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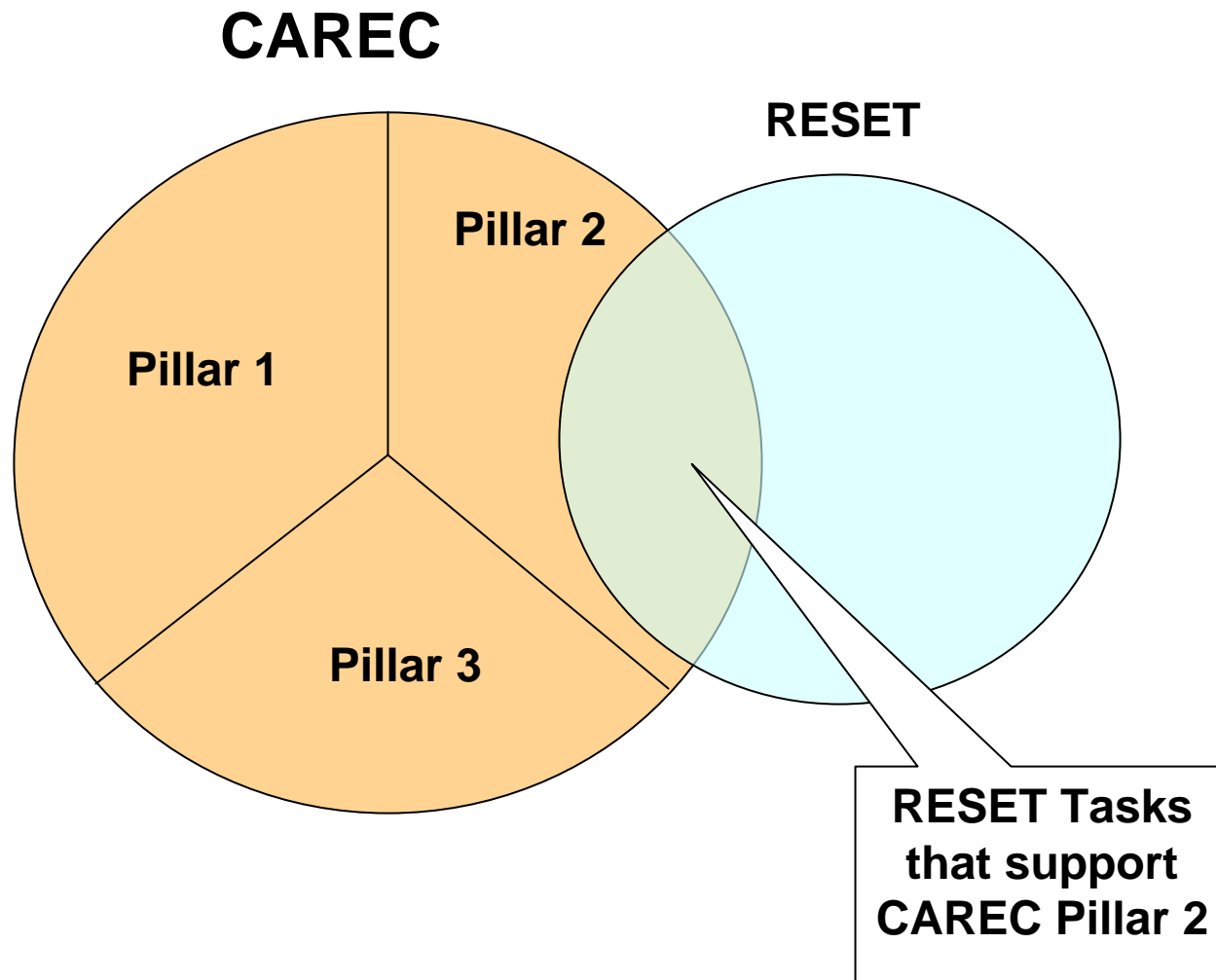
## **RESET and ESCC Pillar 2**

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USAID, May 2012

# Several RESET Tasks Support CAREC's Pillar 2



# RESET's Results & Activities in Kazakhstan

- Capacity Market (original paper done by REMAP) to attract capital investment in new generation in order to eliminate deficits – approved 10 May 2012 by the Lower Chamber of the Parliament; approval pending in the Upper Chamber
- First trade of KG power on KOREM (*Financial Times* article on this)
- MOU with Almaty University to develop a course to study on power markets for the graduate curriculum. (This could be adopted in other countries)
- Two successful high level seminars with senior U.S. regulator Peter Bradford with MINT, AZK, AREM on “Performance Regulation”
- Proposal to fund feasibility study for Alma-Kemin line
- Study Tour to US for KZ Regulators to see competitive power markets in operation and how they are monitored and regulated
- Second U.S. Study Tour planned for KZ energy company operators

# RESET Results & Activities in Kyrgyzstan

- Management Diagnostic Phase 1 and 2 completed and results presentation to President & Parliament & the two Vice Prime Ministers
- Performance Agreements with all 6 companies were signed and KPI's negotiated
- Escrow Account created to ensure transparency in use of export revenues
- MOU with JSC "EPP" hired 19 local non-energy experts for management modernization unit at General Director's request
- Ministry requested RESET to take a Management Contract over the entire distribution sector
- Ministry requested a MOU with Regulator to revamp entire legal & regulatory framework
- Significant donor coordination with ADB, World Bank & KfW resulted in new ADB investment and "Donor One Voice" strategy to put the sector on a self-sustainable basis by 2017
- Government Strategy calls for Independent Settlement Center to assure transparent and verifiable wholesale transactions and cash flows

# RESET's Results & Activities In Tajikistan

- RESET recently posted a full –time resident attorney to Dushanbe to advise the Tajik delegation to CASA 1000 Joint Working Group
- Barki Tojik requested assistance on establishing a new technical and legal basis for a System Operator in unbundled sector & legal framework for restructuring and creation of the wholesale market
- The Chairman of State Committee on Investment & State Property Mgmt requested RESET to provide assistance in Barki Tojik's restructuring and for Tajikistan's participation in CASA 1000
- GoTJ and the Donor's Committee requested a presentation on lessons learned from KG's restructuring & RESET 's successes with EPP's MOU
- Barki Tojik requested RESET to begin discussions on a similar MOU .
- \$785,000 grant to Pamir energy to connect Afghan villages flowed through Aga Khan Fund .

# RESET's Results & Activities in Turkmenistan

- Seminars held with Turkmen energy specialists on:
  - Key Provisions of PPAs;
  - Transactional Framework for International Power Trade
  - Project Risk Identification, Allocation and Mitigation
  - Negotiation Strategies & Techniques
  - Alternative Dispute Resolution Mechanisms
  - Least Cost Planning & Optimal System Development

# RESET Results & Activities with CDC

- Completion of assessment of needs for CDC's technical upgrade to prevent or postpone reliability problems (est @ \$800,000)
- Attempt to re-establish the REMAP Steering Committee of Power System Operators as a forum for discussion on scenarios for regional planning & analysis
- MOU with CDC on cooperation
- Still awaiting approval by Council of Ministers for Uzbekenergo's cooperation with RESET.

# Plans for the Future & Expected Results

- Focus on knitting together a KZ-KG trade regime (transparent and sustainable, to the extent possible). Start with a serious analysis of benefits for both countries
- Capacity Building for new HV transmission lines that both create routes to new markets (TM/AF; CASA; TJ/AFG; Datka/Kemin/Almaty) and increase a country's supply security (as the necessary basis for greater regional cooperation in market development)
- Develop & advocate “market rules” & implement domestic reforms that incentivize new generation and increase power supply available for trade
- Expand the regional market to include Afghanistan and Tajikistan & to the extent possible, Turkmenistan & UZ



## Joint Capacity Building with CAREC for ESCC Pillar 2: RESET Task RG 19

- Better understand the concepts and mechanics of operating competitive electric power markets;
- Develop and use international-standard Power Purchase and other Agreements related to power trading;
- Learn new negotiating strategies and build skills in negotiating win-win outcomes;
- Learn about the economics of renewable energy and how to evaluate strategies for their development including the types and effects of various subsidy schemes; and
- Identify ways to resolve the perennial problem in CAR related to unplanned power flows and undervalued ancillary services.

# Unplanned power flows in CAPS

Unplanned power exchanges have been due to:

- Deviations in regular electricity flows via CAPS' power ring
- Secondary load frequency control
- Unplanned power deficits in national power systems: mutual assistance in cases of emergency
- Seasonality of hydropower in the region
- Other

# Unplanned power flows and wholesale metering (1)

Lack of high quality metering at the wholesale level and the manual taking of the meter readings, complicate the issue of timely accounting and payments for the electricity exchanges among CAPS countries, resulting in increased quantities of unplanned power flows and accumulated debts.

This problems relates to truly unintended and inadvertent power flows, not the intended but not contracted electricity withdrawals as it sometimes happens in CAPS

# Unplanned power flows and wholesale metering (2)

For the obvious reason CAPS countries tend to avoid settlements in cash and have a special “Balancing methodology”:

## –Non-monetary settlements:

At the end of each month, all commercial metering data are reported to CDC Energia. The unplanned power flows should be returned back during the next month in a volume that equals actual consumption. In month C+2, the amount of energy to be returned is 20% more than the energy actually consumed during the current month. In month C+3, this energy volume increases to 1.5 times the original amount.

## –Monetary settlements:

Used if the above procedure fails to reach a zero balance.

# RESET RG14: Regional AMR System

## Major goals:

- assist in resolving the problem of unplanned power flows within CAPS
- make it possible to use hourly (half hourly) commercial data for operational needs
- increase the accuracy of interim planning and create conditions for taking timely corrective measures

## It would also:

- establish communications protocols for metering data exchanges within CAPS
- help harmonize metering procedures & coordinate metering equipment and systems used for commercial metering

# Regional AMR System: level of support

- CDC Energia - initial support expressed
- OJSC “NES of Kyrgyzstan” - initial support expressed
- SJSC “Uzbekenergo” – initial support expressed
  
- KEGOC, Kazakhstan - no immediate indication of support
  
- OSHC “Barki Tojik”, Tajikistan – tentative support on condition of reestablishment of synchronous operations with CAPS

# Regional AMR System: implementation issues

- Uzbekistan's power system borders upon all the CAPS countries and accounts for about 80% meters responsible for regional metering
- Participation of Uzbekistan is critical for the Regional AMR system
- Support from "Uzbekenergo" should be approved at the governmental level
- Implementation is pending approval from Cabinet of Ministers of Uzbekistan

