وزارت انرژی و آب
جمهوری اسلامی افغانستان

AFGHANISTAN ENERGY SECTOR Self-Sufficiency DEVELOPMENT PLAN

Plan Summary Highlights

Ministry of Energy & Water

7 November 2017

Document Purpose and Organization

Presentation purpose

The purpose of this presentation is to provide **a summary of the five year plan** (2016-2020) for **energy sector development**. The plan describes **recommended outcomes, outputs, and required tasks** for the sector and is intended to serve as a **common reference** for government and international development partners

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What is the intent and purpose of the 5 year plan?

The 5-year plan outlines the direction of energy sector development for the years 2016-2020

The Plan Contains:

- **Outcomes**: The **difference or benefit** if the plan is implemented (*e.g. better use of Afghanistan's own energy resources)*
- **Outputs:** What will be **produced and measured** *(e.g. addition of about ~2300 MW generation capacity from new plants inside the country)*
- **Tasks:** Describes **individual projects and initiatives** *(e.g. completion of Sheberghan, Naghlu, etc.)*

The Plan Enables:

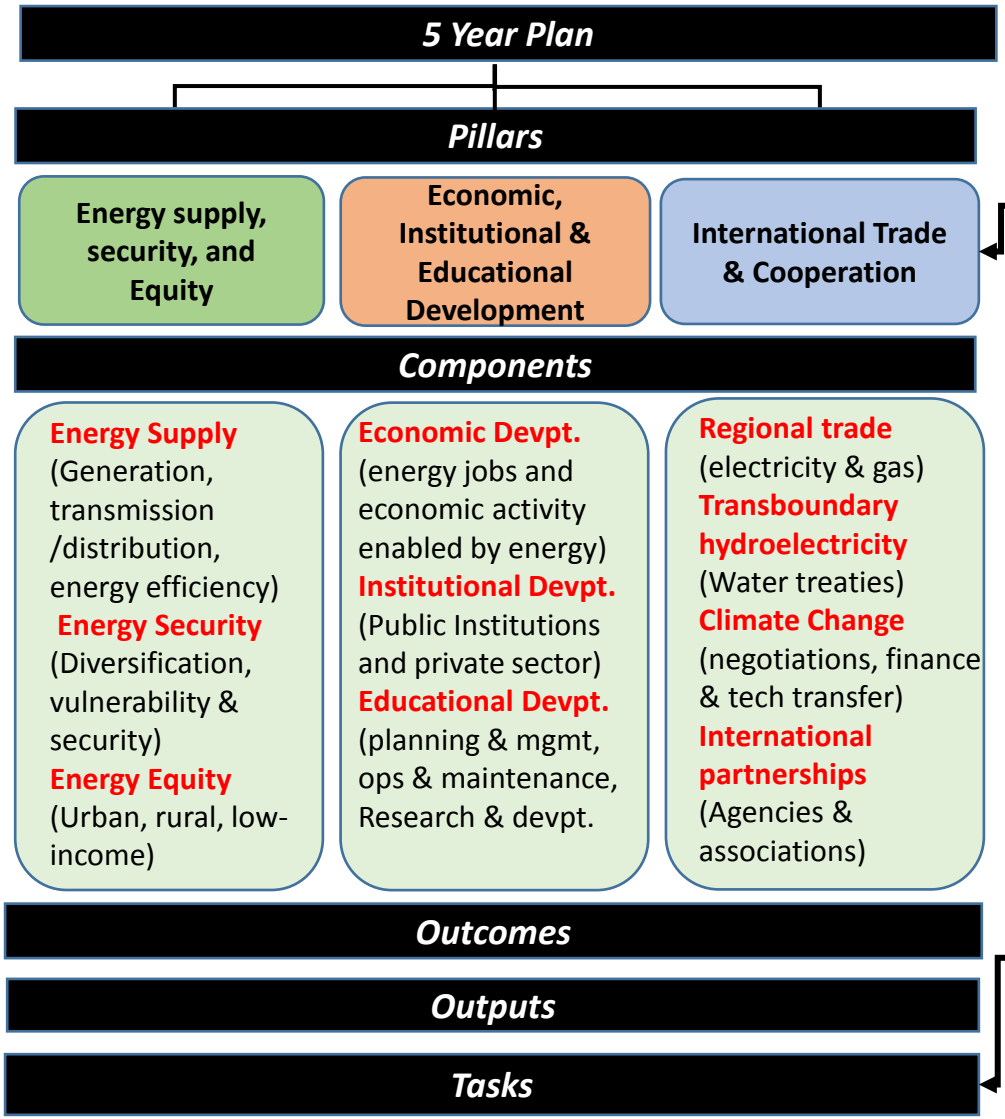
- **Coordinated Planning**: Allow all stakeholders (government & donors) to have a **common picture** of what programs and projects should be **priorities** and where there are **gaps** or **duplication**.
- **Coordinated Budgeting:** Request for **funding of programs** based on common priorities.
- **More detailed and sub-sector planning:** A **basis** for more detailed **annual plans** and plans for sub-sectors

The Plan Documents are

1. Plan Report
   MS Word document describing plan
2. Plan Matrix
   MS Excel table of outcomes, outputs and tasks
3. Plan Highlights
   This document – *summary presentation*

What is the structure of the plan?

For the full plan matrix please see the backup slide section



The plan has three broad areas of focus (pillars)

1. Providing energy
2. Economic growth and development of the private sector, government and educational institutions.
3. International energy & climate change considerations

- *Each pillar is made up of **components.***
- *Each component has desired **outcomes** (what benefits will arise)*
- *Each outcome is measured by **outputs** (what must be measured)*
- *Each output has proposed **tasks** (what must be done)*

The list of Tasks

- *Are used to determine **financing needs***
- *Identify gaps and duplication*
- *Help **evaluate** whether individual programs / projects **fit** overall sector development objectives*

What are the key outcomes for the next five years?

The plan structure in the previous slide seeks to be broad and comprehensive enough to cover all energy sector development activities.

Some key benefits envisaged in each of the three 'pillars' are

Pillar I

Energy supply, security and equity

- Affordable **imported power** reaches the **south** and unserved provincial capitals
- A more **balanced mix** of imported, domestic, conventional, and renewable energy
- Better **safeguards** against disruptions due to **security threats and natural disasters**
- Reducing losses and being more **efficient** with energy use

Pillar 2

Economic, institutional and educational development

- **Jobs** both in the energy sector and as a result of greater energy access
- Increased **private sector** investor **confidence**
- Increased local ability to **manage and maintain** energy assets.
- Better links between **universities,** government and the private sector

Pillar 3

International trade and cooperation

- More effective use of **climate finance** and **technology transfer**
- Using Afghanistan's geographical opportunity to be an **energy corridor**
- Demonstrating that Afghanistan is a valuable partner for **regional and international** climate and energy **negotiations**

What are the key outputs of the 5-year plan? (what will be tracked)

Key outputs in each of the 3 pillars

Energy supply, security, and Equity

- 80 % of urban population and 50% of rural consumers with modern energy access by 2020
- Generation: ~2300 MW domestic capacity addition, of which ~550 MW Renewable energy by 2020.
- Import: Expansion of TKM import capacity and firm PPAs to utilize full import transmission capacity.
- NEPS and SEPS complete, import grid power to Kandahar & Helmand
- Security/vulnerability assessment complete – critical elements included in annual plan

Economic, Institutional & Educational Development

- 20000 jobs created in the energy sector, 60000 jobs enabled through improved energy access
- 1000 graduates of vocational training for O&M over 5 years
- 1500 MW of generation under public-private partnership models
- Integrated process for energy masterplanning, coordination, and information management
- Assessment and modification (as necessary) of administrative and customs procedures for energy project development

International Trade & Cooperation

- Technology Needs Assessment complete
- 3 Green Climate Fund proposals developed
- Common strategy between ministries for low carbon finance access
- Roadmap for hydropower resource

Note: Metrics are draft and are being refined to ensure consistency with other policies / plans under development and line ministry forecasts

What are some of the high priority tasks?

High priority actions have been selected based upon their influence on plan outcomes and other outputs

High Priority Tasks in each of the 3 pillars

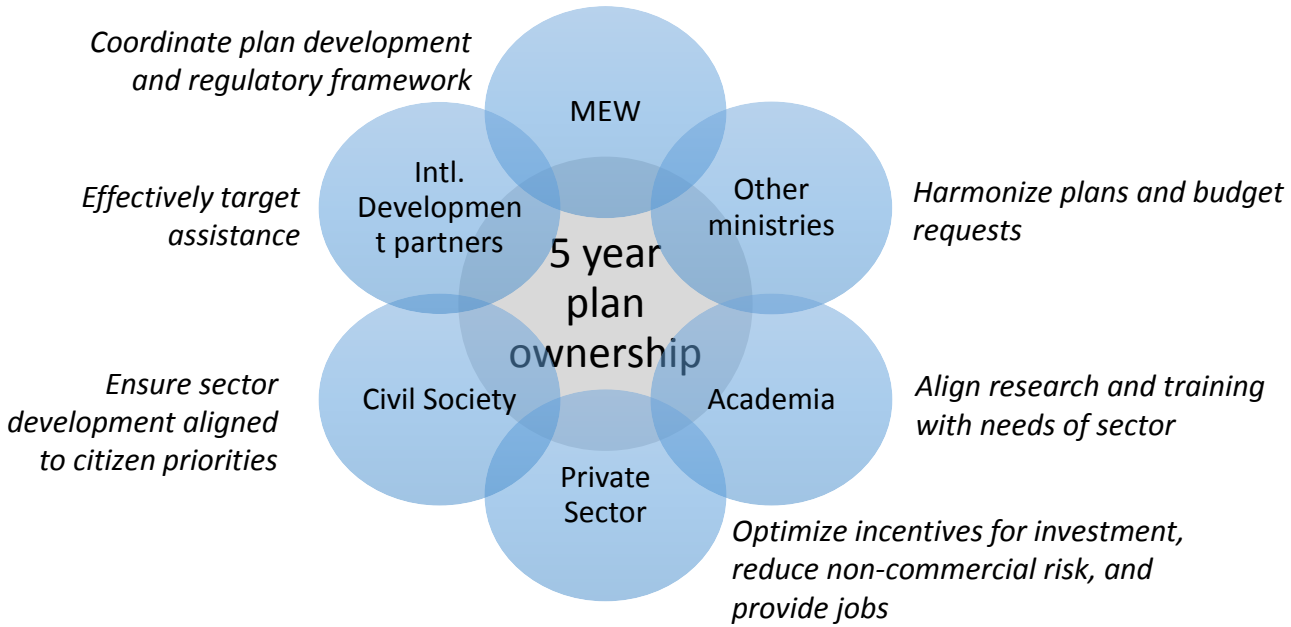
Energy supply, security and equity	Economic, institutional and educational development	International trade and cooperation
• Completion of connection from Kabul to Kandahar. • Commence power plants at Sheberghan (gas), Mazar (gas), Naghlu (solar/hydro), Kandahar Solar and Nangarhar industrial park (solar) • Commissioning of first Renewable Energy portfolio package (100 MW) • Conduct security and vulnerability assessment	•Develop 'packages' for private sector partnership for industrial parks and provincial minigrids •Expand vocational training program for operations and maintenance •Clarify and harmonize roles of energy coordination bodies •Institutionalized process for implementing and maintaining plan *(proposal for Energy Sector team underway)*	• Complete Technology Needs Assessment • Develop cross-ministry strategy for climate finance and technology transfer • Develop mechanism for tracking commitments (INDC) as part of climate change (COP / UNFCCC)

What are the most critical conditions for successful plan implementation?

The plan

Incorporating views and allocating responsibilities between government, the private sector, academia, the public and international development partners is necessary before finalization and critical for success

Institutional Setup & Agreement



It is also critical to ensure that **energy planning is coordinated between the 'top-down' national and 'bottom-up' local levels** - this is high priority and detailed further on **page 12**

'Top-Down' National and 'Bottom-up' Local Planning

Top-Down

- Laws
- Regulations
- Policies
- National Plans
- Tariffs
- Educational curriculum
- Centralized finance instruments

Coordination mechanisms

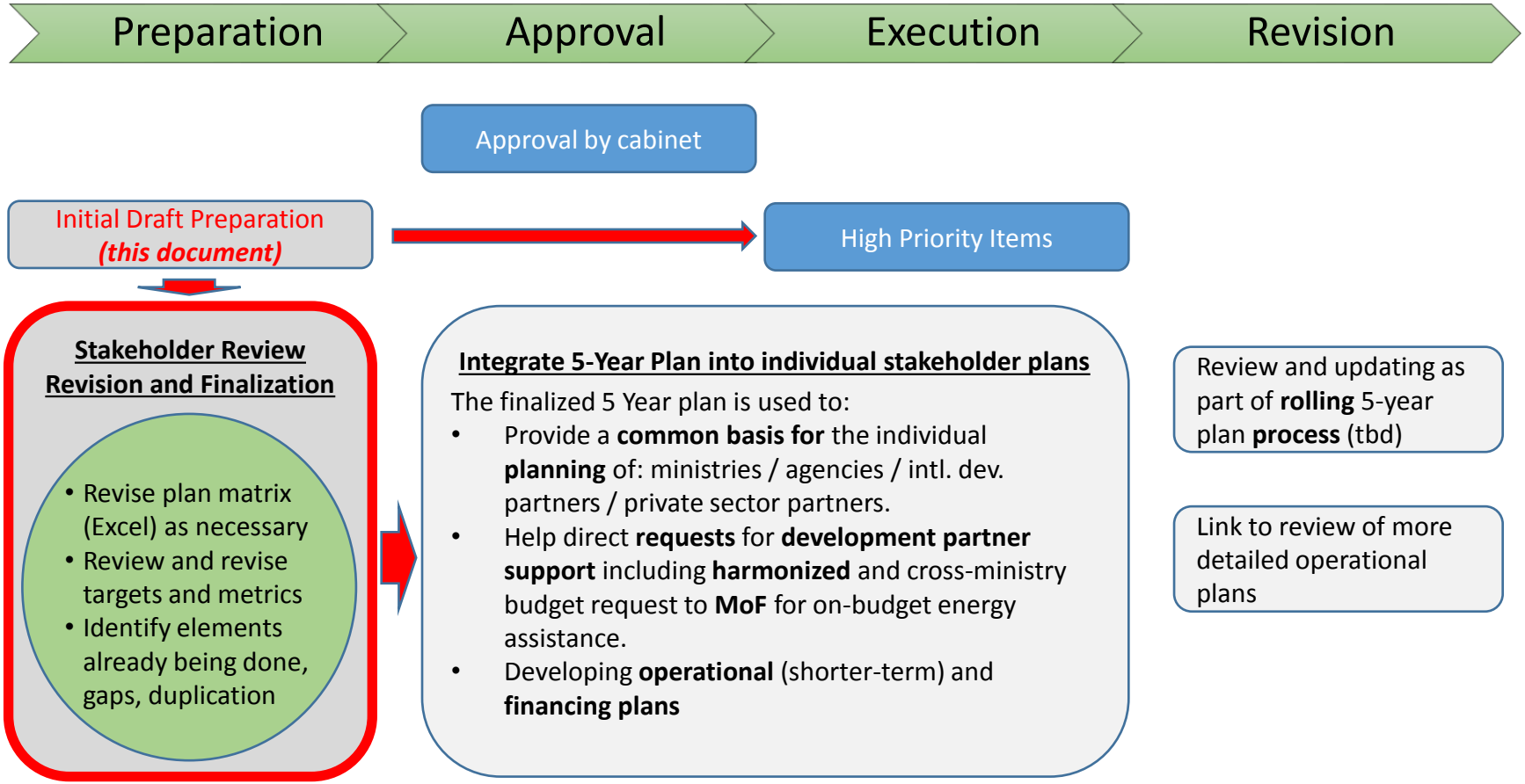
- ESCC
- ICE
- RECC
- PEC

Bottom-up

- Provincial energy plans
- Local project nomination
- O&M business models
- Energy security
- Local financing components

What are the next steps in the development of the plan?

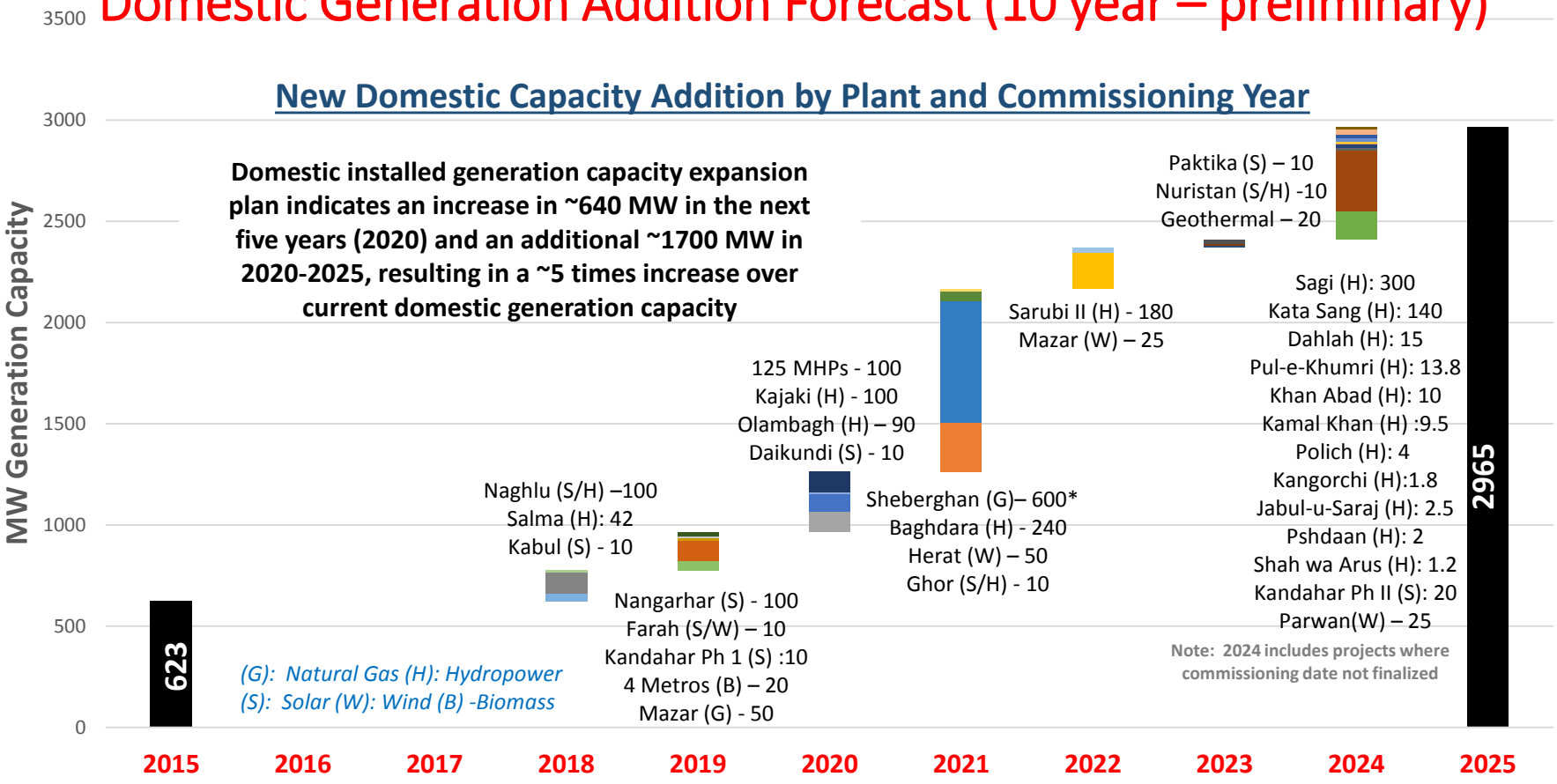
The plan. It needs to be reviewed with concerned parties and modified as necessary. However, this should not delay execution of high-priority items (many of which are progressing). Once finalized, this five-year plan provides the link between broader sector development and individual plans. It is proposed that the plan be updated on a rolling basis.



Domestic Generation Addition Forecast (10 year – preliminary)

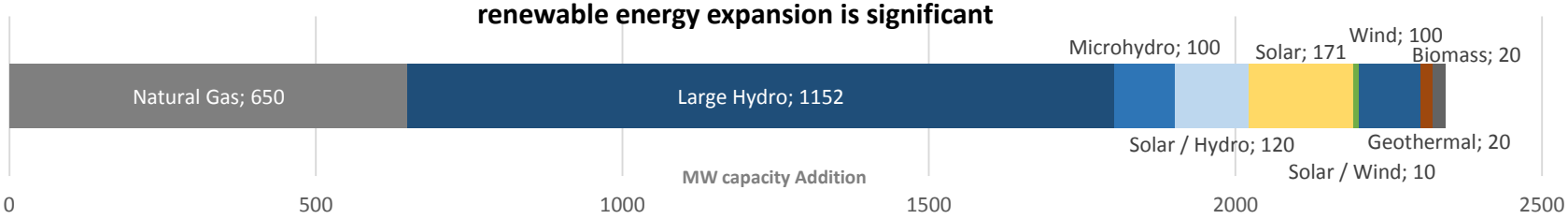
New Domestic Capacity Addition by Plant and Commissioning Year

Domestic installed generation capacity expansion plan indicates an increase in ~640 MW in the next five years (2020) and an additional ~1700 MW in 2020-2025, resulting in a ~5 times increase over current domestic generation capacity



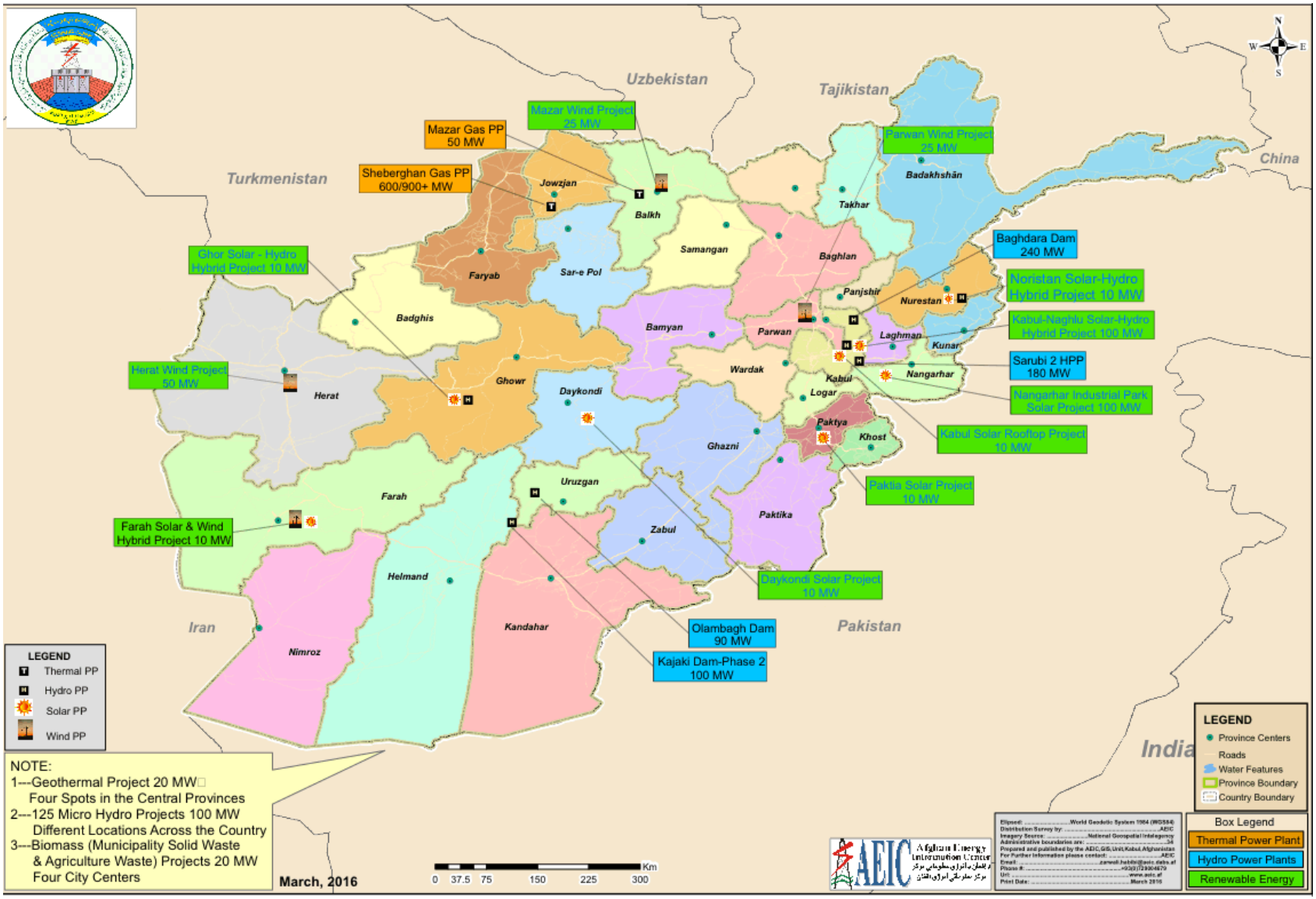
New Domestic Capacity Addition – Summary by Type

The majority of additional generation is anticipated from large-scale natural gas and hydropower, but renewable energy expansion is significant



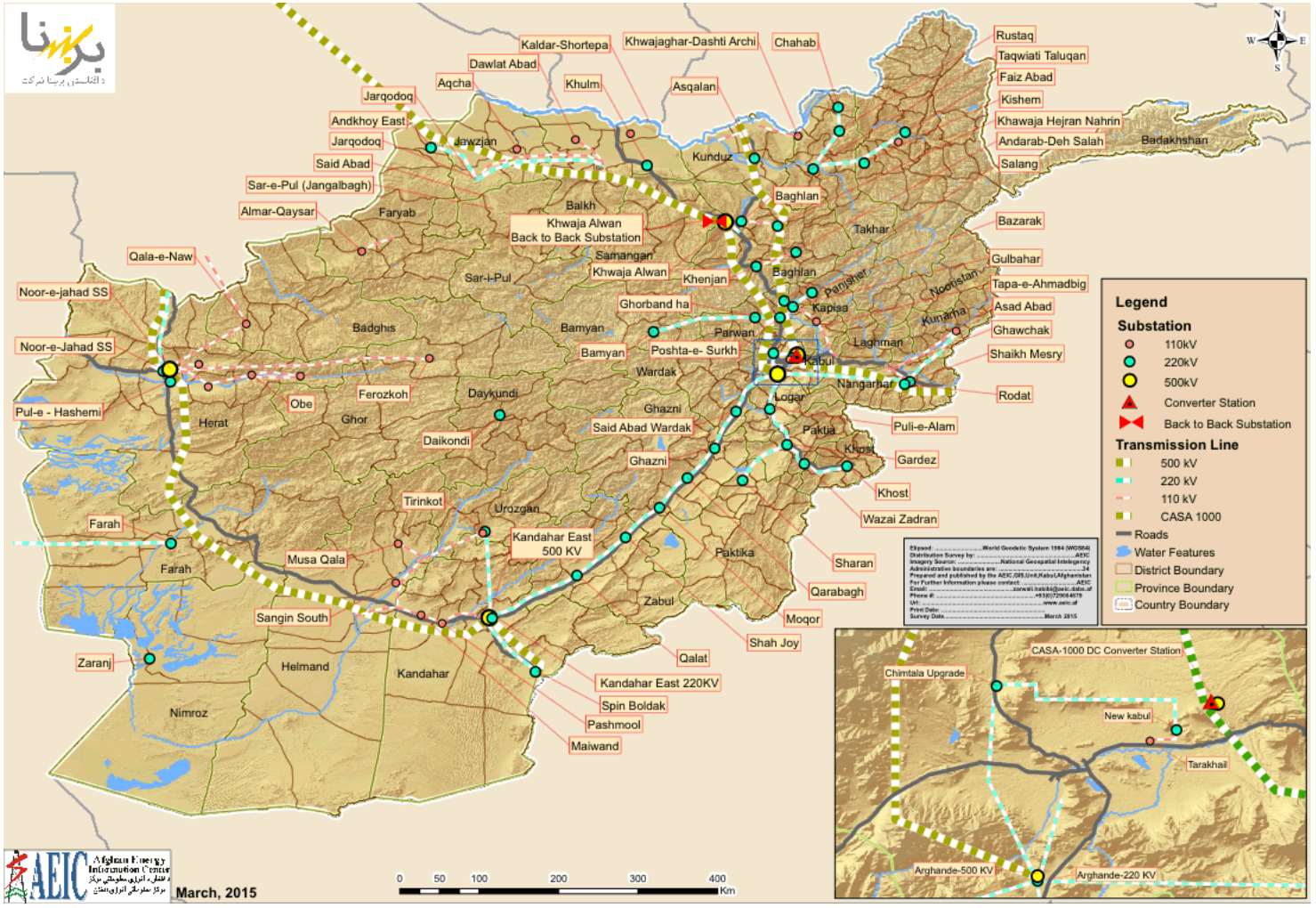
Notes: Shebergan (Gas) generation upper estimate 900 MW, lower bound of 600 MW used
Assumes ~4 years for commissioning of Sheberghan, ~3 yrs for Mazar after commencement

Afghanistan Domestic Generation Plan – preliminary



Transmission System Expansion Forecast - preliminary

The transmission line network will be expanded to connect the Southern load centers to the main grid and import power, as well as to serve provincial capitals



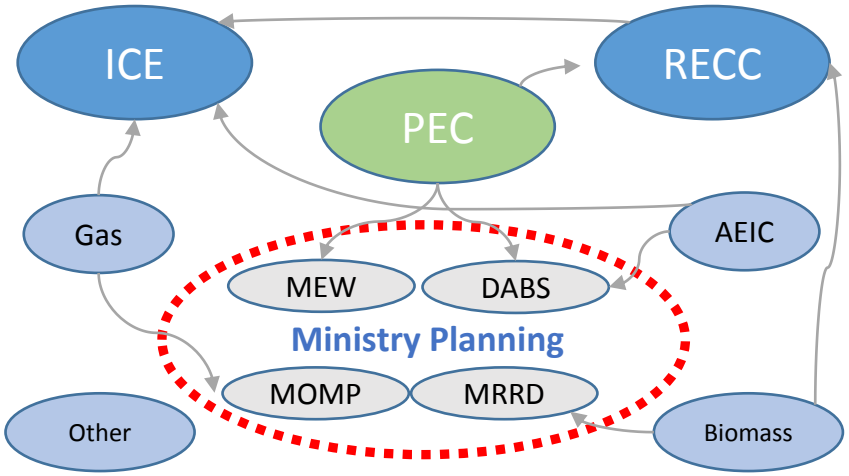
Proposed streamlining of energy sector coordination

Current Structure

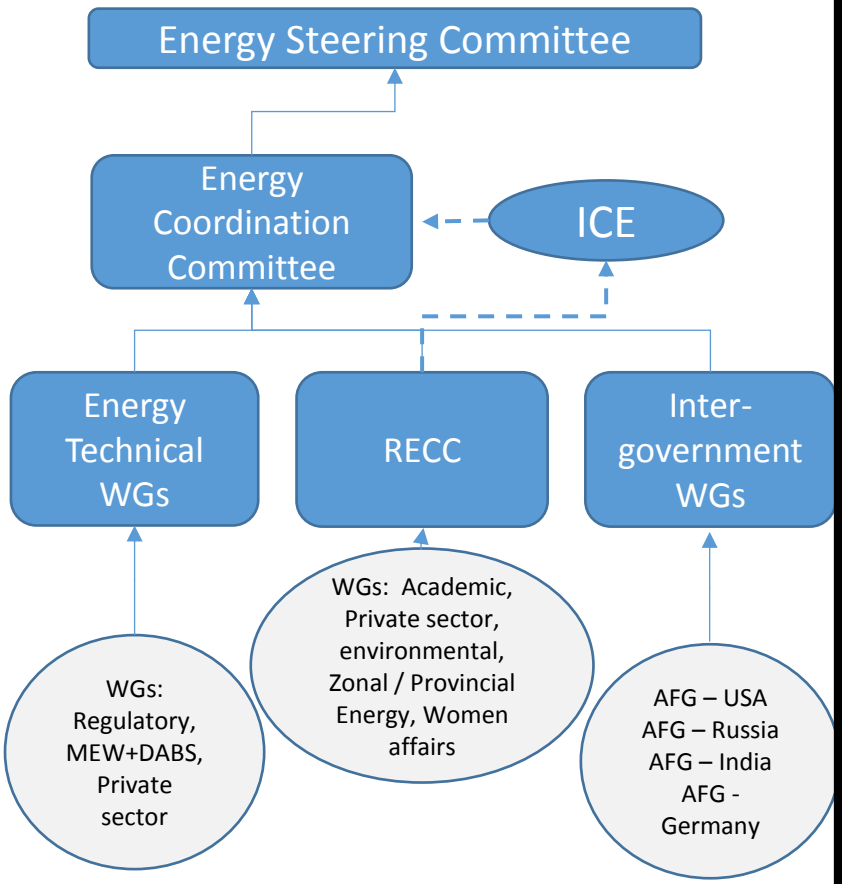
There is suboptimal coordination between the coordination bodies.

- **Overlapping and unclear responsibilities**
- **No clear process for keeping the energy sector plan updated or submitting coordinated budget requests.**

This is mitigated by working relationships and informal links.



Proposed Streamlining



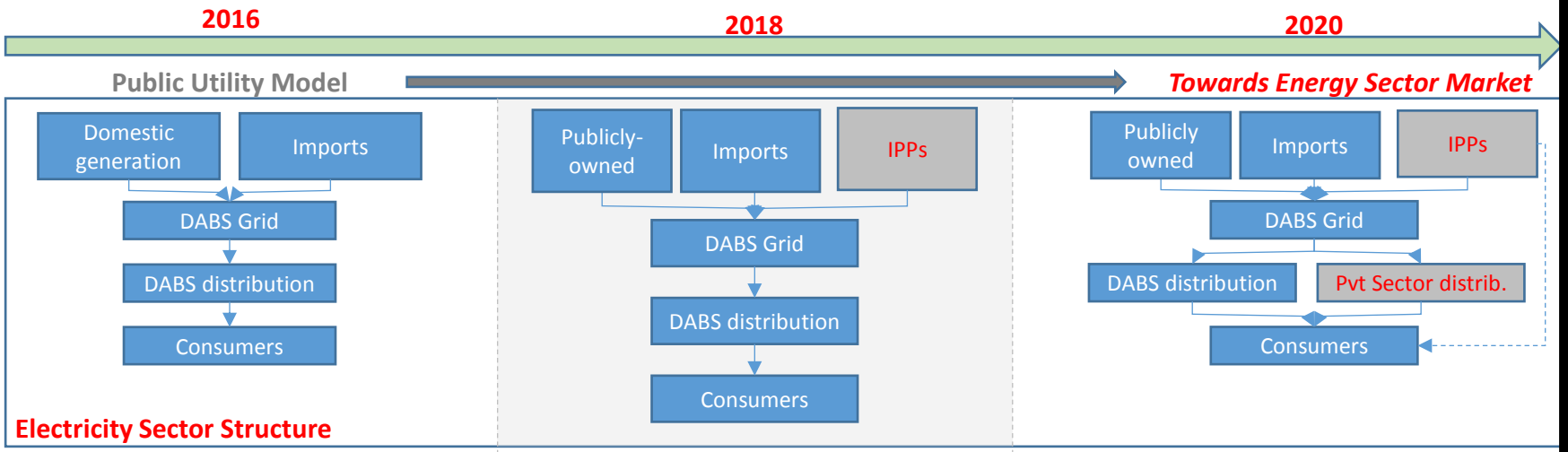
Clearly delineated responsibilities for analysis, discussion, central and local planning with a common cross-ministerial steering committee

ICE: Inter-ministerial Commission for Energy **PEC:** Provincial Energy Committee **RECC:** Renewable Energy Coordination Committee
WG: Working Groups Energy **AEIC:** Afghanistan Energy Information Centre

How does the plan help transition to private-sector led growth?

The sector will move towards a liberal electricity market and private sector led-growth from the current donor / government funded model. This is accomplished through:

- **Developing a track record of successful public-private partnerships in generation and distribution to give confidence.**
- **Developing investment 'packages' from public funds that include security, opportunity identification, concessional finance and business model assistance**
- **Continued institutional reform**



Track Record			Sheberghan IPP Mazar IPP *Kandahar IPP*		*Licensed mini-grids*
Investment packages	*Industrial parks*	*Provincial capitals*	*Solar rooftops* *Basket fund for de-risking projects*		*Other RE Sources (e.g. wind parks)*
Institutional Devpt	*Electricity Law* *PPP Policy*	*Feed-in tariff*	*Vocational Training for O&M* *Experienced regulatory agency*	*Effective dispute resolution* *Single-window clearance for projects*	

What are the risks to plan implementation (and how will they be mitigated)

Technical Risks	Mitigation Actions
Plan technical elements poorly selected	Afghan /International plan review
Plan elements poorly implemented / constructed	Project technical details prepared and reviewed to international standards
Plan and assets poorly operated / maintained	Emphasis on O&M in plan design. Vocational training program enhanced

Economic / Financial Risks	Mitigation Actions
Costs not accurately calculated	Mature technologies selected. Costs benchmarked and reviewed
Funding insufficient for plan (including O&M)	Unfunded plan elements ranked in order of priority and funded to ceiling
Funding not requested with appropriate lead time	Masterplan Secretariat to consolidate/ align requests with source timelines
Funding not received from sources in time	Past experience as benchmarks and bilateral discussions to expedite process
Taxes and customs procedures deter investment	High priority action to review and revise procedures/taxes (if necessary)

Organizational / Institutional Risks	Mitigation Actions
Stakeholders not adequately aware of plan	Plan distributed widely (excluding those elements with security risk), and presented by MEW both bilaterally and at fora such as ESCC
Insufficient consensus on plan (donors / government / provinces)	Plan presented only as draft and stakeholder views taken into account before finalization. Mechanism to update plan based on new information
Poor coordination amongst energy coordination bodies	Enhanced coordination between ICE, master-plan secretariat, RECC, and Provincial Energy Councils (PEC), in addition to centralized information support by AEIC
Insufficient political will to implement plan	Regular updates on plan and consultations with Office of the President. Steering committee of coordination bodies to include core representation from energy line ministries / agencies, and include ancillary ministries and donors

Security / Vulnerability Risks	Mitigation Actions
International political factors threaten plan delivery	Risk evaluated through security / vulnerability assessment. Plan modified as necessary
Afghan political factors threaten plan delivery	Risk evaluated through security / vulnerability assessment. Plan modified as necessary and security for critical plan components requested as a priority

Pillar 1 (supply, security, equity) matrix – *from Excel summary matrix*

Sub-Pillar	Category	Outcome	Output	Tasks Required (also forms the basis for the 5-year roadmap and financing plan that will be developed)	Verification
Supply	Generation	Domestic generation: Better utilization of Afghanistan's own energy resources	• 1700MW of new Afghan generation capacity operational: See generation forecast for details • 500 MW of renewable energy capacity (solar, wind, small hydro, geothermal, biomass) operational, of which XX MW off-grid to serve areas unconnected to main grid	• Conventional: Commissioning of 500 MW at Sheberghan, 50 MW at Mazar • Renewable: Delivery of 100 MW portfolio, Development of RE roadmap with identification of capacity addition per technology and region • Pre-feasibility design for priority sites, determination of public/donor/private share of development and investment/financing needs • Solicitation of support for financing required • Development of bid packages for private sector participation (with corresponding details of incentives/subsidies) • Review of existing coal sector strategy and update	DABS reports, MEW RE database,
		Import Power: Increased ability to serve Afghanistan's expanding power needs from Central Asian neighbours	• XX MW from Uzbekistan • YY MW from Turkmenistan • Update based on latest forecast of PPAs	• PPAs with Uzbekistan through 2020 for XX MW (YY summer, ZZ winter) • Details of other PPAs here	DABS
	Transmission	Regional Interconnection: Transmission from import partners with sufficient capacity for Afghanistan's import and	Regional interconnectors as per PSMP complete	• Insert forecast of CASA, TUTAP and other interconnectors here	DABS
		Domestic Interconnection: Main grid 'islands' connected and harmonized affordable import power to southern load centers	• Domestic national grid backbone as per PSMP complete • Evacuation capability for utility-scale	• NEPS and SEPS programs complete • NEPS & SEPS interconnector complete • Establish transmission requirements for power evacuation from new power sources	DABS
	Distribution	Distributed demand: Sufficient distribution capacity to convey electricity to point of	• XX% of Afghanistan's 2020 population connected to grid	• Insert updated forecast for distribution	DABS
		Distributed supply: Capability for grid to accept small and distributed generation sources (e.g. rooftop solar)	Transparent and easily accessible process for small-scale distributed sources to supply to grid	• Study to establish technical standards for small scale sources • Study to update feed-in tariff structure based on development priorities, technology and financial resources • Technical limitations of distribution grid (by geography) to accept distributed sources established • Incentive mechanisms for distributed sources (e.g. feed-in-tariff) corresponding to area • Monitoring and verification mechanism	DABS/ TANSA /MEW
	Energy Efficiency	Grid Losses: Minimization of losses at the transmission/distribution grid level	• Decrease in transmission/distribution losses to XX%	• Assessment and reduction of technical losses • Program for integrated billing and revenue management • Assessment and management of unauthorized connections	DABS
		Demand Side Management: Improved energy efficiency at the customer level	• Decrease normalized peak energy demand by XX%	• Integration with energy efficiency building code and Afghan Energy Efficiency Policy • Development of efficient appliance programs and awareness campaigns • Development and implementation of demand side management programs to reduce peak demand	DABS
Energy Security	International Vulnerability	Diversification of energy imports to reduce undue single import source dependence	• Suspension/removal of supply from any one neighbour does not reduce overall Afghanistan supply or seasonal	• Sensitivity analysis of supply to individual sources of power • Establishment of redundancy mechanisms and solicitation of support required to fill gaps	• MEW/DABS internal assessments
	Domestic Vulnerability	Internal security: Safeguarding energy supply due to disruptions (natural and human-caused) within the country	• N+1 redundancy for main transmission grid • Established energy resiliency plan • Suspension/removal of any one source or conduit of power does not decrease overall	• Sensitivity analysis of supply to individual provinces • Establishment of redundancy mechanisms and integration into supply planning	• MEW/DABS internal assessments
Energy Equity	Urban Equity	Urban power supply delivered to consumers with limited disparity between parts of the country	• XX% of all urban consumers with energy access • Less than XX% disparity between consumers in major	• Determination of supply inequity given current transmission constraints and link to power generation planning for redressal (e.g. supply to southern load centres) • Update of financing requirements for distribution plan and solication of support for gaps • Implementation of distribution plan [insert major components here]	DABS
	Rural Equity	Energy access to rural consumers (off-grid energy provision as necessary)	• XX% of all rural consumers with energy access • *Less than XX% disparity between rural consumers in*	• Evaluation of distribution plans for regional disparity and rural energy access (based on population distribution assessment) • Modification (if necessary) of distribution plan • Fill gaps based upon existing distribution plans and forecasted urban/rural population distribution	DABS/ MRRD
	Rich/ poor Equity	Basic affordable energy access to all Afghan residents	• Transmission enabled affordable energy access, incentivization of domestic energy sources (particularly renewable energy), within the context of overall cost	• Process for updating tariffs based upon updated information	MEW/ Independent regulator

7 November 2017

Pillar 2 (economic, institutional and educational development) matrix – *from Excel summary matrix*

Sub-Pillar	Category	Outcome	Output	Tasks Required (also forms the basis for the 5-year roadmap and financing plan that will be developed)	Verification
Economic Development	Energy as a source of employment	High-skill job creation in energy services	XX urban jobs created in energy, of which YY% in the Private Sector	• Development of system to report and track job creation at energy generating facilities • Commissioning of energy sector components as per generation/transmission/distribution plan • Establishment of links between formal education and job opportunities	MEW/DABS?
		Low-skill job creation in energy services	XX rural jobs created in energy, of which YY% in the Private Sector		
	Energy as a driver of development	Industrial job creation enabled by energy availability	XX urban jobs created, of which YY in the private sector	• Assessment of high-impact opportunities within Afghanistan for energy-enabled **industrial** job creation • Development of system to report and track industrial job creation as a result of energy provision • Commissioning of energy sector components to service high-impact opportunities • Establishment of links between formal energy service education and job opportunities	MEW/DABS?
		Commercial job creation enabled by energy availability	XX rural jobs created, of which YY in the private sector	• Assessment of high-impact opportunities within Afghanistan for energy-enabled **commercial** job creation • Development of system to report and track commercial job creation as a result of energy provision • Commissioning of energy sector components to service high-impact commercial opportunities • Establishment of links between formal energy service education and job opportunities	MEW/DABS?
		Development driver institution electrification	XX% of educational institutions, health facilities, and religious institutions electrified	• Establishment of program specifically targeted towards electrification of these priority facilities	MEW/DABS?
Institutional Development	Public Institution Development	Energy Strategy Development: Power Sector Master Plan (or apex energy planning document) maintained and updated under Afghan direction: *linked to below*	• Up-to-date reports of progress versus energy sector plans • Development of consolidated budget and financing request for energy sector • Transparent and accepted process for revision of energy sector apex planning document	• Harmonization of energy sector plans (PSMP, Renewable Energy Plan, MRRD Energy planning, MoMP planning) • Development of a consolidated cross-ministry energy sector budget request for MoF and development partners (also linked to 'coordination' output below) • Establishment, staffing, and training of dedicated 'cell' within MEW to track progress versus energy sector plan - perhaps expansion of AEIC • Periodic reports of progress versus plan by ministry distributed to energy line ministries and other development partners (also linked to 'coordination' output below) • Training so as to enable cell members to commission and manage external studies for revision of plans; consensus building process for buy-in of all energy sector-related ministries	Energy Masterplanning Secretariat' reports, ICE reports, AEIC Reports
		Energy Sector Coordination: Inter-ministerial Commission for Energy (or apex energy coordination mechanism) expanded, and maintained under Afghan direction: *linked to above*	• Afghan-led forum for building consensus on energy sector development issues and plans	• Development and consensus building for harmonized energy planning structure that clarifies roles and responsibilities and eliminates duplication. Proposed cross-ministerial steering commitee (ESCC) between Proposed Masterplan secretariat, ICE, and RECC, and which works from one centralized data respository (e.g. AEIC) and has a clear line of sight between local and national levels (e.g. Provincial Working Groups, Energy Working Groups) • Assessment and presentation of combined (line ministries / development partners) progress versus plan, gaps, and risks • Consensus building to assess priority energy projects within context of overall energy budget allocation • Discussion of coordinated budget request for energy sector on-budget funding to MoF in line with budget cycle	Energy Masterplanning Secretariat' reports, ICE reports, AEIC Reports
		Regulatory and institutional structure supportive of private sector involvement and investment in energy sector	• Tax and import (customs & clearances) regime supportive of energy sector investment • Single-window clearance for energy sector projects	• Assessment of tax and import regime for energy equipment and revision as necessary to promote investment • Review and streamlining of administrative procedures and clearances and establishment of single-point office responsible for facilitiating required clearances.	• Surveys and feedback from private sector participants
		Electricity tariff management: Electricity tariffs set and updated in a manner that is transparent, equitable, and supportive of private sector involvement	• Transparent electricity tariffs (including feed-in tariffs) • Private sector participation in energy generation commensurate with prediction of uptake as per generation plan	• Establishment of program to keep tariffs updated based on analysis of domestic generation development priorities, cost-recovery and equity • Establishment of enforcement mechanism for tariffs • Establishment of process for evaluating impact of tariff on energy sector services	MEW / MOCI?
		Private sector license management in a transparent and equitable manner that encourages private sector participation while safeguarding consumers' interests	System of prioritization, issuance and performance of private sector energy licenses with corresponding monitoring and evaluation	• Establishment of integrated program to issue, monitor and evaluate private sector facilities	MEW / MOCI?
		Transition towards competitive electricity market	• Track record and templates for IPP supply into the grid • Track record and template for non-DABS distribution grids • Roadmap and process developed for competitive electricity market	• Execution of planned IPP projects and development of templates (e.g. model contracts) for IPP participation • Execution of non-DABS distribution grids and templates / business models to serve as proof points for competitive distribution services	Energy Masterplanning Secretariat' reports, ICE reports, AEIC Reports
	Private Sector Development	Enabling technical standards for energy services equipment	• Technical standards for energy equipment (generation/transmission/distribution/end use) developed	• Expansion of current program to include all elements in energy activity chain	MEW /ANSA?
		Enabling financial standards and business models for energy sector development	• Standard business models that link energy delivery, financing, and O&M to priority applications	• Identification of high-impact opportunities for private sector participation • Formulation of linked technical, financial, and organizational models to improve quality of service and appropriately incentivize private sector participation (e.g. subsidies). • Awareness campaigns and training on use of business models and products for banks, private sector, and government • Development of pooled financing mechanism to fund incentivization program above	MEW
		Public-private-academic outreach and coordination	• Programs and coordination fora to spur coordination between government, private sector, development partners, finance, and academia	• Annual Afghanistan Energy Summit that brings together energy sector participants and showcases developments and opportunties in the sector	MEW, Energy Summit Proceedings
		Project development in public-private partnership mode	• XX MW capacity developed by private sector under some form of PPP (DABS PPA, franchised distribution), and with confirmed cost recovery	• Prepartion of PPP packages that will evince private sector interest	MEW, DABS
Educational development	Energy management education	Sufficient Afghan capacity (technical, managerial, financial) in both public and private sectors to effectively manage energy resources	• XX% Energy sector site prioritization and feasibility studies (both public and private sector) conducted by Afghans • XX graduates with degrees in engineering, management, or related disciplines employed in the energy sector	• Establishment of training programs in site feasibility evaluation [at universities] • Linkages between energy vocational training institutes and higher education institutes	
	Energy operations education	Sufficient Afghan capacity in both public and private sectors to effectively operate energy resources	XX% of operations and maintenance on energy facilities conducted by Afghan staff with limited international involvement	• Establishment and expansion of vocational training program and linkages to job opportunities both in public and private sector and inclusion of international working rights considerations	MEW, MoEducation, Mo Labor and Social Affairs
	Indigenous energy research and development	Indigenous research program linked to needs of government and private sector	XX research programs in Afghan universities in energy technologies	• Establish curricula and programs for energy management education and planning • Conduct studies and establish data on link between energy access and economic / social development • Establishment of fellowships and international collaborations	

Pillar 3 (international trade and cooperation) matrix - *from Excel*

summary matrix

Sub-Pillar	Category	Outcome	Output	Tasks Required (also forms the basis for the 5-year roadmap and financing plan that will be developed)	Verification
Regional EnergyTrade	Regional Electricity trade	Effective utlization of Afghanistan's geographical position for regional electricity trade	• Commissioning of CASA-1000 project components	• Update with CASA implementation plan	DABS
			• Commissioning of TUTAP project components	• Update with TUTAP implementation plan	DABS
	Regional Gas trade	Effective utlization of Afghanistan's geographical position for regional natural gas trade	• Commissioning of TAPI project components	• Update with TAPI implementation plan	MOMP
Transboundary hydropower agreements	Development of transboundary river hydropower potential	Transboundary agreements enabling further development of shared ydropower resources	• Assessment of key transboundary hydropower agreement requirements • Transboundary agreements with Pakistan for *Kunar, XXX, YYY*	• Requirements analysis study for transboundary hydropower agreements (as part of an integrated water / energy /agriculture) nexus • Negotiations with counterparties • Signing and operationalization of agreements	MEW
Climate change response mechanisms	UNFCCC negotiations	Effective participation in international climate negotiations	Progress according to plan outlined in Afghanistan's INDC (subject to financing and technology transfer)	• Assessment of existing climate programs and identification of gaps with regard to INDC target attainment • Development of programs to fill gaps and continue existing programs, with corresponding soliciation of support • Development of integrated tracking and reporting mechanism to enable timely and accurate updates versus INDC targets	NEPA
	Climate finance Access	International low-carbon and climate funding streams to Afghanistan	Climate Finance: XX proposals accepted and funded by the GCF	• Expansion of current climate funding efforts	MEW, NEPA
	Low-carbon technology transfer	Transfer of appropriate low-carbon technology to Afghanistan	Technology transfer: XX Technical Assistance delivered through CTCN or the Poznan Mechanism	• Technology Needs Assessment (TNA) process complete to serve as common basis for energy technology transfer applications by government line ministries • Development of proposals and funding requests for technology transfer based on TNA • Integrated monitoring and evaluation process for technology transfer and impact	MEW, NEPA
International Associations	International Energy Associations	Effective involvment in international energy partnerships and associations	Membership and participation in IRENA, SAARC energy, XXX, YYY	• Membership application for IRENA, xxx,yyy	MEW

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جمهوری اسلامی افغانستان

Ministry Of Energy and Water(MEW)

Regional Energy Projects

7 November 2017

CASA-1000

Electricity: it's essential for modern life. Without it, development is delayed and poverty endures

Background:

- Central Asian and South Asian countries discussions on creation of regional energy market
- **Some** CASA countries face tremendous energy challenges with about 400 million people deprived of reliable access to energy
- CASA – electricity transmission and trade project aims to facilitate electricity trade between Central Asia and South Asia
- Institutional development and socio-economic prosperity in the CASA countries are high priority for themselves and Central and South Asia regions broadly

CASA requires:

- 500 kV from Datka to Khudjand (**around** 477 kilometers)
- 1300 MW AC-DC converter station at Sangtuda
- 750 kilometer high voltage DC line from Sangtuda **through Afghanistan** to Peshawar
- 1300 MW DC-AC converter station at **Nowshehra**

Recent updates:

- CASA is conducting regular Video Conferences between the participating countries to **speed up the procurement process**
- **Bid documents of the companies for Transmission Lines in Tajikistan, Pakistan and Kyrgyzstan are in evaluation stage.**
- **Converter stations Bid Documents are also under evaluation**
- **Afghanistan Transmission Line procurement has been in award of contract stage, and will be concluded in a months time.**

TAP-500

- On 13 Dec 2015, H.E. President Mohammad Ashraf Ghani, H.E. Gurbanguly Berdimuhamedov and H.E. Nawaz Sharif signed a MoU
- First and Second tripartite Technical Committee Meetings held in Islamabad on 11 April and 18 July 2016 on side-lines of Energy Sector Coordination Committee Meeting (ESCC).
- **Three technical committee meetings have been conducted.**
- **A consultancy company was hired which** made initial assessment and ranking of power interconnections and power trade options among the 3 countries through various 500-kV and 220-kV interconnection routes, under the general framework of Central Asia-South Asia Regional Electricity Markets (CASAREM).

TAPI

Recent Updates

- Turkmenistan, Afghanistan, Pakistan and India Natural gas transit project
- Construction works started in Turkmenistan – feasibility study for the project route is underway in Afghanistan
- 3-4 take off points and 3 power generation stations
- TAP-500, TAPI and Railways projects will be executed in the same time due to cost-effectiveness and security

THANKS FOR YOUR ATTENTION