water model took place February–March 2011 in Kazakhstan, Kyrgyz Republic, Tajikistan and Afghanistan. Workshops will be held in Uzbekistan and Turkmenistan at the disposition of the governments. The meeting of the Pillar 3 subcommittee will follow in Fall 2011 to review in depth existing

models and draft a framework terms of reference for a new/strengthened regional analytical tool (decision support system). The demonstration model under development by the University of Washington will be completed in later 2011/2012.

4. ESCC Meetings

27. The ESCC is consist of energy sector focal points and relevant energy sector representatives from each country, and will meet as needed but at least twice a year. The ESCC requests the CAREC Secretariat to continue the support with the organization and arrangements. ADB and World Bank will provide necessary technical support to the ESCC activities. The next ESCC meeting is planned in October 2011 (proposed venue Almaty).

5. Investment Plan

28. Based on the results of the regional power sector master plan, a draft medium term (five-year) priority project list will be produced by the time of the 10th MC.

6. Capacity Building

29. A set of capacity building activities was identified by ESCC for the 2011-13 period. The activities proposed by the ESCC are:

- (i) Energy Efficiency and Renewable Energy
- (ii) Developing and Implementing International Commercial Agreements
- (iii) Decision Software for Power System Planning and Operation
- (iv) Cross Border Metering Protocol
- (v) Institutional Structure of Energy Sector and Regulation
- (vi) Water Energy Linkages – expansion to other CAREC countries
- (vii) Capacity building on the success and failure factors in attracting foreign investments – experience from CAREC countries
- (viii) Creation of database of existing expertise in the energy sector of CAREC countries



CENTRAL ASIA REGIONAL ECONOMIC COOPERATION

Energy Sector Coordinating Committee Meeting

23-25 May 2011, Baku, Azerbaijan

MEETING SUMMARY

I. Introduction

1. The ESCC Meeting was convened in Baku, Azerbaijan on 23-25 May 2011. Delegations from nine of the ten CAREC countries¹, representatives from CAREC partner multilateral institutions – Asian Development Bank (ADB), European Bank for Reconstruction and Development (EBRD), Islamic Development Bank (IsDB) and the World Bank along with other international energy and water experts participated in the meeting. The meeting was opened by H.E. Mr. Natig Abbasov, Deputy Minister of Industry and Energy, Azerbaijan. The sessions were moderated by the representatives of Azerbaijan, Asian Development Bank and the World Bank.

2. The objectives of the ESCC meeting were to update on implementation of the CAREC Energy Action Plan, to seek agreement on the subcommittee work program among the participating countries; and to share experiences and enhance capacities on system planning and operation software, regional metering system and carbon finance mechanisms.

3. At the onset, the chair welcomed all the participants to Azerbaijan and invited delegate from the ADB to report on the preparation for the upcoming 10th Ministerial Conference. Representative of the CAREC Secretariat noted that this was the 10th year of CAREC and welcomed the cooperation of Pakistan and Turkmenistan, the newest members with CAREC. He also informed the meeting that the first development cooperation review was conducted by the ADB and outlined the strategic framework up to 2020.

4. Representative of the Ministry of Industry and Energy, Republic of Azerbaijan provided an overview of the Azerbaijan energy sector, current situation and strategy for further development of the sector. He also outlined the country's plans for reforming the energy sector. At present, the energy system is operated as a monopoly with a vertically integrated company – Azerenerji. After reform the sector, Azerbaijan will have an independent regulatory agency and a wholesale market. There are plans to expand transmission links between Azerbaijan, Georgia and Turkey towards the European Union and to build additional high voltage power transmission lines connecting Azerbaijan with Russia and Iran for increased cross border trading. The new energy law is being drafted at present.

¹ Afghanistan, Azerbaijan, Mongolia, Kyrgyz Republic, Kazakhstan, Tajikistan, Uzbekistan, Pakistan and Turkmenistan were represented. People's Republic of China was not represented.

5. In the second presentation, the Azerbaijan Energy Scientific-Research and Project Search Institute, presented the trends in the energy sector. They informed the meeting that energy intensity has been decreasing in Azerbaijan, due to the measures of the ongoing energy efficiency program. The country also plans to incorporate a significant share of renewable energy in its energy mix by 2020. He also noted that energy efficiency is very important.

II. Implementation of Action Plan

6. Pillar 1, Energy Supply/Demand and Infrastructure

The Senior Officials meeting endorsed the Power Sector Regional Master Plan in 2009. The consultants – Fitchner commenced work on the study in December 2010. The first quarterly report on the Regional Master Plan was presented under Pillar 1. The detailed tasks for the study were presented to the participants which they agreed in principle. The members were informed that the Pillar 1 Subcommittee approved the methodology and implementation plan proposed by Fitchner. The final report is expected in December 2011. Energy security was the top priority identified by the Pillar 1 subcommittee. However, participants of the ESCC agreed that this priority should be addressed under compliance with all international rules and regulations. Representatives of Afghanistan requested to accelerate the study related to Afghanistan interconnection with the Central Asian Power System. It was also agreed that existing power sector plans in the member countries will be taken into consideration by Fitchner when developing its study. The draft medium term (5-year) investment plan will be presented during the next ESCC meeting in October 2011.

7. Pillar 2, Regional Dispatch and Regulatory Development

The Central Asia Power System study was presented in the previous ESCC meeting. These opportunities were recognized by the last ESCC meeting and it was decided to set up a subcommittee that would prioritize the activities for implementation. The participants agreed to the proposal to hold the subcommittee meeting for this pillar during the second half of July/ first half of August 2011. The participants were also briefed on the availability of the USAID's Regional Energy Security, Efficiency and Trade (RESET) program, which could be leveraged for the benefit of the participating countries. USAID representative made a presentation on RESET program and the areas where it could support objectives of the Pillar 2. It was clarified that while the RESET program is mainly focused on advisory support to Tajikistan, Kazakhstan, Kyrgyz Republic and Afghanistan, it could also be extended to other CAREC countries in the future. In the mean time, other participants could benefit by joining the training program organized with the help of RESET partnership. To avoid duplication of efforts and increase synergy between various programs, the participants excluding Uzbekistan endorsed collaboration between CAREC ESCC and USAID's RESET program on the proposed topics presented during the deliberations. During discussion, several areas of interest were identified by the participants and ESCC was requested to consider inclusion of these areas in their future program. These are listed under paragraph 12.

8. Pillar 3, Energy Water Linkages

The activities under Pillar 3 are divided into various phases. Phase 1a is aimed at defining a joint view on the needs for a decision support system (DSS) for energy-water analysis and modeling in Central Asia through a consultative process, and preparing the draft “First Generation (demonstration) Model” for the system taking energy-water linkages into account (Phase1b) being developed by the University of Washington.

9. A presentation provided an overview of the interim outcomes of Phase 1A under which a series of consultations were held in Kazakhstan, Kyrgyz Republic, Afghanistan and Tajikistan. There was a common thread of issues on energy and water security, the environment and agriculture, and social concerns; and there was considerable agreement among the countries about the importance of these issues and the criteria by which objectives are defined and alternatives are measured. However, there are national priorities that vary from country to country such as additional exports and the restoration of the Aral Sea. It was clarified that the decision support system (DSS) will be an analytical tool that support decision making activities and does not seek to change the current allocation of water between the countries; and that the consultations with Uzbekistan and Turkmenistan would be conducted according to the disposition of the individual governments. A regional workshop is proposed for Fall 2011 that would bring the technical teams from the six countries to complete phase 1 of Pillar 3 activities. Some participants requested that these activities should be extended to other interested CAREC member countries.

III. Capacity Building

10. Three activities for capacity building were covered along with the ESCC meeting.

- 1) Decision Support Software for Power System Planning,
- 2) Regional Metering System for Cross Border Power Flows, and
- 3) Carbon Finance Opportunities for CAREC.

The presentations were followed by a lively discussion. The participants appreciated these areas of capacity building and suggested follow-up activities as detailed below.

IV. Other Issues

ESCC Progress Report

11. The updated energy sector progress report, work plan and schedule (2011-2012) were reviewed. The subcommittee meetings for Pillar 1 was proposed in July 2011, Pillar 2 July/Aug 2011, and Pillar 3 during Fall 2011. The next ESCC meeting was proposed to be in October 2011 (proposed venue- Almaty) followed by the 10th Ministerial Conference in November 2011 (proposed venue – Baku).

12. The Turkmenistan delegation informed participants that works on the cross border transmission connection between Afghanistan and Turkmenistan is in progress. The first phase of Turkmenistan portion, transmission line of 500 kV up to Afghan border, is planned to be completed by end of 2013.

V. Conclusions and Next Steps Going Forward

13. The ESCC discussed the additional activities for 2011-2013.

- 1) Energy Efficiency and Renewable Energy
- 2) Developing and Implementing International Commercial Agreements
- 3) Decision Software for Power System Planning and Operation
- 4) Cross Border Metering Protocol
- 5) Institutional Structure of Energy Sector and Regulation
- 6) Water Energy Linkages – expansion to other CAREC countries
- 7) Capacity building on the success and failure factors in attracting foreign investments – experience from CAREC countries
- 8) Creation of database of existing expertise in the energy sector of CAREC countries

Note on Collaboration between USAID'S RESET Program and ESCC Energy Sector Action Plan

It has been the endeavor of ESCC to leverage efforts of all donors working on similar program with the participating countries of CAREC. USAID's Regional Energy Security, Efficiency and Trade (RESET) program has significant overlap of its objectives and activities with ESCC Energy Sector Action Plan. The overlap is significant with the Pillar 2 - Regional Dispatch and Regulatory Development and also with Pillar 1- Energy Supply/Demand and Infrastructure. ESCC meeting at Baku in May 2011 formally endorsed¹ collaboration between CAREC ESCC and USAID's RESET program on the topics presented during the deliberations. The agreed activities are listed at the end of this note.

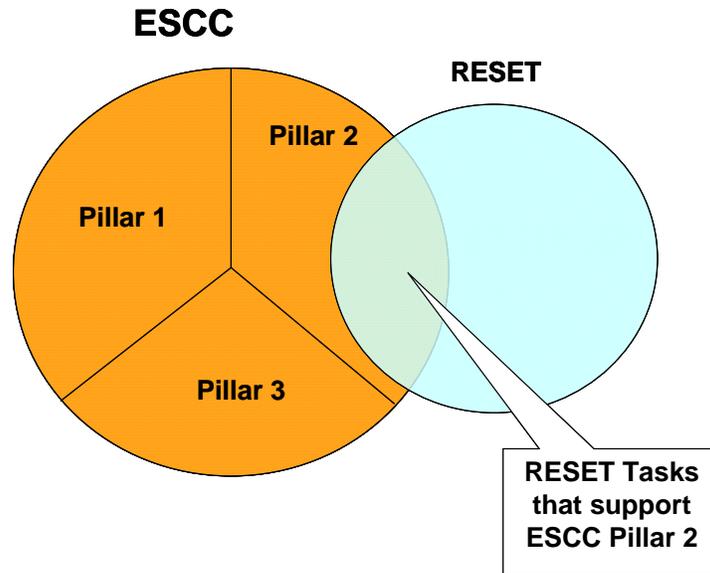
USAID launched its three-year RESET program in November 2010. With a budget of \$17 million, RESET will provide participating countries with technical and advisory support as well as capacity building activities aimed at improving the region's energy security, increasing power sector efficiency, and expanding mutually beneficial electricity trade within and beyond Central Asia. The RESET program is currently focused on advisory support to Tajikistan, Kazakhstan, Kyrgyz Republic and Afghanistan; it could also be extended to other CAREC countries in the future.

The shared goals of CAREC's Energy Sector Coordinating Committee and the USAID's RESET program include:

- strengthening national and regional transmission system planning, control & coordination;
- establishing the conditions under which efficient and sustainable investment in national and regional transmission infrastructure and generation capacity can be mobilized;
- expanding trade of electric power within and beyond Central Asia; and
- developing institutional capacities in support of these goals.

The diagnostic study on Central Asia power system, completed under ESCC's Pillar 2 highlighted the benefits of improved coordination in operation of the Central Asia Grid, and proposed a range of short to long term measures to improve the coordinated operation. Implementation of these measures would both increase the operational efficiency of the Central Asia power system and begin to reestablish a more collaborative climate throughout the region. Several of these measures and related capacity building activities are planned to be undertaken or facilitated by the RESET program as part of the ESCC's Work Plan for Pillar 2, as illustrated in the diagram below.

¹ Uzbekistan did not support this proposal endorsed by all other participants.



Technical and advisory support and capacity building activities related to the recommended measures that could be provided under RESET in close coordination and collaboration with other Pillar 2 activities would include, among others to be determined by the ESCC:

- the development, negotiation and use of international commercial agreements related to project development and power trade;
- strengthening transmission planning; control and coordination;
- metering and settlement regimes for cross-border power flows,
- valuation and pricing of ancillary services;
- best practices in designing and operating power markets, and
- the monitoring and regulation of power markets.