

# Da Afghanistan Breshna Sherkat



## DABS PRESENTATION

14 September 2014

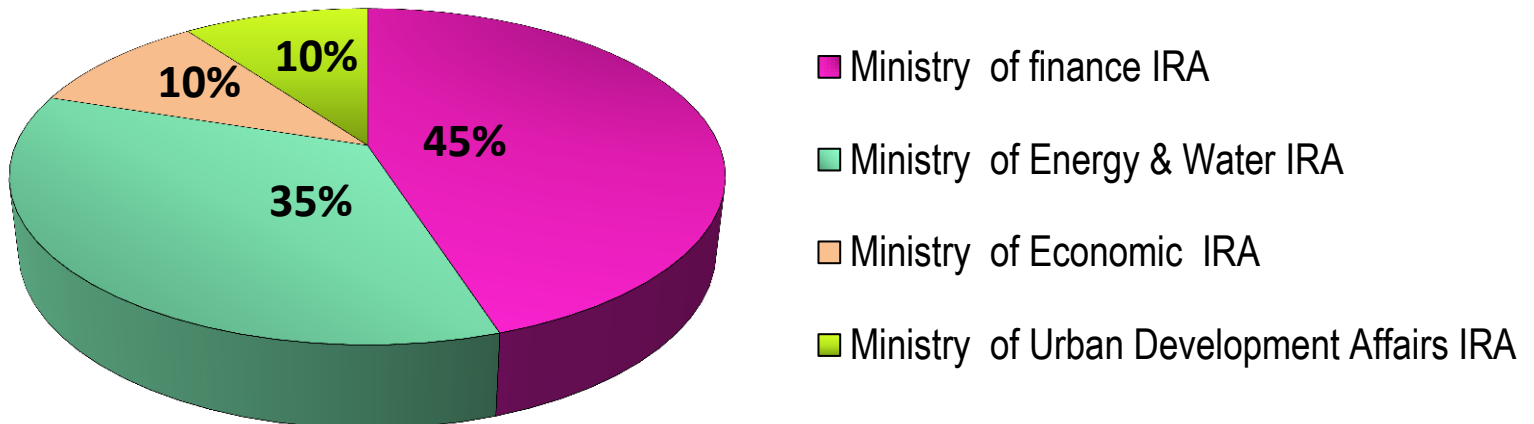
DABS Home Office

Kabul, Afghanistan

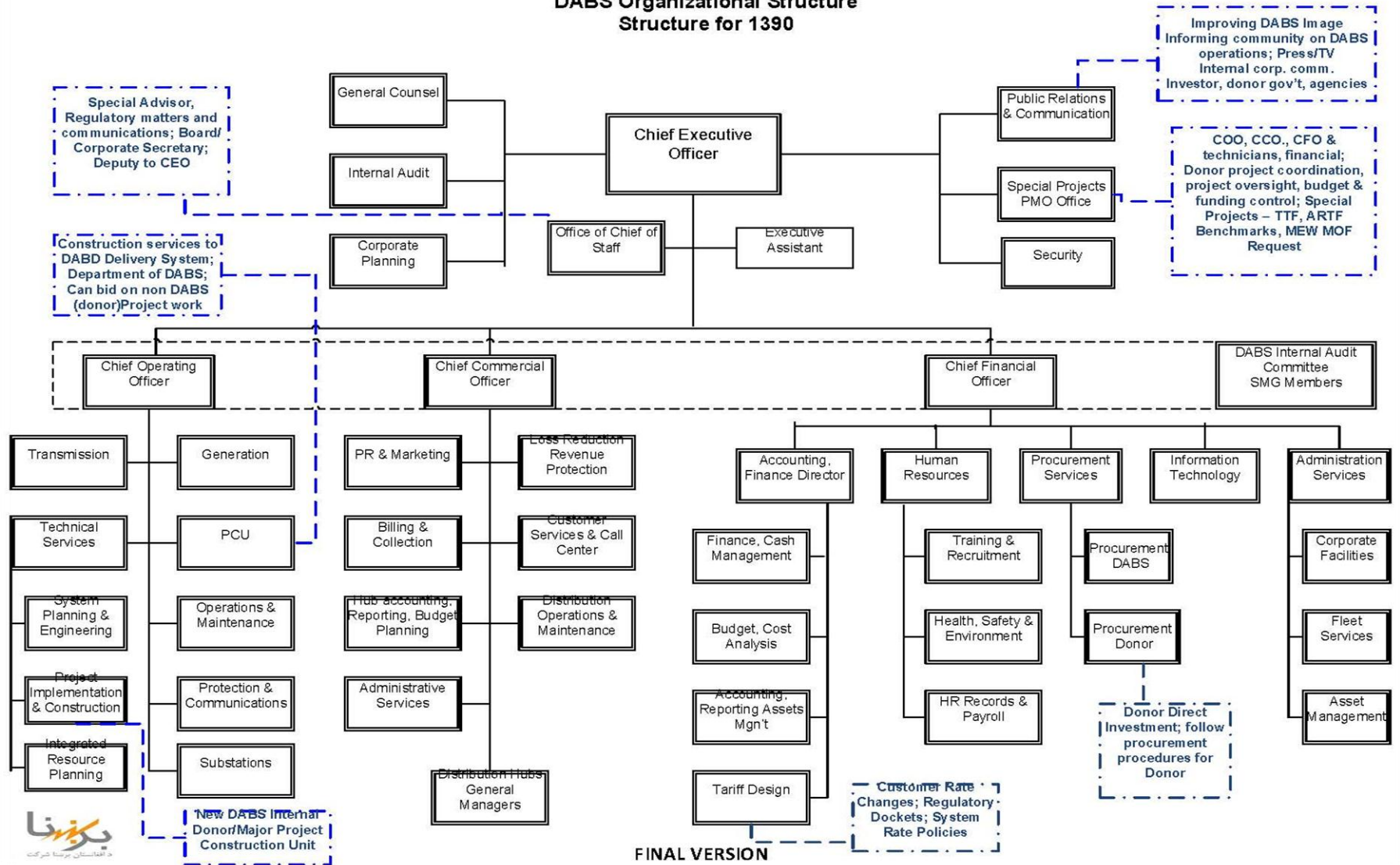


## AFGHANISTAN ENERGY SECTOR

- Afghanistan Energy Infrastructure, generation, transmission and distribution were almost destroyed over the past three decades due to the war and conflict. The government of Afghanistan corporatized the National electricity service department Da Afghanistan Breshna Mossasa (DABM) into an independent state owned utility as such, all assets, staff and other Rights and Obligations of (DABM) were transferred to (DABS) on May 2008.
- DABS' shares are owned by the Government, voted on by Government representatives. As per the Articles of Incorporation, the Initial capital shall be AFS 25 billion; the ultimate capital shall be AFS 100 billion

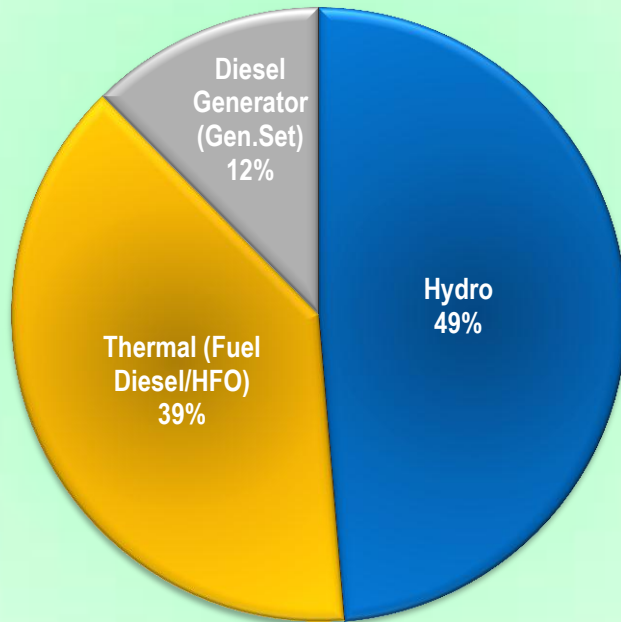


## DABS Organizational Structure Structure for 1390



## Afghanistan on Grid Power Plants / Transmission Lines

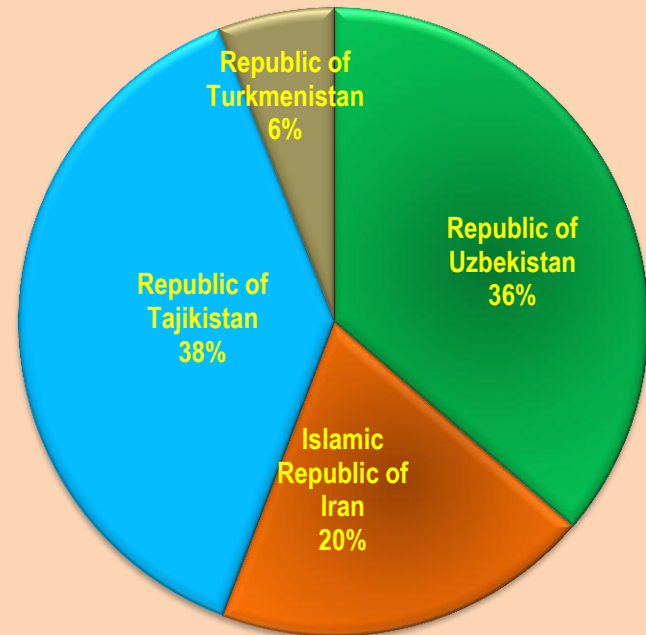
**Afghanistan Power Plants Installed Capacity in MW**



**Plants Installed Capacity in MW**

|                            |            |
|----------------------------|------------|
| Hydro                      | 254        |
| Thermal (Fuel Diesel/HFO)  | 203        |
| Diesel Generator (Gen.Set) | 65         |
| <b>Total</b>               | <b>522</b> |

**Transmission Lines Installed Capacity, Max in MW**



**Transmission Lines Installed Capacity, Max in MW**

|                          |               |
|--------------------------|---------------|
| Republic of Uzbekistan   | 305.00        |
| Islamic Republic of Iran | 164.00        |
| Republic of Tajikistan   | 322.00        |
| Republic of Turkmenistan | 50.04         |
| <b>Total</b>             | <b>841.04</b> |



## Executive Summary

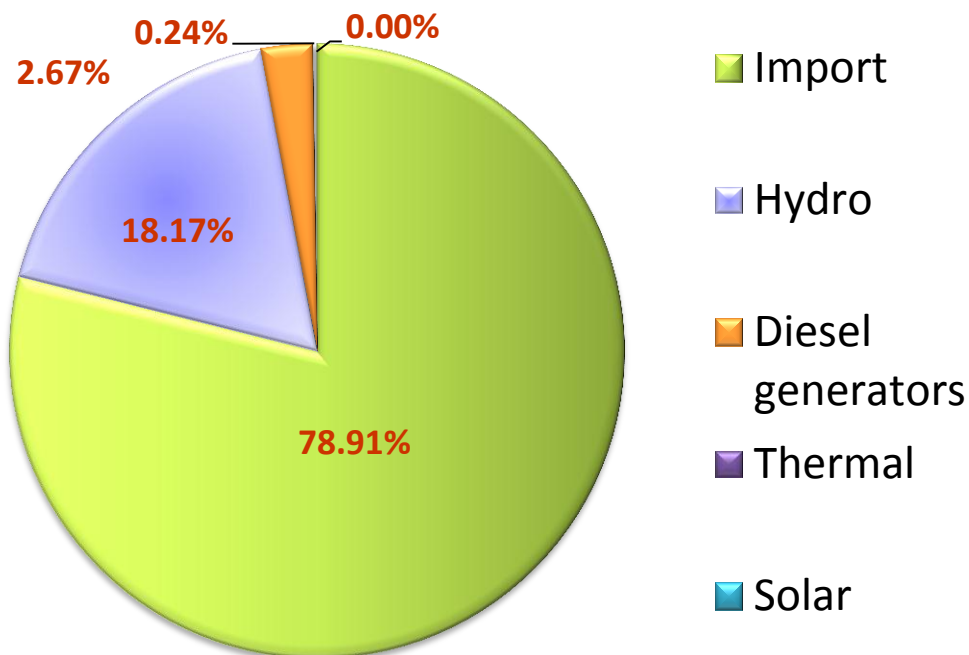
- To achieve the goal of providing power supply for whole Afghanistan, a large investment effort for all the subareas generation expansion, transmission reinforcement and development has to be taken. This will need a total investment of \$10,096m, \$7,330m for generation development and network integration, \$1,727m for major transmission projects and \$1,040m for transmission network development within the provinces up to the year 2032. (Afghanistan Power Sector Master Plan)
- The total investment for stage A is estimated at \$1,213m. Stage B will require \$1,465m while stage C and stage D will require about \$1.410m and \$6.010m. The high investment in Stage D is related to the hydropower plants. (Afghanistan Power Sector Master Plan)

| Overview on Investment type                   | Subtotal by project | Stage A     | Stage B     | Stage C     | Stage D     |
|-----------------------------------------------|---------------------|-------------|-------------|-------------|-------------|
| Generation development                        | \$ 7,329.50         | \$ 327.60   | \$ 348.50   | \$ 981.50   | \$ 5,671.90 |
| Major transmission projects                   | \$ 1,725.90         | \$ a 595.00 | \$ 676.00   | \$ 212.90   | \$ 242.00   |
| Transmission development within the provinces | \$ 1,041.00         | \$ 291.10   | \$ 439.80   | \$ 215.10   | \$ 95.00    |
| Total in Million USD                          | \$ 10,096.40        | \$ 1,213.70 | \$ 1,464.30 | \$ 1,409.50 | \$ 6,008.90 |

## Afghanistan Electricity Demand Forecast Within 20 Years

- A demand forecast within 20 year project horizon has been prepared based on commonly applied methodology. Inputs are key socio-economic variables, such as GDP growth, as well as developments of the average tariff level and household connection rates, as critical deciding factors. Starting with the forecasts for the various provinces, the anticipated total demand forecast for Afghanistan has been estimated. (Afghanistan Power Sector Master Plan)
- For the whole of Afghanistan, gross demand, i.e. dispatched electrical energy, will increase in the base case scenario by 5.7% or 8.7% per annum on average from its current level to 18,400 GWh in 2032. Total peak demand in 2032 is expected to stand at around 3500 MW. In addition, high and low scenarios were developed which show a total gross demand of about 22,500 GWh and a peak of 4300 MW in 2032 in the high scenario and around 13,700 GWh gross demand and 2600 MW peak in the low scenario. (Afghanistan Power Sector Master Plan)

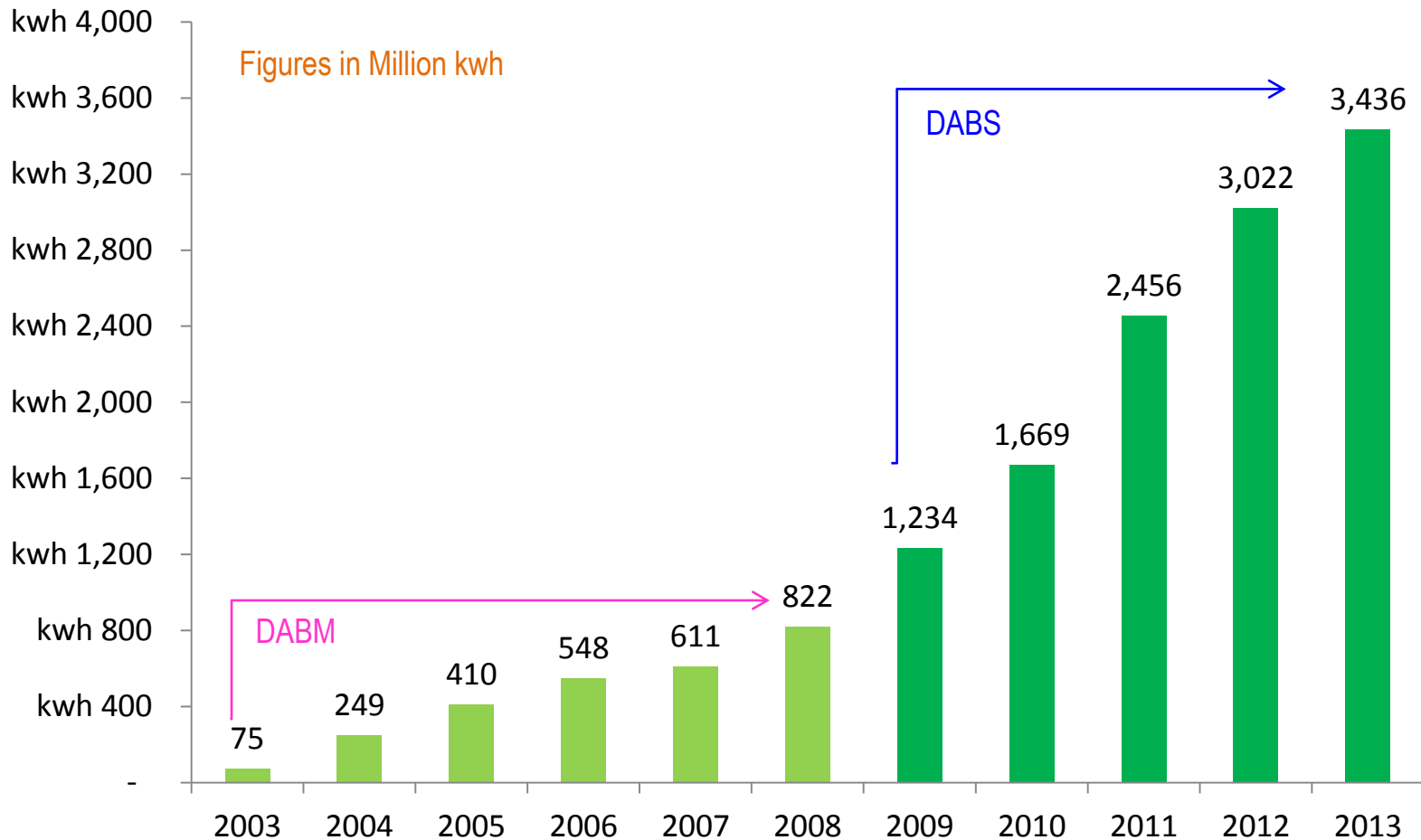
## DABS System Energy Forecast for 1393 (2014)



|                   |                   |        |
|-------------------|-------------------|--------|
| Import            | kwh 4,168,810,192 | 78.91% |
| Hydro             | kwh 960,142,771   | 18.17% |
| Diesel generators | kwh 141,091,069   | 2.67%  |
| Thermal           | kwh 12,600,000    | 0.24%  |
| Solar             | kwh 151,171       | 0.00%  |
| Total             | kwh 5,282,795,203 |        |

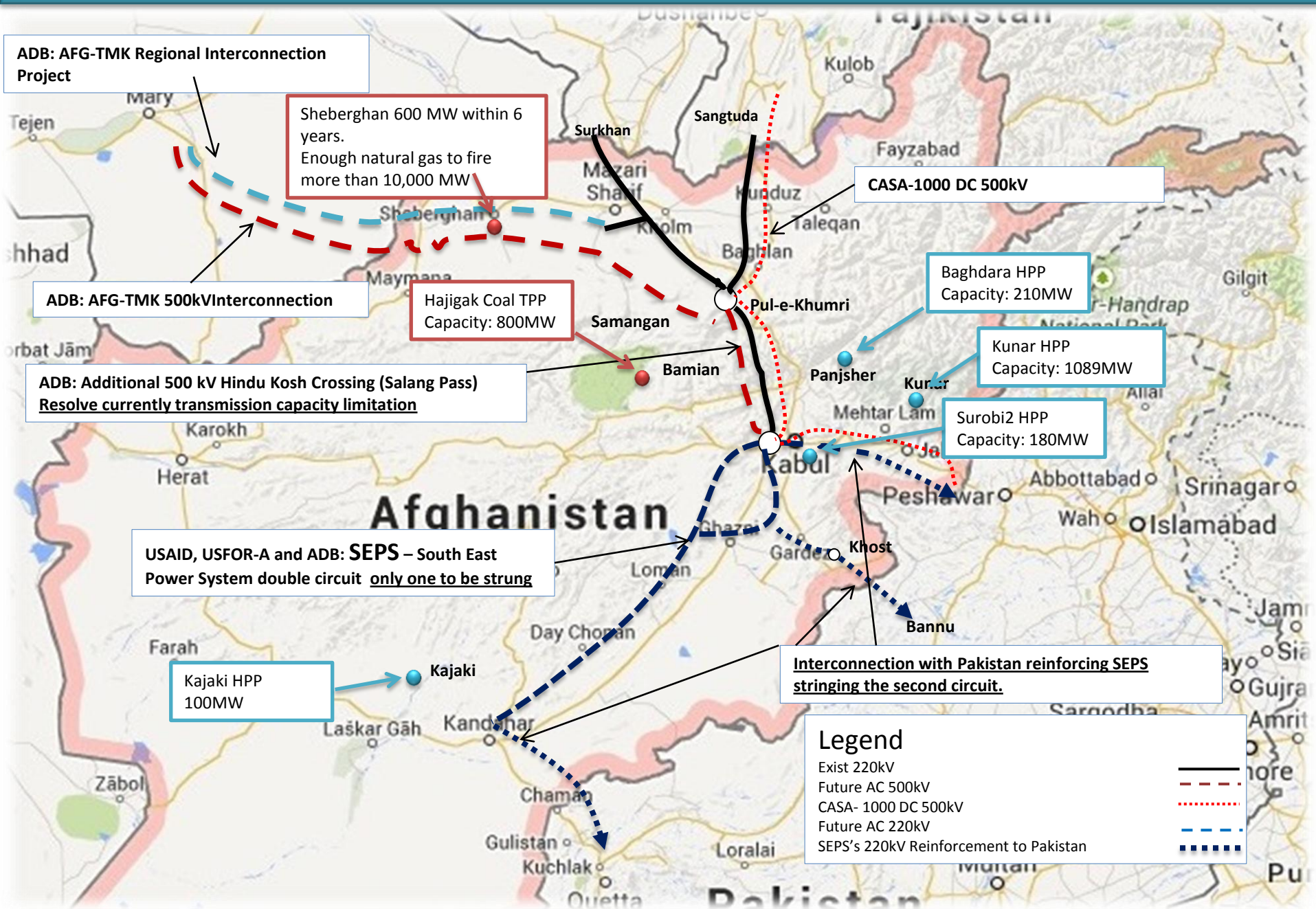


## Afghanistan Electrical Energy Import Actual fact and Figures





# Afghanistan Transmission and Generation Expansion Plan - Possible Interconnection with Pakistan by Reinforcing SEPS' 220 kV





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Thank You