

# ESMAP, SIDS DOCK AND ASTAE PORTFOLIO REVIEW 2016

January 2017



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## Abbreviations And Acronyms

ASA	Advisory Services and Analytics
ABG	Annual Block Grant
AFREA	Africa Renewable Energy Access Program
ASTAE	Asia Sustainable and Alternative Energy Program
BE	Bank Executed
CAS/CPS	Country Assistance Strategy/ Country Partnership Strategy
CE	Clean Energy
CG	Consultative Group
EA	Energy Access
EASP/EAS	Energy Assessments and Strategies
EE	Energy Efficiency
EECI	Energy Efficient Cities Initiative
ESW	Economic and Sector Work
GGDP	Global Geothermal Development Plan
GEF	Global Environment Facility
GFR	Grant Funding Request
GRM	Grant Reporting and Monitoring
IBRD	International Bank for Reconstruction and Development
ICR	Implementation and Completion Report
IDA	International Development Association
IFC	International Financial Corporation
ISR	Implementation Status Report
KP	Knowledge Products
M & E	Monitoring and Evaluation
OPCS	Operations Policy and Country Services
PCN	Project Concept Note
PAD	Project Appraisal Document
PSF	Proposal Summary Form
RETF	Recipient Executed Trust Fund
SBP	Strategic Business Plan
SE4ALL	Sustainable Energy for All
SIDS	Small Islands Developing States
SIDS DOCK	Small Island Developing States Support Program
TA	Technical Assistance
TTL	Task Team Leaders
WBG	World Bank Group (International Bank for Reconstruction and Development (IBRD), International Finance Corporation (IFC), International Development Association (IDA), International Centre for Settlement of Investment Disputes (ICSID), Multilateral Investment Guarantee Agency (MIGA))

### World Bank Regions

AFR	Sub-Saharan Africa
EAP	East Asia and Pacific
ECA	Europe and Central Asia
LCR	Latin American and Caribbean
MNA	Middle East and North Africa
SAR	South Asia



## 1 | Objectives and Scope

The Annual ESMAP Portfolio Review (APR) provides an overview of the portfolio's implementation status and assesses outputs, outcomes and results achieved during the fiscal year FY16. This year's review, given that FY16 is the final year of the current business plan, also reports on activities and financial data for the entire Business Plan period FY14-16.

The APR is part of the ongoing effort to implement ESMAP's results framework and Monitoring and Evaluation (M&E) system, with a view to assessing the impact of its upstream activities on World Bank lending operations, government policies, country capacities, and development community's interventions in the energy sector.

As of July 1, 2014 when the new Global Practice for Energy and Extractive became effective, the program management and administration functions of the Asia Sustainable and Alternative Energy Program (ASTAE) were merged with those of ESMAP.

As in previous years, this APR will include a section focused specifically on ASTAE. In addition, as requested by the Consultative Group (CG) and Technical Advisory Group (TAG) members in spring 2014, a section on AFREA is also presented in this review.

For ESMAP, this review uses the methodology of previous portfolio reviews, which consists of three steps: (i) a desk review of key project documentation from activity identification and approval until completion and dissemination; (ii) an ex-ante assessment of outcomes in line with the ESMAP M&E framework; and (iii) triangulation of the findings with input and feedback from task team leaders (TTLs) and the information and data internally and externally available.

In recognition of the "upstream" nature of the vast majority of ESMAP's activities, the Portfolio Review continues to use the World Bank's classification of outcomes and indicators for Advisory Services and Analytics (ASA)<sup>i</sup> :

- (i) development finance informed;
- (ii) policy / strategy informed;
- (iii) client capacity increased;
- (iv) knowledge increased / deepened; and
- (v) innovative approaches and solutions generated.

For ASTAE, this review uses the methodology and approach of the ESMAP Portfolio Review, but makes adjustments per ASTAE's specific business model focused on its support to the World Bank's operations and ASTAE donors' interests. In recognition of the downstream nature of ASTAE activities, the ASTAE Portfolio Review continues to use its results indicators based on its influence on World Bank operations – International Bank for Reconstruction and Development (IBRD), International Development Association (IDA), and Global Environment Facility (GEF) projects.

## 2 | FY14-16 Overview

### FY14-16 Financial Overview

ESMAP's portfolio during the FY14-16 Business Plan consisted of 247 activities (of which 12 SIDS Dock) for a total allocation of USD 118 million (of which 9 SIDS Dock) initiated during the plan period. During FY14-16 the ASTAE portfolio consisted of 37 activities initiated for an allocation of USD 16 million.

From page to page ASTAE is also included in this overview to provide a complete portfolio snapshot for the FY14-16 period. ASTAE will also be treated separately in the related section of this report.

**Figure 1. ESMAP, SIDS Dock and ASTAE portfolio snapshot, FY14-16**

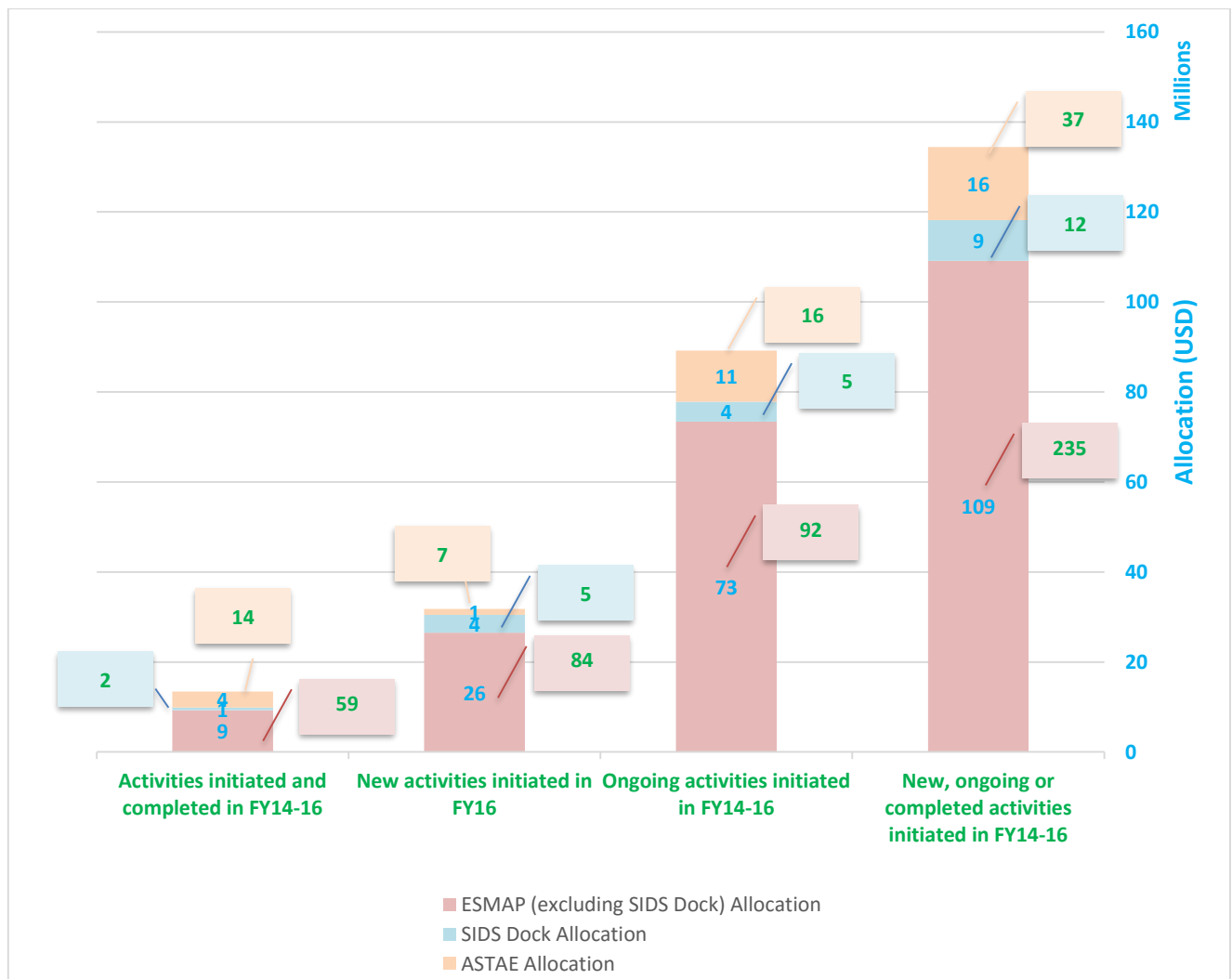




Figure 2 below indicates the scope of the ESMAP operating model and implementation capacity, by showing the allocation (%) associated with different types of Managing Units<sup>ii</sup> in the World Bank Group (WBG) and with client countries.

ESMAP “expanded team” is composed of 400+ specialists across the World Bank Group.

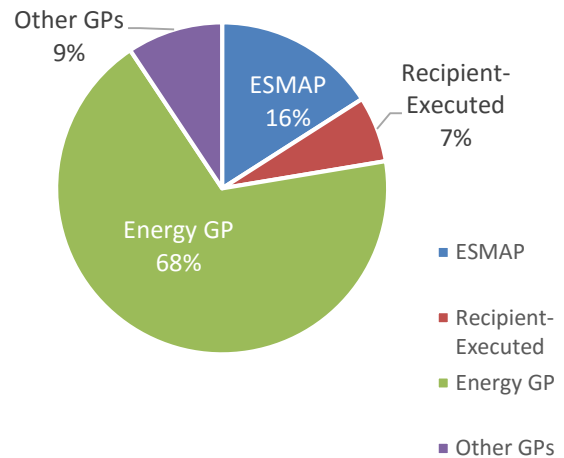
Figure 2

ESMAP itself implements only less than a fifth of the allocations. Additionally, the new Administration Agreement includes both World Bank-execution (BETF) and Recipient-Execution (RETF), expanding the implementation capacity to include client counterparts (7%).

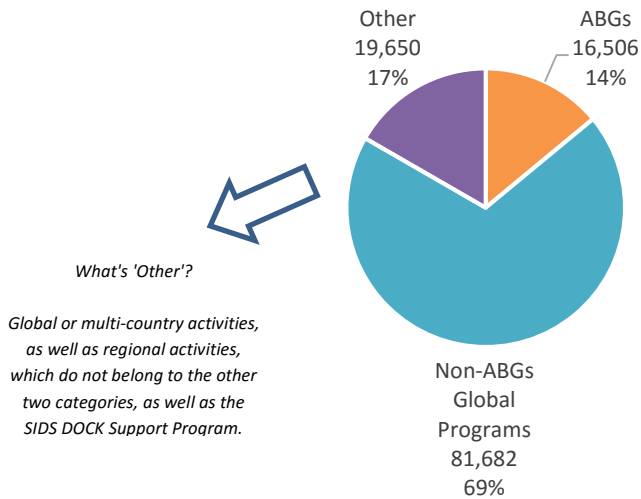
**Figure 2. ESMAP (including SIDS Dock) and ASTAE Allocation by Managing Units (%), FY14-16**

Disaggregated figures are as follow (as % of allocation for each trust fund program):

	ESMAP	RE TF	Energy GP	Other GPs
ESMAP (no SIDS Dock)	19 %	0 %	71 %	10 %
SIDS Dock	3 %	87 %	9 %	1 %
ASTAE	0 %	3 %	83 %	14 %



**Figure 3. ESMAP (including SIDS Dock) Allocation by Allocation Window, FY14-16 (USD Thousands)**

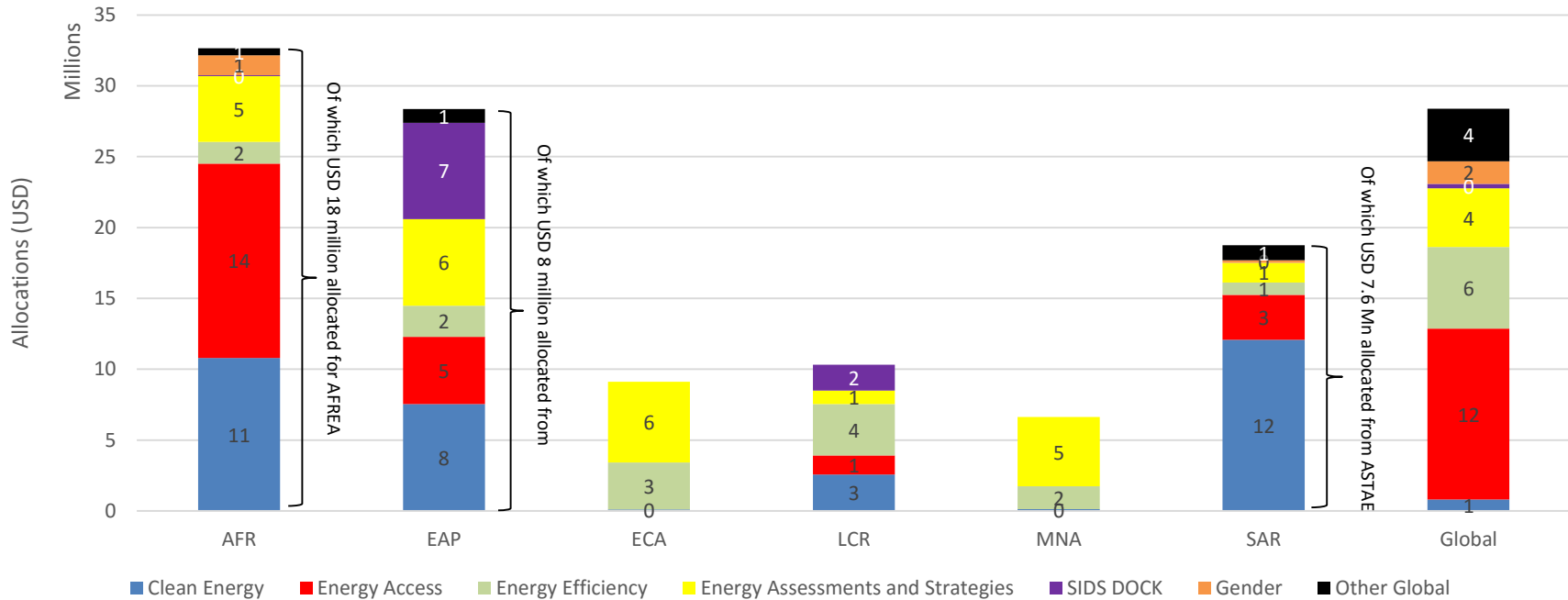


Almost 70% of ESMAP funds were allocated to the Global Programs.

Figure 3 shows the allocation<sup>iii</sup> of ESMAP activities by allocation window. Around 70% of the ESMAP activities are for Global Programs<sup>iv</sup>. ESMAP’s Global Programs are: Sustainable Energy 4 All, Energy Subsidy Reform, Global Geothermal Development Plan, Renewable Energy Resource Mapping, Cities Energy Efficiency Transformation Initiative, etc. 14% of the allocations are for the Annual Block Grants (ABGs) (See Annex 2 – Glossary).

Figure 4 below shows allocations (USD million, for both ESMAP and ASTAE Trust Funds) for the period FY14-16, by region and Focus Area.

**Figure 4. ESMAP (including SIDS Dock) and ASTAE Allocations by Region and Focus Area (USD), FY14-16**



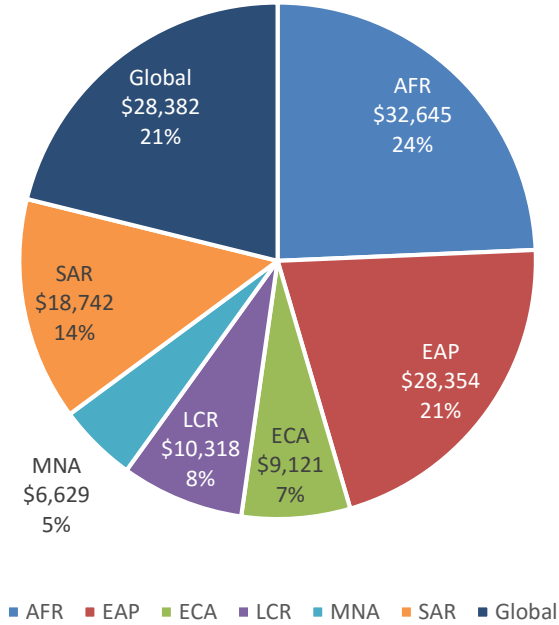
The largest allocation during the FY14-16 Business Plan (USD 14 million) was for ‘energy access’ in the Africa region (including allocations from the AFREA program), followed by ‘clean energy’ in Africa and South Asia (respectively USD 11 million and 12 million – the allocation to South Asia includes ASTAE), and for global activities in the focus area ‘energy access’ (USD 12 million).

The ‘global’ column includes multi-year programmatic activities (the so-called ‘umbrella projects’); whereas part of the allocation will be for actual global activities, part will be allocated in the form of grants to the requesting regions. e.g., the recently launched programmatic activity ‘Efficient and Clean Cooking and Heating’, as well as the ‘Global Survey for Multi-Tier Energy Access Tracking’ and the ‘Energy Subsidy Reform Experts-Peer Panel’.

The majority of allocations went to Africa for energy access!

Figure 4

Figure 5 shows allocations by region for the ESMAP, SIDS, and ASTAE Trust Funds during the FY14-16 Business Plan. The majority of the funds are allocated to Africa (24%).



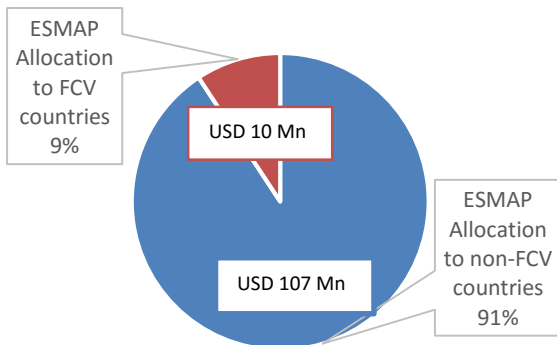
**Figure 5. Breakdown of ESMAP (including SIDS Dock) and ASTAE Allocation by Region, FY14-16 (USD Thousands)**

Disaggregated figures are as follow (as allocation for each trust fund program):

USD thousands	ESMAP (no SIDS Dock)	SIDS Dock	ASTAE
AFR	32,575	0,070	0
EAP	13,050	6,800	8,049
ECA	9,121	0	0
LCR	8,498	1,820	0
MNA	6,629	0	0
SAR	11,069	0	7,673
Global	28,068	0,313	0

Figure 6 shows allocations for FCV (Fragility, Conflict and Violence) countries, during the FY14-16 ESMAP Business Plan. The list of fragile countries as per WBG guidelines for FY16 is available [here](#).

**Figure 6. ESMAP (including SIDS Dock) and ASTAE Allocation in FCV countries (USD), FY14-16**



ESMAP allocated almost 10% to fragile countries.

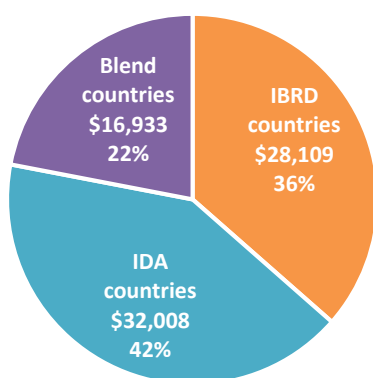
Figure 6

In particular, during FY14-16, ESMAP allocated budget for activities in the following countries: Afghanistan, Bosnia and Herzegovina, Congo DRC, Cote d'Ivoire, Haiti, Iraq, Madagascar, Mali, Myanmar, Somalia, South Sudan, Tuvalu, West Bank and Gaza.

Disaggregated figures (related to Figure 6) are as follow (as % of allocation for each trust fund program):

	ESMAP (no SIDS Dock)	SIDS Dock	ASTAE
FCV	9%	23%	9%
Non-FCV	91%	67%	91%

Figure 7 below shows ESMAP (including SIDS Dock) and ASTAE allocations during FY14-16, by country borrower type (IBRD, IDA, blend). The list of IBRD, IDA and blend borrowing countries is available [here](#).<sup>1</sup>



**Figure 7.ESMAP (including SIDS Dock) and ASTAE Allocation to IBRD and IDA countries, FY14-16 (USD thousands)**

Disaggregated figures are as follow (as % of eligible allocation for each trust fund program):

	ESMAP (no SIDS Dock)	SIDS Dock	ASTAE
IBRD countries	37 %	0	34 %
IDA countries	39 %	0	51 %
Blend countries	24 %	100 %	15 %

<sup>1</sup> Regional/Multi-country and Global activities were not taken into account in this analysis. West Bank and Gaza is not included in the IBRD/IDA/Blend lists

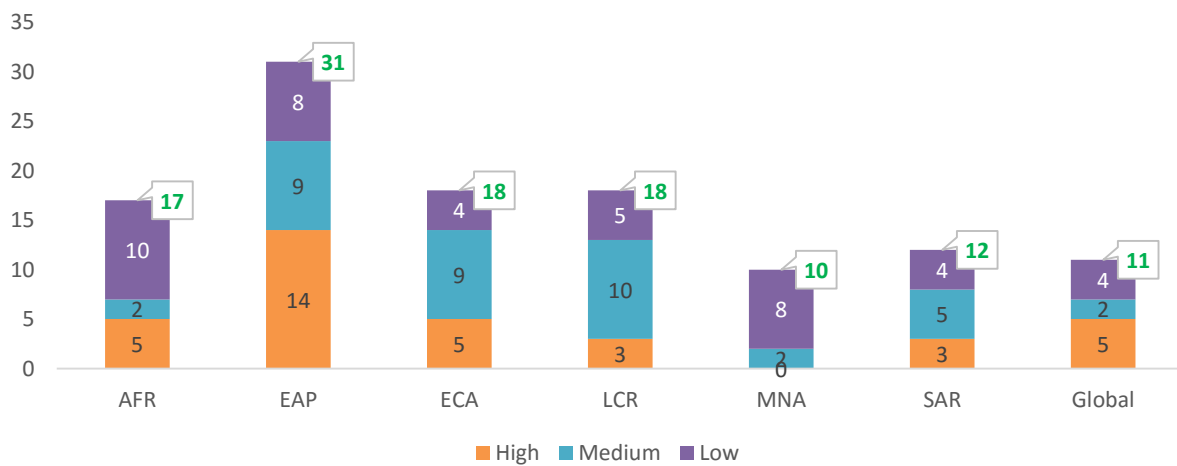
### FY14-16 Gender Overview

Figures 8 and 9 below show ESMAP and ASTAE activities screened for Gender by region during the FY14-16 Business Plan. ASTAE contributed substantially, especially in EAP, where 10 out of the 31 activities screened for Gender were ASTAE-funded (7 high, 1 medium, 2 low). The categorization high/medium/low refers to the relevance of Gender to the activity, as per WBG corporate guidance:

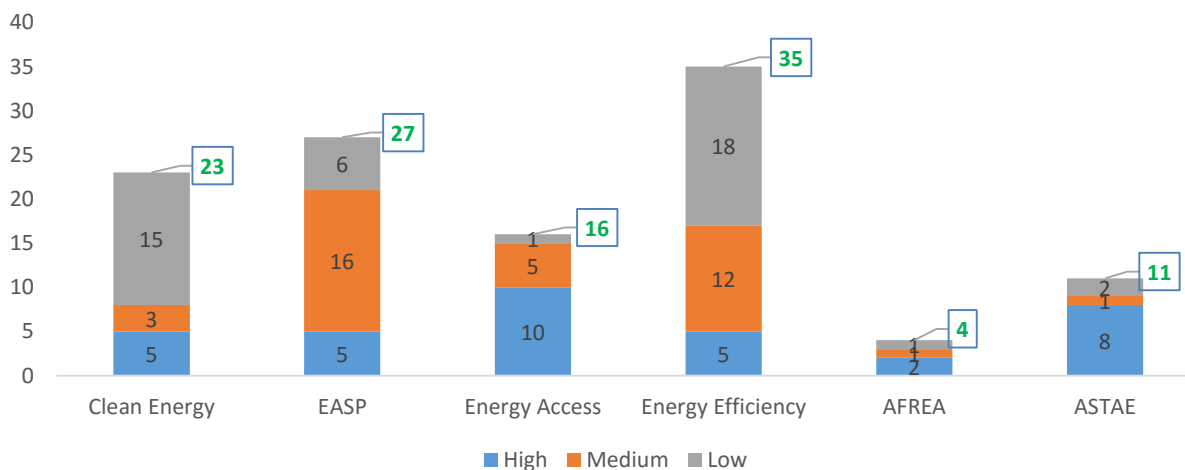
- High: Social/Gender aspects are highly relevant and should be incorporated at the PCN stage
- Medium: There is scope to consider social/gender aspects and the PCN should address them
- Low: Minimal opportunity to incorporate specific social/gender aspects

Highlights and examples of activities that have successfully integrated the Gender component in FY16 is available below (Tables 1-2). Numbers in green indicate the totals.

**Figure 8. ESMAP (including SIDS Dock) and ASTAE activities screened for Gender by Region, FY14-16**



**Figure 9. ESMAP (including SIDS Dock) and ASTAE activities screened for Gender by ESMAP Program, FY14-16**



Disaggregated figures are as follow (as % of activities screened for gender for each trust fund program):

	ESMAP (no SIDS Dock)	SIDS Dock	ASTAE
% of activities screened for gender	43 %	17 %	35 %

**Table 1. Examples of ABG activities that have integrated Gender**

Examples of ABG activities that have integrated Gender	
Support to the design of an RBF mechanism for the implementation of the Indonesia Clean Stove Initiative (P129829)	<ul style="list-style-type: none"> <li>· Women at the core of the project preparation (stove testing protocol using women’s cooking practices; women cooks used for providing feedback to stove developers on social acceptance and design improvement)</li> <li>· Gender-targeted awareness campaigns</li> <li>· Stove distribution through women-led enterprises and associations</li> <li>· Very early results: women sell 1.7 stove for every stove sold by men sellers</li> </ul>
Social Compact in Electricity Privatization in Southeastern Turkey (P147492)	<ul style="list-style-type: none"> <li>· Report with gender-specific recommendations (e.g. energy efficiency) aiming to understand impact of electricity reforms on poor households</li> <li>· Ongoing gender-differentiated utility actions (campaigns, training material)</li> </ul>
Central America Clean Cooking Initiative (P146805)	<ul style="list-style-type: none"> <li>· Contributed to the report “Cooking with Gas: Why women in developing countries want LPG and how they can get it”</li> <li>· Recommendations to governments and companies on how to overcome constraints and how to involve women in increasing access to LPG</li> </ul>
Development of Myanmar National Electrification Program (P152936)	<ul style="list-style-type: none"> <li>· PSIA with separate consultations with men and women</li> <li>· Gender-disaggregated results of household survey</li> </ul>
Capacity Building for Leaders in Energy Efficient Urban Transport Planning (P154030)	<ul style="list-style-type: none"> <li>· Gender integrated into the learning material, particularly in the social issues module</li> <li>· Over 1,000 participants – senior government officials – from over 30 countries sensitized to the gender aspects of mobility planning</li> </ul>

**Table 2. Regional models on Gender and Energy developed**

Regional Models on Gender and Energy Developed – Africa and East Asia and Pacific	
·	AFREA Gender and Energy Program – almost 3 million USD between AFREA 1 & 2;
·	EAP Gender and Energy Program developed after AFR model (operational/technical assistance; capacity building; knowledge; and M&E). \$500K; Partnership between EAP Social and Energy
·	Approach developed to help inform energy investments – gender expert screens project documents, joins mission, engages with clients and proposes concrete actions (baseline studies, indicators, awareness workshops) to help teams get started; interventions project/country specific
·	Moving beyond checking the box – baseline studies help inform targeted actions within the project document and implementation; technical experts identified to join missions and help with capacity building of energy agencies, utilities and PIUs; projects reaching communities and seeing results on the ground
·	Based on country level work – knowledge resources have been developed (regional workshops, blogs, briefing notes, guidance, videos, etc.)

The following figures, up to page XX, provide an overview of ESMAP (including SIDS Dock) only; a separate section focusing on ASTAE is available at page XX.

Figure 10 shows a snapshot of new, ongoing and completed activities for each FY (14, 15 and 16).

**Figure 10. ESMAP New, Completed and Ongoing Projects, FY14-16**

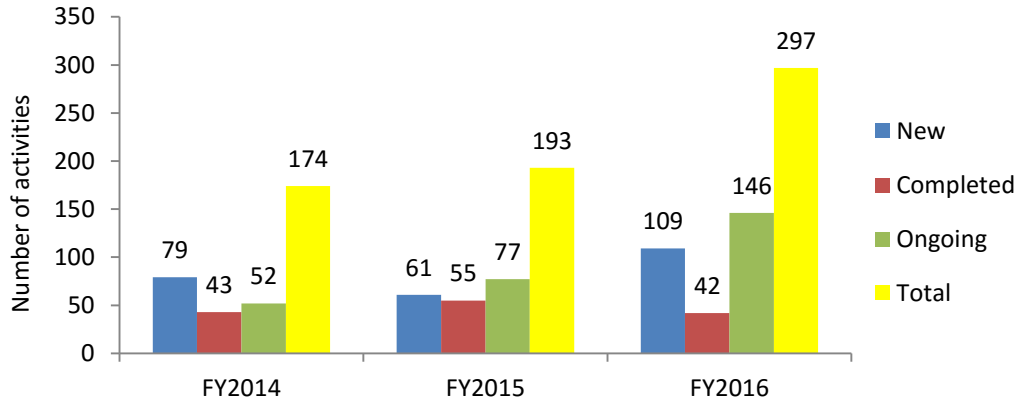


Figure 11 shows funds allocated by ESMAP during the FY14-16 Business Plan. There is a difference of around \$20-25 million between FY14 and FY15-16 allocations. The substantial allocations in FY14 (e.g. launching of RE Mapping and other multi-year activities accounting for significant portions of the allocation), meant that relatively less was available in FY15-16. This “front-loading” for larger, multi-year programs was in part necessary to achieve good implementation progress during the business plan period.

**Figure 11. ESMAP Total Allocation (USD thousands), FY14-16**

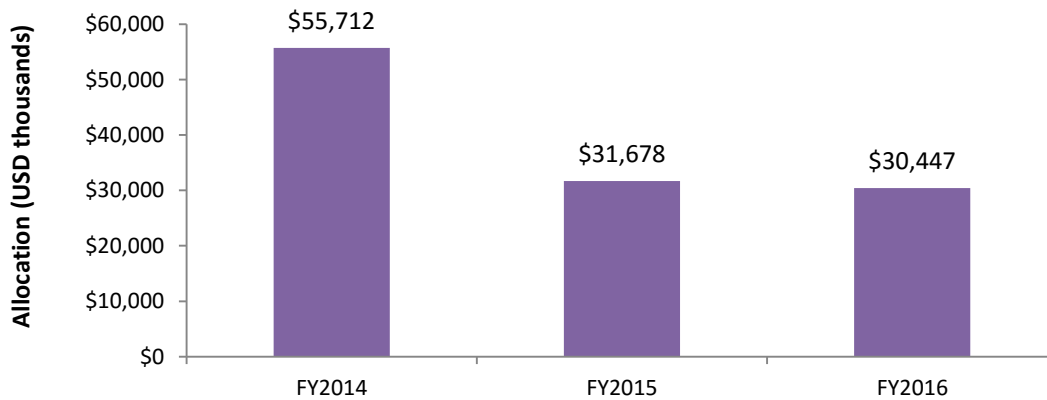


Figure 12 below shows ESMAP disbursements per fiscal year. Numbers in green indicate the totals.

**Figure 12. ESMAP Total Disbursements, FY14-16 (USD thousands)**

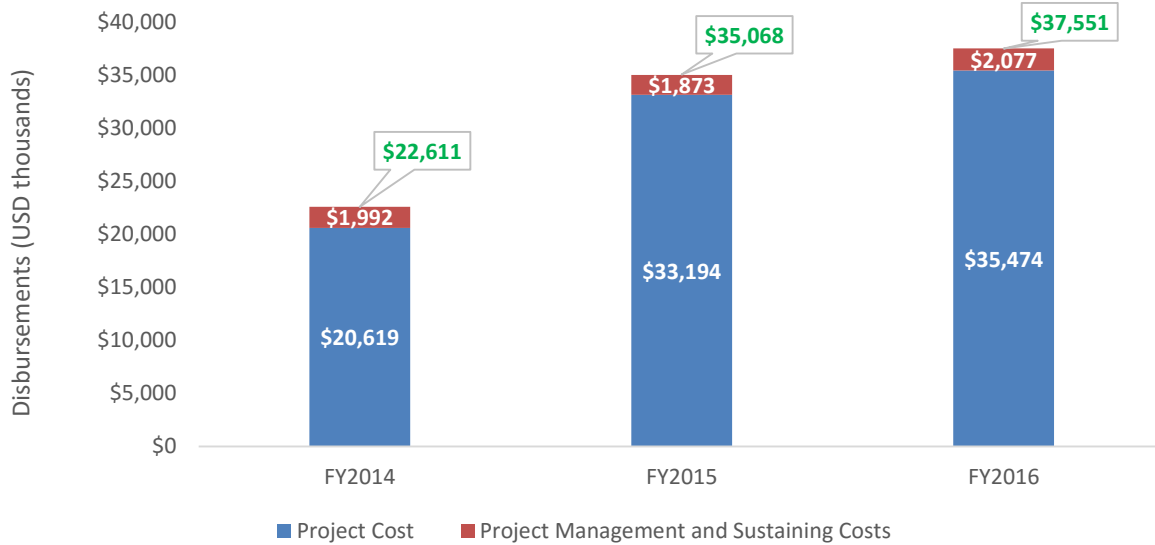
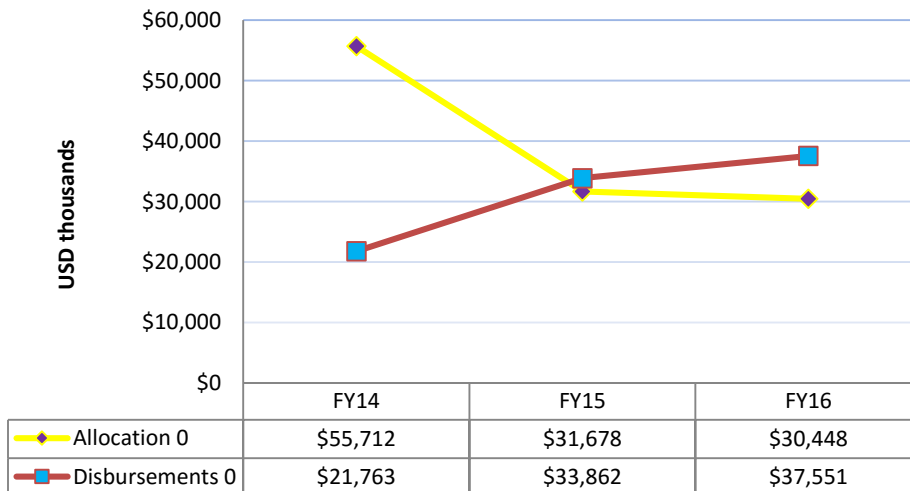


Figure 13 below shows ESMAP Allocation and Disbursements during FY14-16, including Project Management and Sustaining Costs.

**Figure 13. ESMAP Allocation and Disbursements, FY14-16 (USD thousands)**

The largest share of allocations (around USD 32 million) went to IDA countries (42%).

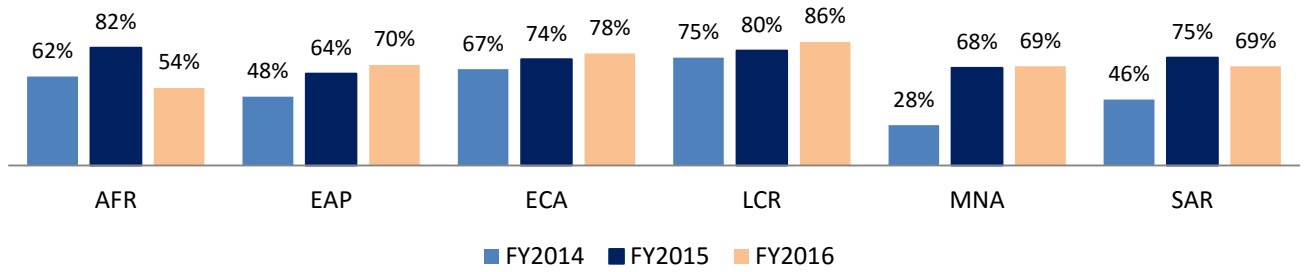
Figure 10



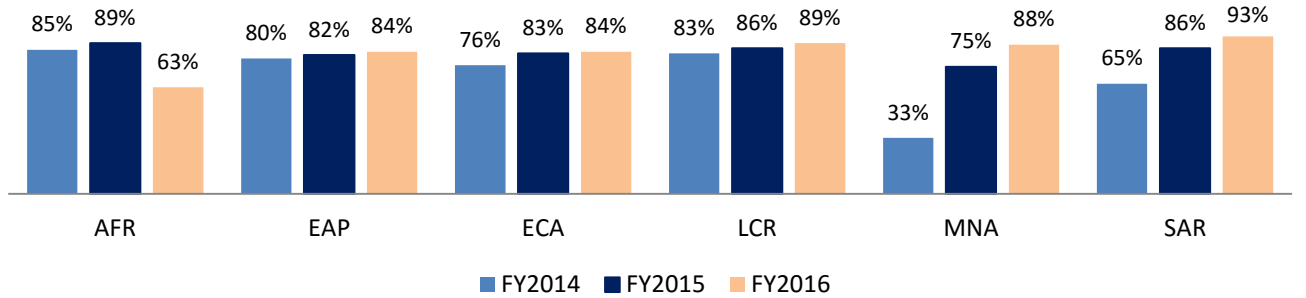


Figures 14 and 15 below show disbursement and implementation rates for the ABGs, by region. Almost all regions report a growing trend throughout the Business Plan. Both disbursement and implementation rates<sup>2</sup> have gone down for Africa in FY16 because 20 new activities have been initiated.

**Figure 14. Disbursement Rates<sup>v</sup> for ABGs by Region, FY14-16**



**Figure 15. Implementation Rates<sup>vi</sup> for ABGs by Region, FY14-16**



<sup>2</sup> Disbursement Rate is obtained through the division of the Disbursed Amount and the Grant Amount  
 Implementation Rate is obtained through the division of the summed Disbursed Amount and Committed Amount and the Grant Amount

## FY14-16 SIDS Dock Overview

The program provides grants to SIDS Dock members<sup>3</sup> focusing on two outcomes:

- Creating an enabling regulatory and institutional environment to remove barriers on the implementation of renewable energy and energy efficiency policy reforms, based on international best practices.
- Implementation of renewable and energy efficiency projects that demonstrate the potential for scale-up through climate finance and other sources of funding.

Figure 16 below shows SIDS Dock allocations and number of activities initiated during the FY14-16 Business Plan:

**Figure 16. SIDS Dock allocations and number of activities, FY14-16 (USD thousands)**

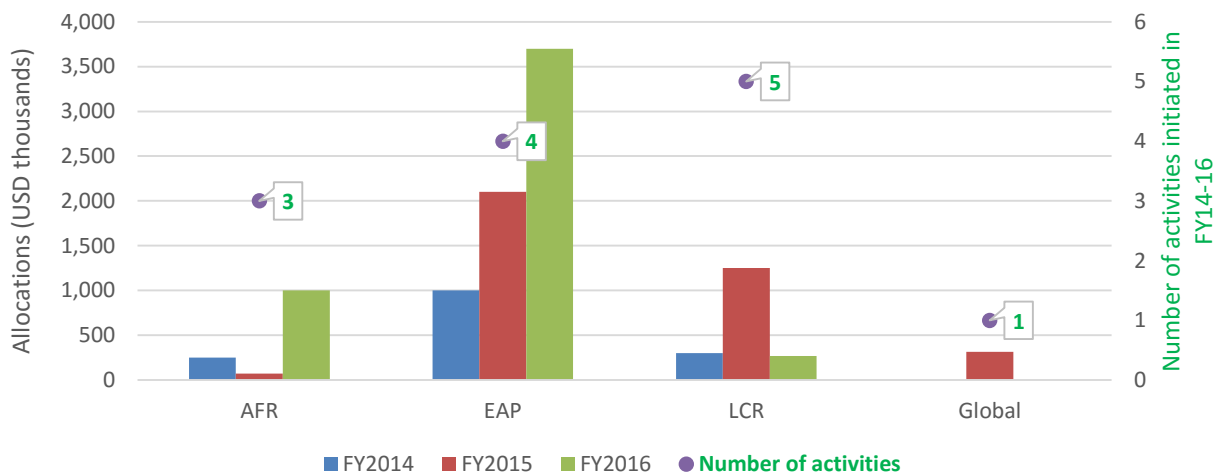
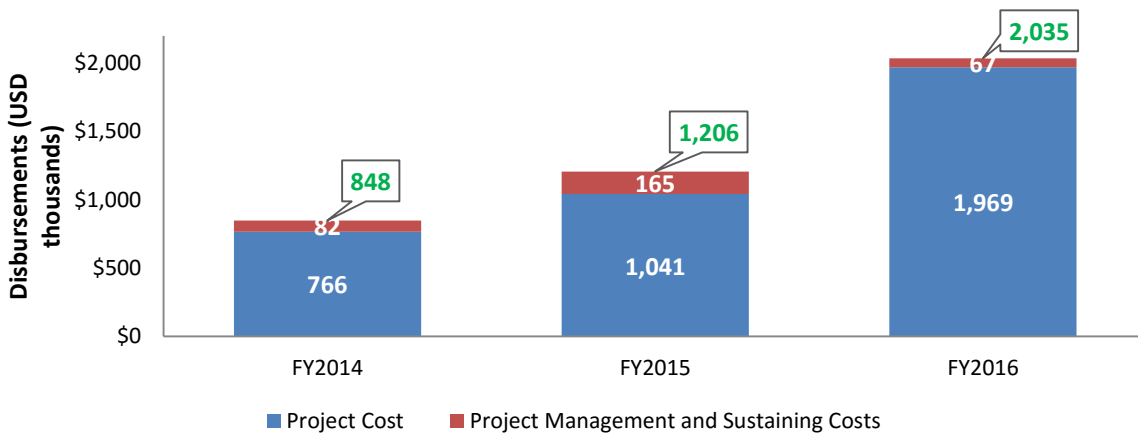


Figure 17 below shows SIDS Dock disbursements; numbers in green indicate the totals.

**Figure 17. SIDS Dock Total Disbursements for, FY14-16 (USD thousands)**



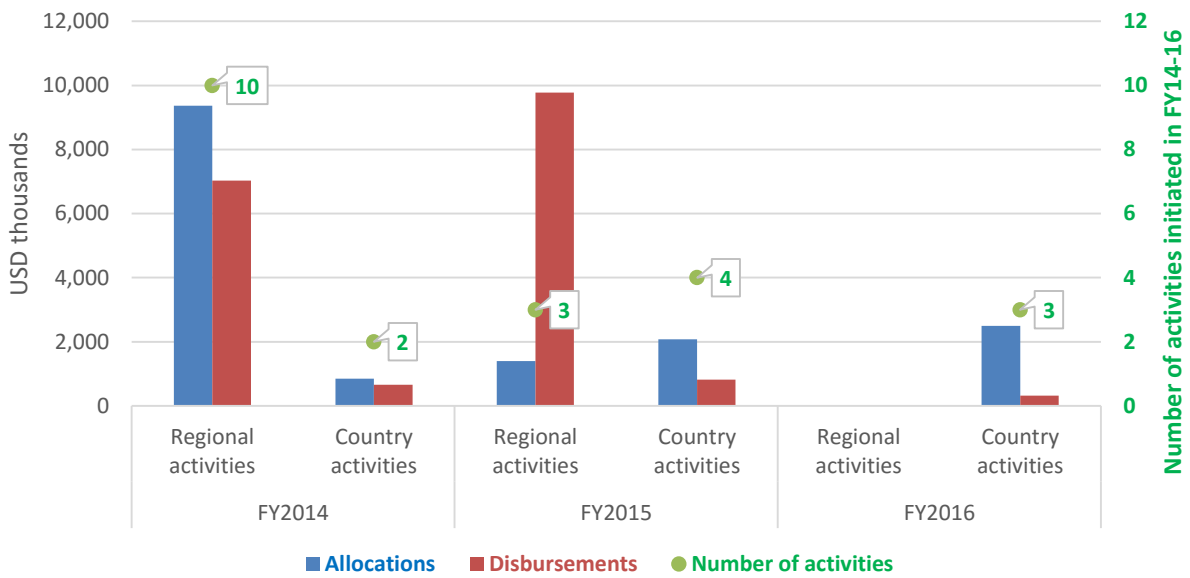
<sup>3</sup> Small Island Developing States (SIDS) were recognized as a distinct group of developing countries facing specific social, economic and environmental vulnerabilities at the United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro, Brazil (3-14 June 1992). More information [here](#).

### FY14-16 AFREA Overview

In FY14 AFREA transitioned from Phase I to Phase II with the objective of supporting the scale-up of energy access and clean energy. The approved allocation of AFREA in Phase II totaled \$16.2 million in the period FY14-16.

Figure 18 below shows disbursements, allocations and number of activities initiated during FY14-16.

**Figure 18. AFREA (Phase II) Disbursements, Allocations and Number of activities, FY14-16 (USD thousands)**

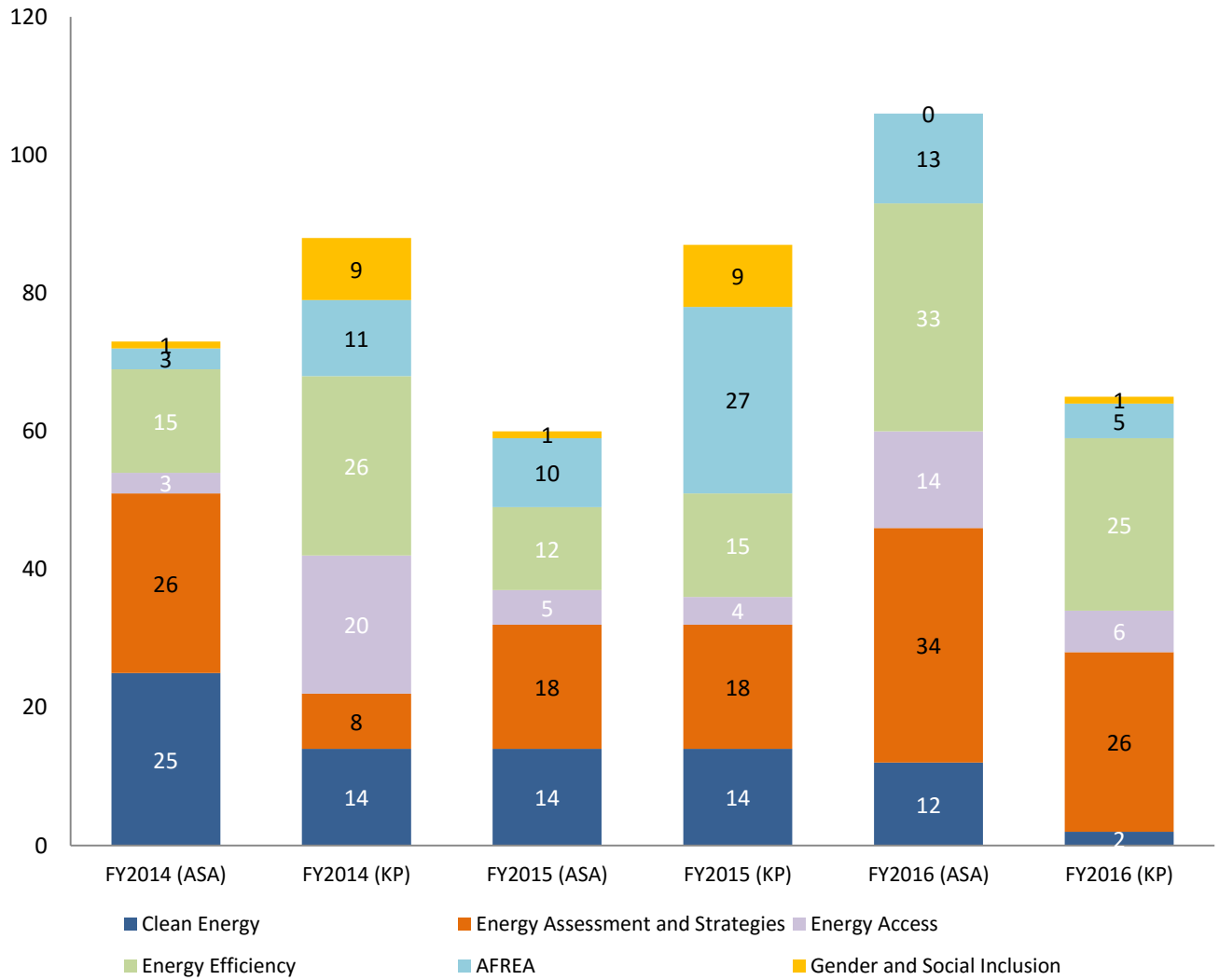


## FY14-16 ESMAP (including SIDS Dock) Results Overview

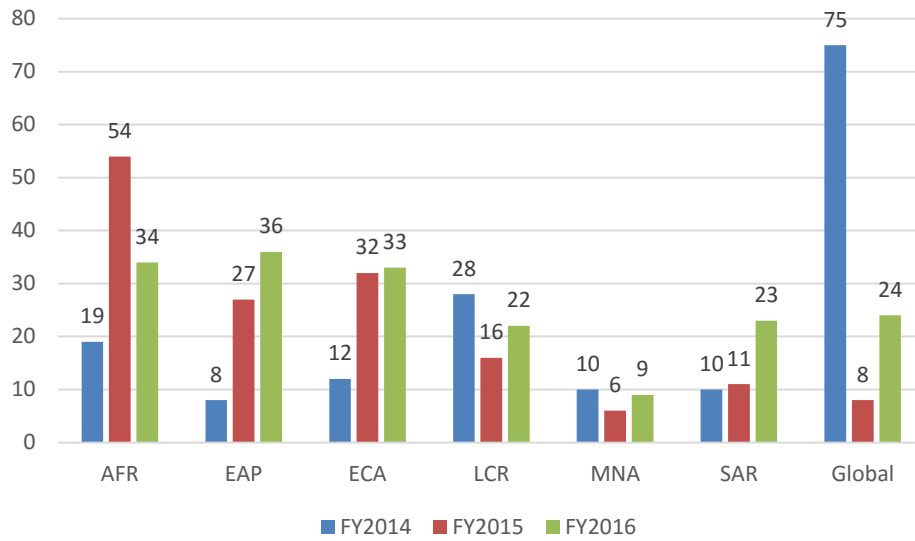
### Outputs

As Figure 19 indicates, the largest number of ASA outputs was delivered under EASP with 52, while the largest number of KP outputs was delivered under EE with 66 KPs.

**Figure 19. ESMAP (including SIDS Dock) Outputs, by Type FY14-16**



**Figure 20. ESMAP (including SIDS Dock), Number of Outputs (ASA and KP), by Region, FY14-16**



## Outcomes

### WB/ ESMAP Outcomes and Indicators

ESMAP has adopted the following outcomes and corresponding indicators developed and implemented by the World Bank under its ASA and KP.

#### Development Financing Informed

- Preparation of new operation informed
- Existing operations informed
- Mobilization of non-Bank resources informed
- Government expenditure informed

#### Policy/ Strategy Informed

- Government policy/ strategy informed
- Public debate stimulated/ initiated
- Contributed to stakeholder involvement
- Development community/ partner policy/ strategy informed
- Bank country strategy (CAS/ CPS) informed/ influenced
- Bank sector strategy informed/ influenced

#### Client Capacity Increased

- Design capacity strengthened
- Implementation capacity strengthened
- Monitoring & Evaluation capacity increased

#### Knowledge Increased/ Deepened

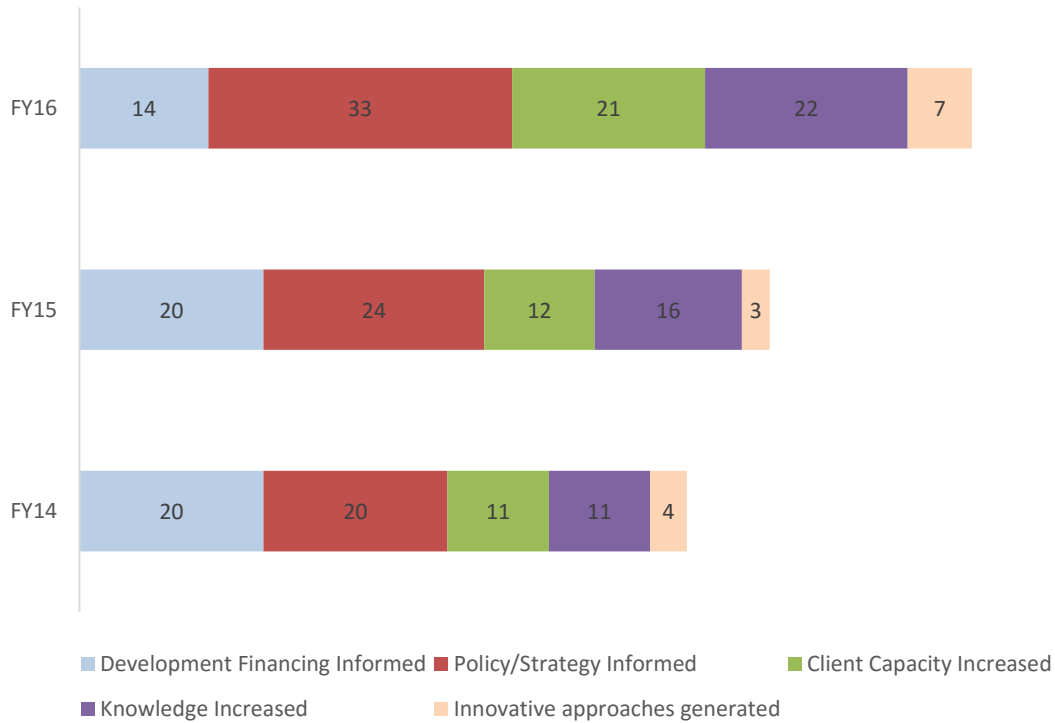
- Facilitated exchange of best practice with clients
- Facilitated exchange of best practice with partners
- Disseminated best practices

#### Innovative Approaches and Solutions Generated

- New innovative approach fostered
- New innovative approach developed
- Client is able to adopt/ harness new technologies, innovative ideas, know-how

Figure 21 below shows the number outcomes achieved by FY and outcome type. In FY16, in particular, ESMAP’s results focused primarily on informing clients’ policies and strategies, followed by supporting increased clients’ capacity and knowledge. [qualitative/substantive stories behind the numbers?]

**Figure 21. Outcomes, by Type, FY14-16**



ESMAP FY14-16 Lending Operations Informed and related WB Corporate and Project Results Indicators.

Table 3 FY14-16 Lending Operations Informed by ESMAP and related WB Corporate and Project Results Indicators

FY16										
ESMAP ACTIVITY	WORLD BANK PROJECT (IDA/IBRD/GEF)	INVESTMENT LEVERAGE (US\$ MILLION)			TARGET INDICATORS					
		WB	OTHER FINANCIERS	TOTAL	RENEWABLE ENERGY	ENERGY EFFICIENCY	ENERGY ACCESS	CO <sub>2</sub> MITIGATION	DIRECT BENEFICIARIES	OTHER
AFREA II - Africa Electrification Initiative	<a href="#">Electricity System Enhancement Project</a> (Liberia, P120660)	10	USAID 2 Norad 20 GPOBA 10	53			✓		113,700	
					People provided with access to electricity by HHs connections: 113,700 Average interruption frequency per year in the project area: 15% Connections to electricity grid: 26,100					
AFREA II - Africa Electrification Initiative	<a href="#">Additional Financing for Energy Development and Access Project</a> (Ghana, P147878)	60	-	60	✓		✓	✓	1,950,000	
					Electricity losses per year in the project area: 20% Tones of CO <sub>2</sub> Avoided through the adoption of Renewable Energy: 250,000					
AFREA II - Mali: Support to Energy Services Access	<a href="#">Rural Electrification Hybrid System Project</a> (Mali, P131084)	25	GPOBA 5 Strategic Climate Fund Grant 15.4	45.4	✓		✓	✓	1,060,000	
					People provided with access to electricity by HHs connections (Off-grid): 681,000 Generation Capacity of Renewable Energy (solar) constructed: 4.8 MW Greenhouse gas emission reductions: 21,900 Tones/year					
Development of Myanmar National Electrification Program	<a href="#">Electric Power Project</a> (Myanmar, P143988)	140	-	140			✓	✓	n/a	✓
					Increase in electricity generation: 770 GWh Reduction of CO <sub>2</sub> emissions per output generated: 400 gCO <sub>2</sub> eq/kWh MOEP/MEPE staff involved in training and capacity building activities: 100					
Jordan Energy Sector Assistance: NEPCO Restructuring, Procurement Review, LNG Capacity Building	<a href="#">First Programmatic Energy and Water Sector Reforms Developmental Policy Loan</a> (Jordan, P154299)	250	-	250	✓	✓			n/a	✓
					Share of MW renewable power in the generation mix: 10% : Increase in energy efficiency savings in the water sector as per the implementation of the Action Plan accompanying the Energy Efficiency and Renewable Energy Policy: 50 GWh Cost recovery of the end user electricity tariffs: 100%					
China: Green logistics for Chinese municipalities: application in Xiaogan and beyond	<a href="#">Hubei Xiaogan Logistics Infrastructure</a> (China, P132562)	100	Borrower: PEOPLE'S REPUBLIC OF CHINA 51.02	152.02	<i>Project Results Framework not publically available as of December 2016 (in draft).</i>					
						✓			n/a	✓
China: Wuhan integrated transport development project – learning from best international practice in smart transport and EE	<a href="#">Wuhan Integrated Transport Development</a> (China, P148294)	120	Borrower: PEOPLE'S REPUBLIC OF CHINA 87.91	207.91		✓			n/a	✓
					Percentage of users satisfied with public transport service at the terminals of targeted corridors in Anlu: 60% Percentage of pedestrians satisfied with the walking environment in the Anlu downtown area: 60% Bus ridership in Anlu: 27,397					
Kyrgyz Republic: Urban Development Project	<a href="#">Urban Development Project</a> (Kyrgyz Republic, P151416)	12	Borrower: KYRGYZ REPUBLIC 2.4	14.4		✓			59,327	
					Projected lifetime energy savings: 16414 MWh Number of municipal infrastructure assets and facilities with increased Energy Efficiency: 6 Streets with improved street lightning: 14 km					



					Number of towns with Energy Saving Plans: 2				
AFREA II - Lighting Africa Expansion	<a href="#">Electricity Network Reinforcement and Expansion Project</a> (ENREP) Additional Financing (Ethiopia, P155563)	200	Borrower: GOVERNMENT OF ETHIOPIA 43  Energy SME Support to SSA, 5	248	✓			9,675,000	
					Number of HHS connected to the grid: 150,000 Number of HHS with access to modern energy services (off-grid): 2,000,000				
AFREA II - Lighting Africa Expansion	<a href="#">Rural Electrification Expansion Program</a> (Tanzania, P153781)	200	CIF 25	225					
					<i>Project Results Framework not publically available as of December 2016 (in draft).</i>				
AFREA II - Lighting Africa Expansion	<a href="#">Liberia Renewable Energy Access Project</a> (Liberia, P149683)	2	Strategic Climate Fund Grant 25	27	✓		✓	150,000	
					People provided with access to electricity by HHS connections (Off-grid): 50,000 Distribution lines constructed or rehabilitated under the project: 58 km People with access to modern energy services under the project through stand-alone solar PV systems: 100,000 Annual electricity output from renewable energy as a result of SREP interventions: 5.8 GWh				
AFREA II - Niger Electricity Access Expansion	<a href="#">Electricity Access Expansion Project</a> (Niger, P153743)	65	-	65			✓	326,400	
					People provided with access to electricity by HHS connections: 326,400 Distribution lines constructed or rehabilitated under the project: 695 km				
Armenia Financial recovery of the power sector	<a href="#">Power Sector Financial Recovery Program</a> (Armenia, P157571)	30	Borrower: MINISTRY OF FINANCE OF THE REPUBLIC OF ARMENIA 0.5  Private sector: 10	40.5				3,038,000	✓
					Percent of tariff-setting related questions and inquiries (gender-disaggregated) responded to by PSRC within stipulated service standards for response time: 100% Total annual electricity supply by ANPP is maintained				
International Conference On Energy Efficiency In Cities; Mexico Municipal EE Project	<a href="#">Municipal Energy Efficiency Project</a> (Mexico, P149872)	100	Borrower: MINISTRY OF FINANCE (SHCP) 56	156	✓		✓	n/a	
					Projected lifetime energy savings: 1,020,714 MWh Framework to scale up municipal energy efficiency in the country: Framework accepted by the SENER Projected lifetime GHG emission reductions (tCO2eq): 463,405 Tons/year				
		<b>1,314</b>	<b>370</b>	<b>1,684</b>					

FY15

ESMAP ACTIVITY	WORLD BANK PROJECT (IDA/IBRD/GEF)	INVESTMENT LEVERAGE (US\$ MILLION)			TARGET INDICATORS					
		WB	OTHER FINANCIERS	TOTAL	RENEWABLE ENERGY	ENERGY EFFICIENCY	ENERGY ACCESS	CO <sub>2</sub> MITIGATION	DIRECT BENEFICIARIES	OTHER
Energy Efficiency in Water and Wastewater Utilities in LAC	<a href="#">BR Espirito Santo Integrated Sustainable Water Management Project</a> (Brazil, P130682)	225	Borrower: STATE OF ESPIRITO SANTO 98.1	323.1		✓			2,630,000	✓
					New household sewer connections constructed under the project: 32,897 People provided with access to 'improved sanitation facilities' under the project: 164,485					
Papua New Guinea (PNG) Renewable Energy (RE) Resource Mapping and Geospatial Planning	<a href="#">PNG Energy Sector Development Project</a> (PNG, P101578)	7.3	Borrower: GOVERNMENT OF PAPUA NEW GUINEA 1.05	8.35	✓		✓		n/a	✓
					Improved GoPNG institutional capacity in the energy sector to support future investment in rural and renewable energy: Y Rural and Renewable energy policies submitted to Cabinet and rural electrification strategy completed following participatory process: Y Planning study is completed as a key input to preparing future hydropower projects for investment: Y					
Local Benefit Sharing for Hydropower Projects in Indonesia	<a href="#">Upper Cisokan Pumped Storage Hydro-Electrical Power (1040 MW) Project</a> (Indonesia, P112158)	640	Borrower: REPUBLIC OF INDONESIA 160	800	✓				n/a	✓
					Generation Capacity of Hydropower constructed or rehabilitated under the project: 1040 MW Construction of 500 kV transmission line: 100% Improved capability of PLN in planning, development and operation of hydropower pump storage power projects in accordance with international practice: PLN fully capable					
Gender and Energy Program	<a href="#">KM-Electricity Sect. Recovery Proj</a> (Comoros, P131659)	5	-	5			✓		200,000	✓
					Female beneficiaries: 50% Electricity losses per year in the project area: 37.5%					
Egypt Gas Regulator Capacity Building	<a href="#">Household Natural Gas Connection Project</a> (Egypt, P146007)	500	Borrower: MINISTRY OF INTERNATIONAL COOPERATION 473  French Agency for Development 96  European Neighbourhood Instrument 78.9  Private sector: 326	1,473.9			✓		6,750,000	✓
					Establishment of a Gas Regulator: Y Customer service centers in targeted areas established and operational: 11 Natural gas household connections financed by the project in targeted areas: 1,500,000					
India: Efficient & Sustainable City Bus Services - Capacity Building Program in Fuel Efficiency (P132418)	<a href="#">Efficient &amp; Sustainable City Bus Services</a> (India, P132418)	9.2	-	9.2		✓		✓	235,000,000	
					Reduction in GHG emissions in project cities over a period of 10 years as a result of adoption of modernization initiatives from the Business as Usual (BAU) scenario: 230,000 Improvement in bus fuel efficiency in demo cities by at least 15% relative to business as usual: 15% Demo cities have institutional systems in place for M&E of bus fuel efficiency program: Y At least 50% NURM cities out of a total 67 cities are trained in/exposed to best practices in low-carbon programs including improved fuel efficiency techniques: 33%					
Results-Based Funding for Energy Sector Development (P127532)	<a href="#">Lao PDR Health Governance and Nutrition Development Project</a> (Lao PDR, P151425)	26.4	-	26.4					1,400,000	
		n/a								
		24	-	24					n/a	✓

Energy Subsidy Reform and Delivery: Safeguarding the Poor and Vulnerable; Tariff Setting Methodology	<a href="#">Energy Sector Development Policy Operation</a> (Kyrgyz Republic, P152440)				Power sector revenue allocated based on the tariffs for power sector companies set according to the approved methodology: Y Cash collected per kWh of power generated increased from 0.59 Som/kWh to 0.64 Som/kWh Public awareness about the country's energy sector challenges and reforms increased from 17% to 27% and the State Regulatory Agency of the Fuel and Energy Complex holds at least two public hearings												
Lighting Africa Expansion; Gender and Energy Program	<a href="#">Uganda Energy for Rural Transformation III</a> (Uganda, P133312)	135	Borrower: GOVERNMENT OF REPUBLIC OF UGANDA 33.2	168.2	<table border="1"> <tr> <td>✓</td> <td></td> <td>✓</td> <td></td> <td>7,600,000</td> <td>✓</td> </tr> <tr> <td colspan="6">People provided with access to electricity by household connections: 1,021,000 Female beneficiaries: 50% Number of off-grid household solar system installations made under the project: 30,000</td> </tr> </table>	✓		✓		7,600,000	✓	People provided with access to electricity by household connections: 1,021,000 Female beneficiaries: 50% Number of off-grid household solar system installations made under the project: 30,000					
✓		✓		7,600,000	✓												
People provided with access to electricity by household connections: 1,021,000 Female beneficiaries: 50% Number of off-grid household solar system installations made under the project: 30,000																	
Geothermal Scale-up Investment Plan	<a href="#">Geothermal Exploratory Drilling Project</a> (Armenia, P152039)	-	Strategic Climate Fund Grant 8.55  Borrower: REPUBLIC OF ARMENIA 2.13	10.68	<table border="1"> <tr> <td>✓</td> <td></td> <td></td> <td></td> <td>n/a</td> <td></td> </tr> <tr> <td colspan="6">If geothermal resource is confirmed, power plant development is competitively awarded to qualified private developer(s): Y Feasibility study for a potential power plant completed: Y Tendering for private sector involvement in construction of a geothermal power plant completed if results from the feasibility study confirm technical and economic/financial viability of such a plant: Y</td> </tr> </table>	✓				n/a		If geothermal resource is confirmed, power plant development is competitively awarded to qualified private developer(s): Y Feasibility study for a potential power plant completed: Y Tendering for private sector involvement in construction of a geothermal power plant completed if results from the feasibility study confirm technical and economic/financial viability of such a plant: Y					
✓				n/a													
If geothermal resource is confirmed, power plant development is competitively awarded to qualified private developer(s): Y Feasibility study for a potential power plant completed: Y Tendering for private sector involvement in construction of a geothermal power plant completed if results from the feasibility study confirm technical and economic/financial viability of such a plant: Y																	
		<b>1,572</b>	<b>1,277</b>	<b>2,849</b>													

FY14

ESMAP ACTIVITY	WORLD BANK PROJECT (IDA/IBRD/GEF)	INVESTMENT LEVERAGE (US\$ MILLION)			TARGET INDICATORS					
		WB	OTHER FINANCIERS	TOTAL	RENEWABLE ENERGY	ENERGY EFFICIENCY	ENERGY ACCESS	CO <sub>2</sub> MITIGATION	DIRECT BENEFICIARIES	OTHER
META tool: Dissemination and Knowledge Sharing	<a href="#">Support to ONE – Office National de l’Electricite</a> (Morocco, P104265)	150	-	150		✓			31,000,000	
	<a href="#">Additional Financing for ONEE Project Support</a> (Morocco, P145649)	40.5	-	40.5	Reduction in electric transmission losses: 4.3% Electricity savings due to CFLs deployment: 345 GWh Reduction of unserved energy: 230 MWh Peak power savings due to CFLs deployment: 0.2 GW					
Peru Second Rural Electrification	<a href="#">Second Rural Electrification</a> (Peru, P117864)	82.7	Borrower: GOVERNMENT OF PERU 10.6	50			✓		n/a	
			Private sector: 22.1		People provided with access to electricity by household connections: 140,000 Number of new connections: 34,000					
Energy Access for the Per-Urban/Urban poor	<a href="#">GPOBA W3 Kenya Electricity</a> (Kenya, P125388)	-	GPOBA	5.15			✓		200,000	
					People provided with access to electricity by HHs connections: 40,000 Female beneficiaries: 50%					
Biomass-based District Heating	<a href="#">Belarus Biomass District Heating Project</a> (Belarus, P146194)	90	-	90	✓	✓		✓	n/a	
					Projected lifetime energy savings: 1,180,000 MWh Heat and electricity generated from renewable biomass associated with investments financed under the project: 8,300,000 MWh Projected lifetime reduction in CO2 emissions due to investments financed under the project: 2,100,000 metric tons Generation Capacity of Renewable Energy constructed: 106 MW					
Luhri Hydro Electric Project	<a href="#">Development Policy Loan 2 to Promote Inclusive Green Growth and Sustainable Development in Himachal Pradesh</a> (India, P143032)	-	CTF 100	100	✓				n/a	✓
					Percentage of operational hydropower projects that have the minimum environmental flow policy applicable and have adopted real-time monitoring: 84% Number of departments which begin integrating the State Climate Change Strategy and Action Plan in development plans and Payment for Ecological Services (PES) in their operational strategy: 11					
District Heating AAA – Belarus and Ukraine	<a href="#">District Heating Energy Efficiency Project</a> (Ukraine, P132741)	332	CTF 50	382		✓	✓	✓	n/a	
					Projected lifetime fuel savings: 2,602,600,000 MJ Energy savings of participating DH companies: 524 GWh Avoided CO2 emissions of participating DH companies: 261,850 tons/y People that gained access to more energy-efficient cooking and/or heating facilities: 721,400					
Household Energy Guidance Note	<a href="#">DRC FIP Improved Forested Landscape Mgmt</a> (Congo DRC, P128887)	-	Strategic Climate Fund Grant 36.9	36.9		✓		✓	n/a	
					GHG emission reductions (and removals) generated under the project: 3,250,000 metric tons Production of improved cookstoves: Y Biomass energy produced in a sustainable manner: 802,500 metric tons					
Developing a Regulatory Framework for Maldives Energy Sector	<a href="#">Accelerating Sustainable Private Investment in Renewable Energy Project</a> (Maldives, P145482)	16	Strategic Climate Fund Grant 11.68	27.68	✓				n/a	✓
					Cumulative Installed Capacity of Solar Energy Constructed: 20 MW Private Capital Mobilized: 42 million					
		70	-	70		✓			n/a	

Energy Sector Low Carbon Development Operational Support	<a href="#">Vietnam Climate Change Development Policy Loan 3</a> (Vietnam, P127201)				100 energy auditors completed training courses to support energy efficiency practices in industrial sector, of which 50 fully certified and 50 doing on the job training to become fully certified. 1,000 energy managers certified to support energy efficiency practices in industrial sector. 1,000 energy efficiency plans and implementation reports of large energy endusers of the industrial sector are received by MOIT or provincial DOITs, of which 600 have been prepared by certified energy managers. Low carbon development assessment initiated.
		<b>782</b>	<b>170</b>	<b>952</b>	

## Definitions and disclaimers

- Total project cost includes funding from World Bank and non-bank sources in US\$ millions. Active and Closed projects show commitment at Board approval. It does not reflect any cancellations.
- Borrower refers to the Borrower of a Loan or Recipient of a Grant
- Additional Financing projects do not report results separately; results are reported at the parent project level.
- Corporate Result Indicators are used by task teams to monitor the results of operations and are aggregated to report IBRD and IDA results to internal and external stakeholders. When drafting the Corporate Result Indicators, Task teams are advised to seek specific guidance from the GP Strategy and Operations team.
- The Corporate Result Indicators for the Energy and Extractives Global Practice (GP) are
  - o Generation capacity of energy constructed or rehabilitated, with underlying indicators on: thermal power generation capacity constructed or rehabilitated under the project; hydropower generation capacity constructed or rehabilitated under the project; renewable energy generation capacity (other than hydropower) constructed under the project; and renewable energy generation capacity (other than hydropower) rehabilitated under the project.
  - o Projected energy or fuel savings, with underlying indicators on projected lifetime energy savings; projected lifetime fuel savings; projected electricity generation savings.
  - o People provided with new or improved electricity service, with underlying indicators on people provided with access to electricity services under the project by household connections (grid or off-grid); new community electricity services under the project; additional generation capacity under the project.
- Global Practices and Strategy and Operations teams are responsible for ensuring that relevant Result Indicators are used in the results frameworks during preparation and reported in the Implementation Status Reports (ISR) throughout the life of all operations.
- Corporate Result Indicators are complemented by intermediate and final outcome indicators in the form of Project Results Indicators and custom indicators which are chosen by the task teams in the Global Practice/Cross Cutting Solution Area (CCSA).
- The tables report both Corporate Result Indicators and Project Results Indicators, as relevant to the ESMAP objectives.
- Most of the reported project above are still ongoing, therefore the table reports primarily target values for both Corporate Result Indicators and Project Results Indicators. Actual results will be reported once the project is closed, in the Implementation and Completion Report (ICR).

Table 4 FY14-16 ESMAP Business Plan Logframe

OBJECTIVE: Development Financing Informed				
Number of client countries provided with "just-in-time" technical assistance for pre-investment activities necessary to resolve program design issues and offer additional options.				
Baseline as of June 2013: 65	TOTAL TARGET: 90			TOTAL: 65 (baseline) + 43 (FY14-16) = 108 operations
	FY14 Updates	FY15 Updates	FY16 Updates	
	<b>19 operations</b>	<b>10 operations</b>	<b>14 operations</b>	
	<p>10 existing and new WB operations informed by ESMAP (excluding AFREA): <a href="#">Kenya - P125388</a>, <a href="#">Congo DRC - P128887</a>, <a href="#">Vietnam - P131775</a>, <a href="#">Belarus - P146194</a>, <a href="#">Ukraine - P132741</a>, <a href="#">Peru - P117864</a>, <a href="#">Morocco - P104265</a>, <a href="#">India - P143032</a>, <a href="#">Maldives - P145482</a>.</p> <p>3 new geothermal test drilling investments, prepared with ESMAP support: <a href="#">Djibouti - P127143</a>, Mexico and Chile (CTF Projects by Inter-American Development Bank).</p> <p>6 existing and new WB operations informed by AFREA: <a href="#">Congo DRC additional financing - P097201</a>, <a href="#">Congo DRC - P069258</a>, <a href="#">Mali - P131084</a>, <a href="#">Burkina Faso - P149115</a>, <a href="#">Ethiopia - P119893</a>, <a href="#">Zambia - P077452</a>,</p>	<p>7 existing and new WB operations informed by ESMAP (excluding AFREA): <a href="#">Brazil - P130682</a>, <a href="#">Indonesia - P112158</a>, <a href="#">Egypt - P146007</a>, <a href="#">Lao PDR - P151425</a>, <a href="#">Kyrgyz Republic - P152440</a>, <a href="#">Papua New Guinea - P101578</a>, <a href="#">India - P132418</a>.</p> <p>1 new geothermal test drilling investment prepared and financed: <a href="#">Armenia - P152039</a>.</p> <p>2 existing and new WB operations informed by AFREA: <a href="#">Uganda - P133312</a>, <a href="#">Comoros - P131659</a>.</p>	<p>7 existing and new WB operations informed by ESMAP (excluding AFREA): <a href="#">Myanmar - P143988</a>, <a href="#">Jordan - P154299</a>, <a href="#">China - P132562</a>, <a href="#">China - P148294</a>, <a href="#">Kyrgyz Republic - P151416</a>, <a href="#">Armenia - P157571</a>, <a href="#">Mexico - P149872</a>.</p> <p>7 existing and new WB operations informed by AFREA: <a href="#">Liberia - P120660</a>, <a href="#">Ghana - P147878</a>, <a href="#">Mali - P131084</a>, <a href="#">Ethiopia - P155563</a>, <a href="#">Tanzania - P153781</a>, <a href="#">Liberia - P149683</a>, <a href="#">Niger - P153743</a>.</p>	

<sup>4</sup> [http://www.esmap.org/sites/esmap.org/files/ESMAP\\_Business\\_Plan\\_September2013\\_Optimized.pdf](http://www.esmap.org/sites/esmap.org/files/ESMAP_Business_Plan_September2013_Optimized.pdf)

**OBJECTIVE: Policy & Strategy Informed and Institutional Capacity**

Number of client countries provided with increased institutional capacity to plan, manage, and regulate the implementation of policies, strategies, and programs that deliver clean, reliable, and affordable energy services required by their citizens for poverty reduction and environmentally sustainable economic growth.

Baseline as of June 2013: <b>84</b>	TOTAL TARGET: 150			TOTAL: <b>84</b> (baseline) + <b>84</b> (FY14-16) = <b>168</b>
	FY14 Updates	FY15 Updates	FY16 Updates	
	<b>39</b>	<b>19</b>	<b>26</b>	
	<p>Government policy/strategy informed outcomes were observed in <b>16</b> countries (excluding AFREA): Armenia, Bosnia &amp; Herzegovina, Brazil, China, Egypt, India, Indonesia, Kosovo, Kyrgyz Republic, Macedonia, Mexico, Morocco, Serbia, Tajikistan, Tunisia, and Turkey.</p> <p><b>8</b> countries use, adopt, and/or deploy ESMAP models and toolkits: TRACE (Mexico, Thailand, Columbia, Kenya, Ethiopia, Ghana), META (Morocco), and EFFECT/MACTool (Vietnam).</p> <p>Government policy/strategy informed outcomes were observed in <b>8</b> countries (AFREA): Rwanda, Liberia, Burkina Faso, Mali, Democratic Republic of Congo, Ethiopia, Senegal, and South Sudan.</p> <p><b>7</b> governments initiate action through SE4All TA to establish enabling environment for private sector investments and a creditworthy power sector: Myanmar, Guatemala, Honduras, Nicaragua, Senegal, Liberia, and Guinea.</p>	<p>Government policy/strategy informed outcomes were observed in <b>8</b> countries (excluding AFREA): Vietnam, Indonesia, Myanmar, Tajikistan, Kyrgyz Republic, Moldova, Uzbekistan, Philippines.</p> <p>TRACE was used and/or deployed in Ukraine.</p> <p><b>2</b> countries institutions' capacity strengthened to incorporate risk in system planning: Panama and Belize.</p> <p><b>2</b> countries adopt recommended approaches in their policies on electricity pricing and subsidies: Kyrgyz Republic and Tajikistan.</p> <p>Resource mapping is combined with spatial planning to produce <b>2</b> country policy frameworks to guide commercial investments: Pakistan and Laos PDR.</p> <p><b>2</b> Government policy/strategy informed outcomes were observed in countries (AFREA): South Sudan and Nigeria.</p> <p><b>2</b> countries with capacity to integrate gender in areas such as large infrastructure, energy efficiency, and power sector reform: Comoros and Uganda.</p>	<p>Government policy/strategy informed outcomes were observed in <b>26</b> countries: Afghanistan, Armenia, Bangladesh, China, Egypt, Georgia, India, Kazakhstan, Kinshasa City (DRC), Malawi, Ethiopia, Guinea, Kyrgyz Republic, Mexico, Niger, Nepal, Panama, Pakistan, Philippines, Seychelles, Sri Lanka, South Sudan (AFREA), Tanzania, Ukraine, Uzbekistan, West Bank and Gaza.</p>	

**Knowledge Increased/Deepened and Innovative Approaches & Solutions Generated:**

Number of ESMAP-supported research and analyses that strengthen the sector's knowledge and evidence base to deliver improved clean energy access, energy efficiency, and generation in developing countries.

Baseline as of June 2013: <b>41</b>	TOTAL TARGET: <b>75</b>			<b>TOTAL: 41 (baseline) + 794 (FY14-16) = 835</b>
	<b>FY14 Updates</b>	<b>FY15 Updates</b>	<b>FY16 Updates</b>	
	<b>205</b>	<b>281</b>	<b>308</b>	
	<p><b>3</b> peer-reviewed research articles published.</p> <p><b>196</b> academic references of ESMAP products/knowledge</p> <p><b>3</b> development partners utilize knowledge on geothermal financing modalities, project structuring, and management: Inter-American Development Bank, kfw, IFC.</p> <p><b>3</b> organizations are collaborating with ESMAP in the RE Resource Center: GIZ, Reep, OPEN EI</p>	<p><b>267</b> academic references of ESMAP products/knowledge</p> <p><b>14</b> Development partners utilize knowledge on geothermal financing modalities, project structuring, and management: Armenia R2E2 Fund, Power Africa, Climate Policy Initiative, French Development Agency, MWH Global, Icelandic International Development Agency (ICEIDA), DTU UNEP RISO, IRENA, Netherlands Enterprise Agency, Nordic Development Fund, BGR - German Federal Institute for Geosciences and Natural Resources, State Secretariat for Economic Affairs (SECO), Overseas Private Investment Corporation (OPIC), Department for International Development - UK</p>	<p><b>1</b> peer-reviewed research article published.</p> <p><b>288</b> academic references of ESMAP products/knowledge.</p> <p><b>19</b> Development partners and bilateral that are collaborating with ESMAP: Australian Aid Agency Department of Foreign Affairs and Trade (DFAT), Japan International Cooperation Agency (JICA), African Development Bank (AfDB), Asian Development Bank (ADB), Kreditanstalt für Wiederaufbau (KfW), Deutsche Gesellschaft Für Internationale Zusammenarbeit (GIZ), Energising Development (EnDev), Agence Française de Développement (AFD), Staatssekretariat für Wirtschaft (SECO), Agence de l'Environnement et de la Maîtrise de l'Énergie (ADEME), Stockholm Environment Institute, Ministry of Environment and Food of Denmark, Food and Agriculture Organization (FAO), UN Foundation, World Health Organization (WHO), International Network on Gender and Sustainable Energy (ENERGIA), Collaborative Labeling and Appliance Standards Program (CLASP), Netherlands Development Organization (SNV)</p>	



Research: Number of ESMAP-supported Outputs			
TOTAL TARGET: 250			TOTAL: 418/250
FY14 Updates	FY15 Updates	FY16 Updates	
<b>162</b>	<b>154</b>	<b>102</b>	
<b>162</b> (73 ASA and 89 KP)	<b>154</b> (60 ASA and 94 KP)	<b>102</b> (75 ASA and 27 KP)	

### 3 | ESMAP (including SIDS Dock) FY16 Focus

#### FY16 ESMAP (including SIDS Dock) Financial Report

This section of the report focuses on portfolio performance in FY16. FY16 is a transition year, as the earlier business plan (FY14-16) concludes, and ESMAP prepared and consulted with the Consultative Group on the FY17-20 Business Plan.

FY16 Allocation for ESMAP was USD 30,447,000 (84 new activities initiated in FY16), of which USD 3,970,000 allocated for SIDS Dock (5 new activities initiated in FY16).

**Figure 22. ESMAP (including SIDS Dock) Allocation by Allocation Window, FY2016 (USD Thousands)**

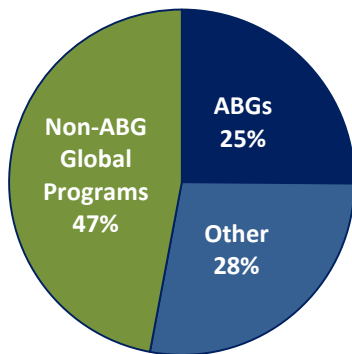
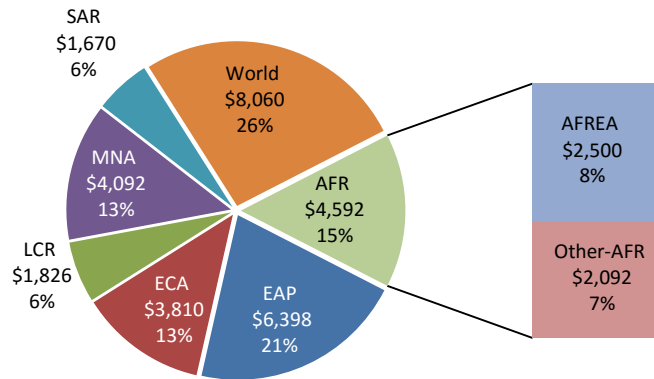
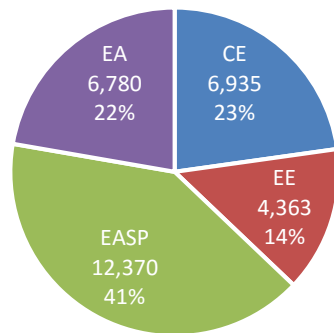


Figure 22 shows the allocation of ESMAP activities by window. FY16 maintains similar trends as the overall Business Plan, with higher relative allocation through the ABGs window (25% in FY16 vs 14% in FY14-16) and lower through the Global Programs (61% in FY16 vs 69% in FY14-16).

Figure 23 and 24 below show allocations by region and by focus area. Trends for FY16 slightly differ from the overall FY14-16 period. Global activities and clean energy had the biggest allocations. Few big activities, recently launched belong to the former group: 'Efficient and Clean Cooking and Heating', as well as the 'Global Survey for Multi-Tier Energy Access Tracking' and the 'Energy Subsidy Reform Experts-Peer Panel'. While for clean energy, it is important to note the initiation of the SIDS Dock recipient-executed activity in the Pacific Islands (EAP region): 'Pacific Islands Sustainable Energy Industry Development Project'.



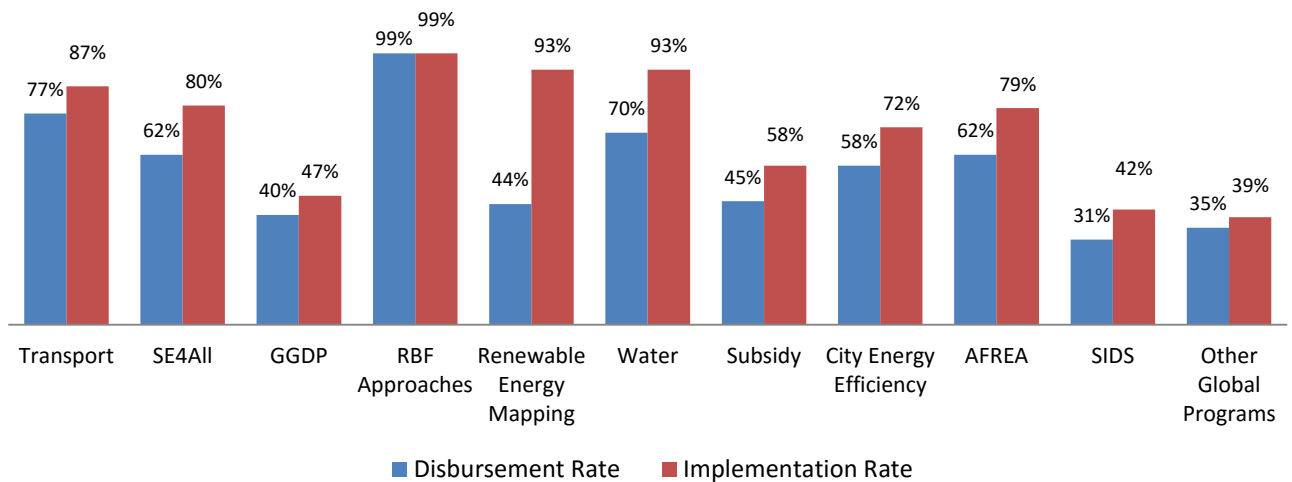
**Figure 23. Breakdown of ESMAP (including SIDS Dock) Allocation by Region, FY2016 (USD Thousands)**



**Figure 24. Breakdown of ESMAP (including SIDS Dock) Total Allocation by Focus Area, FY2016 (USD Thousands)**

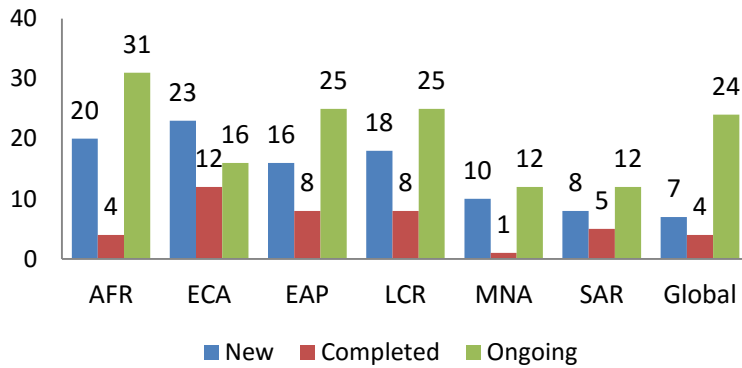
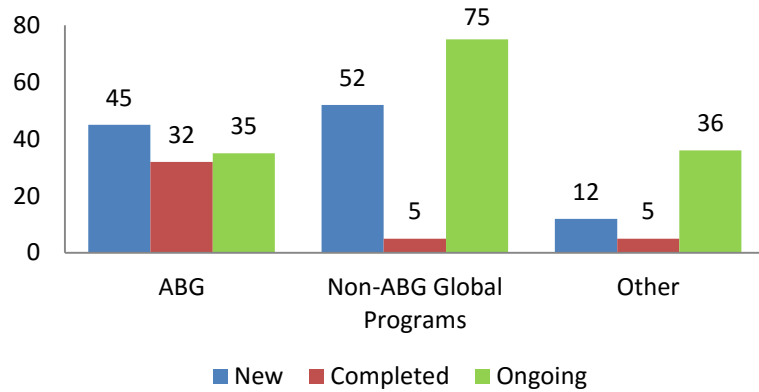
CE includes SIDS Dock: USD 3,970 thousands were allocated in FY16 under SIDS Dock.

**Figure 25. ESMAP (including SIDS Dock) Disbursement and Implementation Rates by Program, FY16**



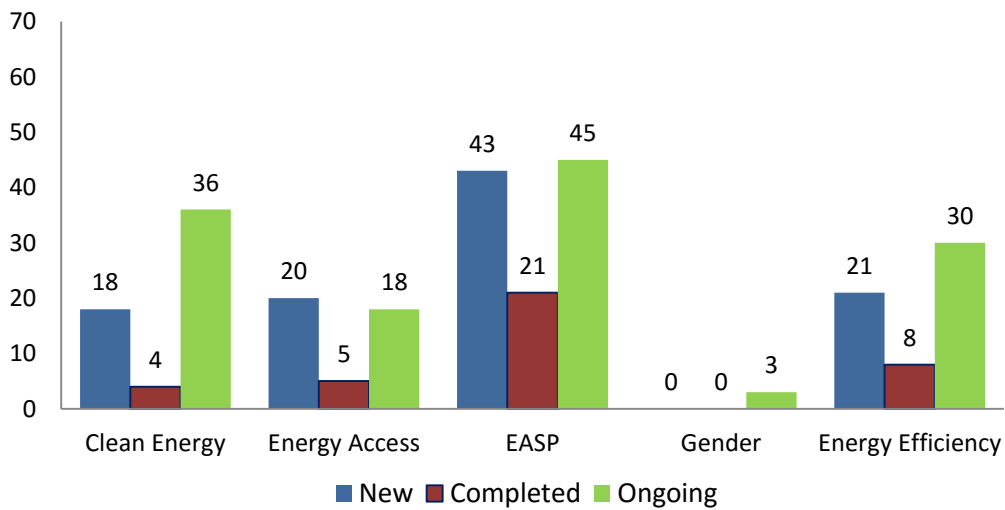
Figures 26, 27 and 28 give a snapshot of the FY16 portfolio in terms of number of activities by allocation window (ABG vs non-ABGs), by region, and by focal area

**Figure 26. Number of ESMAP (including SIDS Dock) New, Completed, and Ongoing Projects, by Allocation Window, FY16**



**Figure 27. Number of ESMAP (including SIDS Dock) New, Completed, and Ongoing activities, by Region, FY16**

**Figure 28. Number of ESMAP (including SIDS Dock) New, Completed and Ongoing Activities by ESMAP Focal Area, FY16**



Tables 5 below shows Project disbursements by Program and by region, in FY16. Table 6 below provides a snapshot of disbursements for the three trust funds ESMAP, ASTAE and SIDS Dock. Disbursements in Table 5 below do not include Project Management and Sustaining Costs – with these costs added, the disbursements are USD 43,576 thousands.

**Table 5. ESMAP (including SIDS Dock) Project Disbursements, by Program & Region, FY16 (USD Thousands)**

	ABGs	Transport	Water	SE4ALL	ECCH	Mini-grids	VRE	GGDP	RBF	RE Mapping	Subsidy	AFREA	CEETI	SIDS Dock	Other Programs	TOTAL
AFR	694	29	160	3,237		41	3	153		2,203	33	5,421		52		12,026
EAP	999	44	30	231	39			195	21	666	356		316	419	155	3,472
ECA	1,104	42	31		30						1,090		968			3,265
LCR	476	52	197	57	10		135	343			149		742	1497	69	3,728
MNA	1,412	60									452		176			2,100
SAR	422	97		151			64			1,457						2,191
Global		142		2,503	473	388	169	594	7	251	464	57	1,341		2,303	8,691
<b>Total</b>	<b>5,107</b>	<b>467</b>	<b>418</b>	<b>6,179</b>	<b>552</b>	<b>429</b>	<b>371</b>	<b>1,285</b>	<b>28</b>	<b>4,577</b>	<b>2,544</b>	<b>5,478</b>	<b>3,542</b>	<b>1,969</b>	<b>2,527</b>	<b>35,473</b>

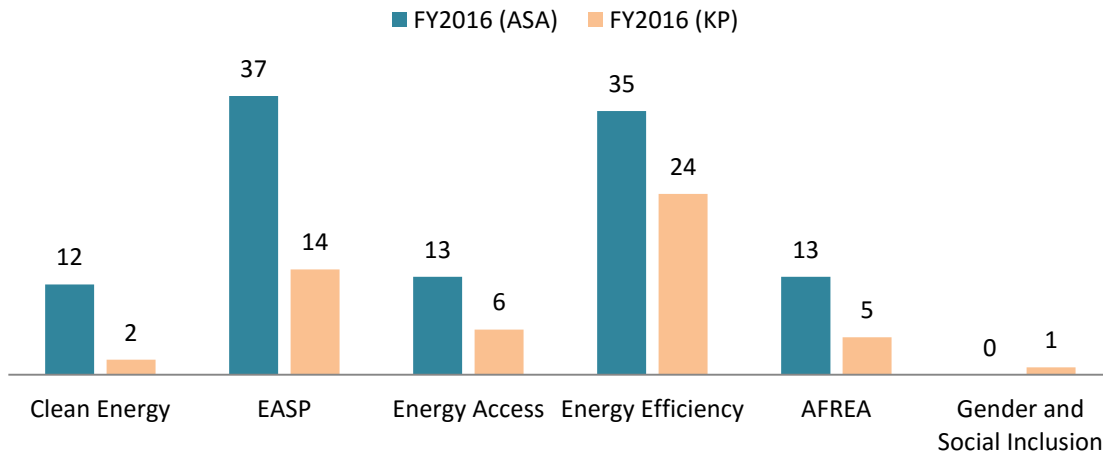
**Table 6. ESMAP, SIDS Dock and ASTAE Project Disbursements, by Region, FY16 (USD)**

	AFR	ECA	EAP	LCR	MNA	SAR	Global	Program Management & Sustaining Costs	TOTAL
<b>ESMAP</b>	11,973,990	3,052,505	3,265,218	2,231,308	2,100,205	2,191,045	9,160,560	1,991,326	35,966,150
<b>SIDS Dock</b>	52,180	419,045		1,497,371				66,685	2,035,281
<b>ASTAE</b>			3,289,118			2,182,215		104,053	5,575,386
<b>Total</b>	<b>12,026,170</b>	<b>3,471,549</b>	<b>6,554,336</b>	<b>3,728,679</b>	<b>2,100,205</b>	<b>4,373,260</b>	<b>9,160,560</b>	<b>2,162,063</b>	<b>43,576,824</b>

## FY16 ESMAP (including SIDS Dock) Results

### Outputs

Figure 29. ESMAP (including SIDS Dock), Number of Outputs, by ESMAP Focus Area, FY16



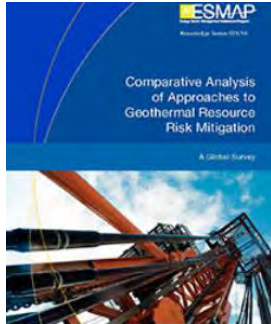
The full list of ESMAP Outputs achieved in FY16 is available in Annex 6.

During FY16 ESMAP delivered one peer-reviewed article or report published and disseminated either through the World Bank or renowned academic journals, delivered two Impact Stories and was mentioned 171 times in academic articles.

**Table 7. Peer-Reviewed Research Pieces Published, Impact Stories Produced, and Academic Mentions of ESMAP Products**

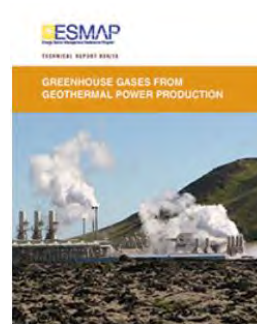
<b>Peer-Reviewed Research Pieces Published</b>	<b>1</b>	Title: "Fossil Fuel Subsidy and Pricing Policies. Recent Developing Country Experience" Author(s): Masami Kojima Journal/Publisher: Social Science Research Network (SSRN) Available at SSRN: <a href="https://ssrn.com/abstract=2741186">https://ssrn.com/abstract=2741186</a> Publication Date: January 11, 2016
<b>Impact Stories Produced</b>	<b>2</b>	<a href="#">Link</a>
<b>Academic Mentions of ESMAP Products</b>	<b>171</b>	

## Featured ESMAP Reports and Publications, FY16



Comparative Analysis of Approaches to Geothermal Resource Risk Mitigation

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Toward Universal Access to Clean Cooking and Heating: Early Lessons from the East Asia and Pacific Clean Stove Initiative

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The Lao Cookstove Experience: Redefining Health through Cleaner Energy Solutions

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Rooftop Solar in Maldives: A World Bank Guarantee and SREP Facilitate Private Investment in Clean and Affordable Energy

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## Outcomes

Tables 8 and 9 below show an overview of numbers of outcomes by region and focus area.

The region that has recorded the majority of the outcomes is Africa and the focus area is energy efficiency, both with around 30% of the total.

**Table 8. Number of Outcomes, by Type and Region, FY16**

	Development Financing Informed	Policy/Strategy Informed	Client Capacity Increased	Knowledge Increased	Innovative Approaches and Solutions Generated	Total
AFR	7	7	3	7	4	28
EAP	3	5	3	1	1	13
ECA	2	8	5	4	0	19
LCR	1	3	3	3	0	10
MNA	1	2	4	0	0	7
SAR	0	6	1	4	1	12
Global	0	2	2	3	1	8
<b>Total</b>	<b>14</b>	<b>33</b>	<b>21</b>	<b>22</b>	<b>7</b>	<b>97</b>

**Table 9. Number of Outcomes, by Type and ESMAP Focus Area, FY16**

	Development Financing Informed	Policy/Strategy Informed	Client Capacity Increased	Knowledge Increased	Innovative Approaches and Solutions Generated	Total
CE	0	5	2	0	1	8
EA	1	3	1	3	2	10
EASP	2	12	9	5	0	28
EE	4	9	7	8	2	30
AFREA	7	4	2	5	2	19
Gender <sup>5</sup>	0	0	0	1	0	1
<b>Total</b>	<b>14</b>	<b>33</b>	<b>21</b>	<b>22</b>	<b>7</b>	<b>97</b>

<sup>5</sup> Gender-informed outcomes have not been systematically monitored during the FY14-16 Business Plan. For the FY17-20 Business Plan, a system will be in place to closely monitor results under the gender lens. FY16 results on gender might not reflect the actual impact that the Gender program had during FY14-16.



The following tables (Tables 12-14) provide details on each outcome indicator; in particular, for the “Development Financing Informed” outcome, information on the related WB lending operation is provided (IBRD/IDA financing, leveraging from other financiers, lending instrument, etc.)

**Table 10. Development Financing Informed, Achieved ESMAP Outcomes, FY16**

Operation	Country / Region	Development Objective	Contributing WBG Global Practices	IBRD /IDA	Lending Instrument	WBG USD million	Other Financiers USD million	Total Project Cost USD million	Approval Date	Associated ESMAP Activity (and allocation)	Details
<b>Existing operations informed</b>											
<a href="#">Electricity System Enhancement Project (LESEP) (P120660)</a>	Liberia / AFR	To reduce greenhouse gas emissions when compared with Liberia's emissions growth baseline.	Energy & Extractives	IDA	Emergency Recovery Loan	10	USAID, 2 Norad, 20 GPOBA, 10	53	30-Nov-10	AFREA II - Africa Electrification Initiative (USD 970,000)	Supported the existing operation by providing pre-feasibility study on hybrid renewable energy-diesel isolated mini-grids.
<a href="#">Additional Financing for Energy Development and Access Project (P147878)</a>	Ghana / AFR	To improve the operational efficiency of the electricity distribution system and increase the population's access to electricity.	Energy & Extractives	IDA	Investment Project Financing	10	-	60	30-Apr-15		Provided just-in-time advisory support to the project team on the Ghanaian mini-grid and micro-grid business models, policy and regulatory framework.
<a href="#">Rural Electrification Hybrid System Project (P131084)</a>	Mali / AFR	To expand access to modern energy services in rural areas and to increase renewable energy generation in target areas.	Energy & Extractives	IDA	Specific Investment Loan	25	GPOBA, 5 Strategic Climate Fund Grant 15,4	45.4	11-Dec-13	AFREA II - Mali: Support to Energy Services Access (USD 320,000)	Informed the ongoing lending operation by defining the RBF mechanism for the distribution of solar lanterns, as the subsidies will be financed under component 2 of the project.
<a href="#">Electric Power Project (P143988)</a>	Myanmar / EAP	To increase the capacity and efficiency of gas-fired power generation in Myanmar and strengthen the institutional capacity of the Ministry of Electric Power and the Myanmar Electric Power Enterprise.	Energy & Extractives	IDA	Investment Project Financing	140	-	140	24-Sep-13	Development of Myanmar National Electrification Program (USD 1.6 million)	Informed the ongoing lending operation by developing a national electrification plan, including capacity building activities, technical assistance, and investment prospectus.
<b>New operations informed</b>											
<a href="#">Hubei Xiaogan Logistics Infrastructure (P132562)</a>	China / EAP	To enhance the connectivity and efficiency of the logistics operations of the Xiaogan Logistics Park in Hubei Province.	Transport & ICT, Climate Change, Gender, Jobs	IBRD	Investment Project Financing	100	Borrower: PEOPLE'S REPUBLIC OF CHINA 51.02	152.02	29-Apr-16	China: Green logistics for Chinese municipalities: application in Xiaogan and beyond (USD 100,000)	Provided the client first-hand exposure to modern logistics operations and systems, useful for the development of technical specifications. Key lessons from the logistics parks visited were integrated in the implementation of the project, in particular in terms of systems

											to collect freight data, match demand with existing capacity and manage internal park operations.
<a href="#">Wuhan Integrated Transport Development (P148294)</a>	China / EAP	To improve transport mobility in Wuhan and Anlu Municipalities.	Transport & ICT, Climate Change, Gender	IBRD	Investment Project Financing	120	Borrower: PEOPLE'S REPUBLIC OF CHINA 87.91	207.91	26-Feb-16	China: Wuhan integrated transport development project – learning from best international practice in smart transport and EE (USD 145,000)	Lessons learned and knowledge gained from the study incorporated into the project design. For example, all subcomponents in the lending operation will be implemented by agencies with the highest technical capacity in their respective areas.
<a href="#">Urban Development Project (P151416)</a>	Kyrgyz Republic / ECA	To improve the quality of municipal services and pilot energy efficiency and seismic resilience retrofits of urban infrastructure in participating towns.	Energy & Extractives, Climate Change, Gender, Social, Urban, Rural and Resilience	IDA	Investment Project Financing	12	Borrower: KYRGYZ REPUBLIC 2.4	14.4	18-Mar-16	Kyrgyz Republic: Urban Development Project (USD 250,000)	The City energy assessments informed the design of the lending operation and the identification of activities supported by it. In particular, it identified municipal buildings as one of the key areas with great potential for energy efficiency. The project is financing energy efficiency retrofits of 6 schools and kindergartens in beneficiary towns.
<a href="#">Electricity Network Reinforcement and Expansion Project (ENREP) Additional Financing (P155563)</a>	Ethiopia / AFR	To improve reliability of the electricity network and to increase access to electricity services in Ethiopia.	Energy & Extractives	IDA	Investment Project Financing	200	Borrower: GOVERNMENT OF ETHIOPIA, 43 Energy Sme Support To Ssa, 5	248	27-May-16	AFREA II - Lighting Africa Expansion (USD 2.5 million)	Supported the preparation of a number of IDA operations and ensured the inclusion of off-grid lighting activities within them. As such, and by targeting off-grid communities with pico-PV lighting solutions, Lighting Africa promoted increased access to modern renewable energy where otherwise this would not occur.
<a href="#">Rural Electrification Expansion Program (P153781)</a>	Tanzania / AFR	To increase the number of rural electricity connections; and to scale-up renewable-electricity generated by Small Power Projects (SPPs).	Energy & Extractives	IDA	Program-for-Results	200	CIF, 25	225	21-Jun-16		
<a href="#">Liberia Renewable Energy Access Project (P149683)</a>	Liberia / AFR	To increase access to electricity and to foster the use of renewable energy sources.	Energy & Extractives, Climate Change, Fragile, Conflict & Violence, Gender	IDA	Investment Project Financing	2	Strategic Climate Fund Grant, 25	27	11-Jan-16		

<a href="#">Electricity Access Expansion Project (P153743)</a>	Niger / AFR	To increase access to electricity.	Energy & Extractives	IDA	Investment Project Financing	65	-	65	16-Dec-15	AFREA II - Niger Electricity Access Expansion (USD 445,00)	Supported the preparation of the operation (expansion of electrification in seven cities in Niger) by providing: Economic and Financial assessment, Analysis of average cost of electricity, Capacity building of Ministry & Nigelec to set & review tariffs, Institutional Options Study on a Regulator, Assessment of the supply options for the short and medium term, and Technical preparation of investment program in selected sites.  In addition, the Agence Francaise de Developpement (AFD) has also approved a USD 80 million credit to finance the expansion program in Niger.
<a href="#">Power Sector Financial Recovery Program (P157571)</a>	Armenia / ECA	To support the Borrower's efforts to ensure adequate and reliable electricity supply through improvement of the financial standing of the state-owned power generation companies and the private power distribution company.	Energy & Extractives	IBRD	Program-for-Results	30	Borrower: MINISTRY OF FINANCE OF THE REPUBLIC OF ARMENIA 0.5  Private sector: 10	40.5	27-Apr-16	Armenia Financial recovery of the power sector (USD 60,000)	Supported the preparation of the operation by providing: Financial recovery plan (recommendations for improving financial standing of the power sector) and Detailed financial report.
<a href="#">Municipal Energy Efficiency Project (P149872)</a>	Mexico / LCR	To promote the efficient use of energy in the Borrower's municipalities by carrying out energy efficiency investments in selected municipal sectors and contribute to strengthening the enabling environment.	Energy & Extractives, Climate Change	IBRD	Investment Project Financing	100	Borrower: MINISTRY OF FINANCE (SHCP) 56	156	8-Mar-16	International Conference On Energy Efficiency In Cities (USD 200,000); Mexico Municipal EE Project (USD 150,000)	Supported the development and elaboration of program, policies and actions to scale up urban energy efficiency.
<b>Total</b>						<b>1,314</b>	<b>370</b>	<b>1,684</b>			

## Disclaimers:

- Total project cost includes funding from World Bank and non-bank sources in US\$ millions. Active and Closed projects show commitment at Board approval. It does not reflect any cancellations.
- Borrower refers to the Borrower of a Loan or Recipient of a Grant.

**Table 11. Examples of Policy/Strategy Informed, Achieved ESMAP Outcomes, FY16**

Associated ESMAP Activity	Country Region	Policy / Strategy-Related Outcome
<b>GOVERNMENT POLICY / STRATEGY INFORMED &amp; BANK COUNTRY/SECTOR STRATEGY INFORMED / INFLUENCED</b>		
Scaling Up Energy Efficiency and DSM Business Line in South Asia	SAR	Through support from ESMAP, the government of Bangladesh was provided with studies on Waste Heat Utilization programs and M&V strategy for energy efficiency, which will feed into the development of the Industrial EE program design. Further, the Centre for Energy Efficiency Data Repository (CEEDR) is now functional and is being used to collect Energy Performance Indicators for participating industrial units that could be used by SREDA to formulate industrial energy efficiency policies. The activity also helped in the CAS/CPS of several countries in the region, as for example by including to include more EE activities under the India CPS.
Energy Efficiency Action Plan	West Bank and Gaza MNA	In collaboration with France's Agence Française de Développement (AFD), supported the Energy Efficiency Action Plan that identifies priority energy efficiency actions to be implemented between 2020 and 2030. Specifically, ESMAP supported the identification of energy efficiency gains and the design of an ambitious action plan to reduce total consumption of electricity by five percent (500 GWh/year). A complementary study, co-financed by ESMAP and Norway's Ministry of Foreign Affairs, is underway, aiming to determine the optimal power generation portfolio and associated investment strategy to ensure energy security for West Bank and Gaza. Targeted at policymakers, the work is expected to produce an investment plan to build a resilient energy system in a context of high uncertainty.
<b>PUBLIC DEBATE STIMULATED / INITIATED &amp; CONTRIBUTED TO STAKEHOLDER INVOLVEMENT</b>		
Moving Forward Energy Tariffs Reforms	Ukraine ECA	ESMAP provided analysis of recent, ongoing and considered energy tariff and social assistance mechanisms reforms and their impact (poverty, social and fiscal). The analysis has been continuously shared with the Government, including higher level, distributed through two workshops as well as shared with the local journalists during trainings for journalists. Additionally, a nation-wide public information campaign incorporated specific messages on the rationale for energy tariff reforms; public better informed on energy tariffs reforms as assessed by qualitative analysis. Increased media coverage of energy tariffs reforms and mitigation measures. The analysis has been shared with the local journalists during trainings for journalists.

**Table 12. Examples of Capacity Increased, Achieved ESMAP Outcomes, FY16**

Associated ESMAP Activity	Country Region	Capacity-Related Outcome
Support to Energy Services Access	Mali AFR	ESMAP helped improving capacity of the rural electrification agency (AMADER) to (i) design incentive mechanisms for distribution of solar lanterns/equipment has been improved; and (ii) development of IT tools needed both for the verification and monitoring of a Result Based Financing activity.
Municipal Energy Efficiency Promotion	Macedonia ECA	The activity provided two free tools (TRACE and RETScreen), both available either in local languages (RETScreen) or with local language e-learning (TRACE), which have provided a methodology for developing Energy Efficiency Plans and prefeasibility studies. This has been accompanied by a guidance note (which walks municipalities through the steps needed, data collection, baseline development, sector prioritization, analysis of measures, etc.), model documents, training materials and case studies. Training was provided to the Energy Agency on how to use these tools to assist municipalities to develop such documents and training to almost 500 municipal staff.

**Table 13. Examples of Knowledge Increased, Achieved ESMAP Outcomes, FY16**

Associated ESMAP Activity	Country Region	Knowledge-Related Outcome
Piloting Multi-Tier Energy Access Metric	Global	The analytical methodology and survey instruments developed under the activity, including the broader Multi-tier framework approach for measuring energy access have been widely disseminated across the energy practice at the World Bank as well as with other agencies/programs such as KfW, GIZ, WHO, UNDP, AfDB, ADB, CIF (SREP countries) etc. Knowledge has been disseminated through webinars, sharing of questionnaire with project teams, and presentations at the SE4ALL forums.

**Table 14. Examples of Innovative Approach Generated, Achieved ESMAP Outcomes, FY16**

Associated ESMAP Activity	Country Region	Innovative Approach Outcome
India: State-Level Dissemination of India Power Sector Review	India SAR	In India, ESMAP has helped Rajasthan to look into a development policy loan with a reform matrix, while Andhra Pradesh will look into an investment loan. The use of a two tranche DPL is an innovative approach to dealing with Rajasthan's specific circumstances which involve the need to refinance commercial debt and a large revenue gap which has led to prolonged deficit financing.

## 4 | Looking Ahead

In FY17 (June 2016 – July 2017), as ESMAP embarks on its new business plan covering FY17-20, there is an opportunity to enhance the ESMAP Annual Portfolio Review (APR) process towards providing better assessments of ESMAP's performance for the Consultative Group, the Technical Advisory Group and other stakeholders.

Currently, the APR is comprised of three elements: (i) a desk review of key project documents covering the activity cycle from identification and approval through completion and dissemination; (ii) an ex-ante assessment of outcomes in line with the ESMAP M&E framework; and (iii) triangulation of the findings with inputs and feedback from task team leaders (TTLs) and the information and data available internally and externally.

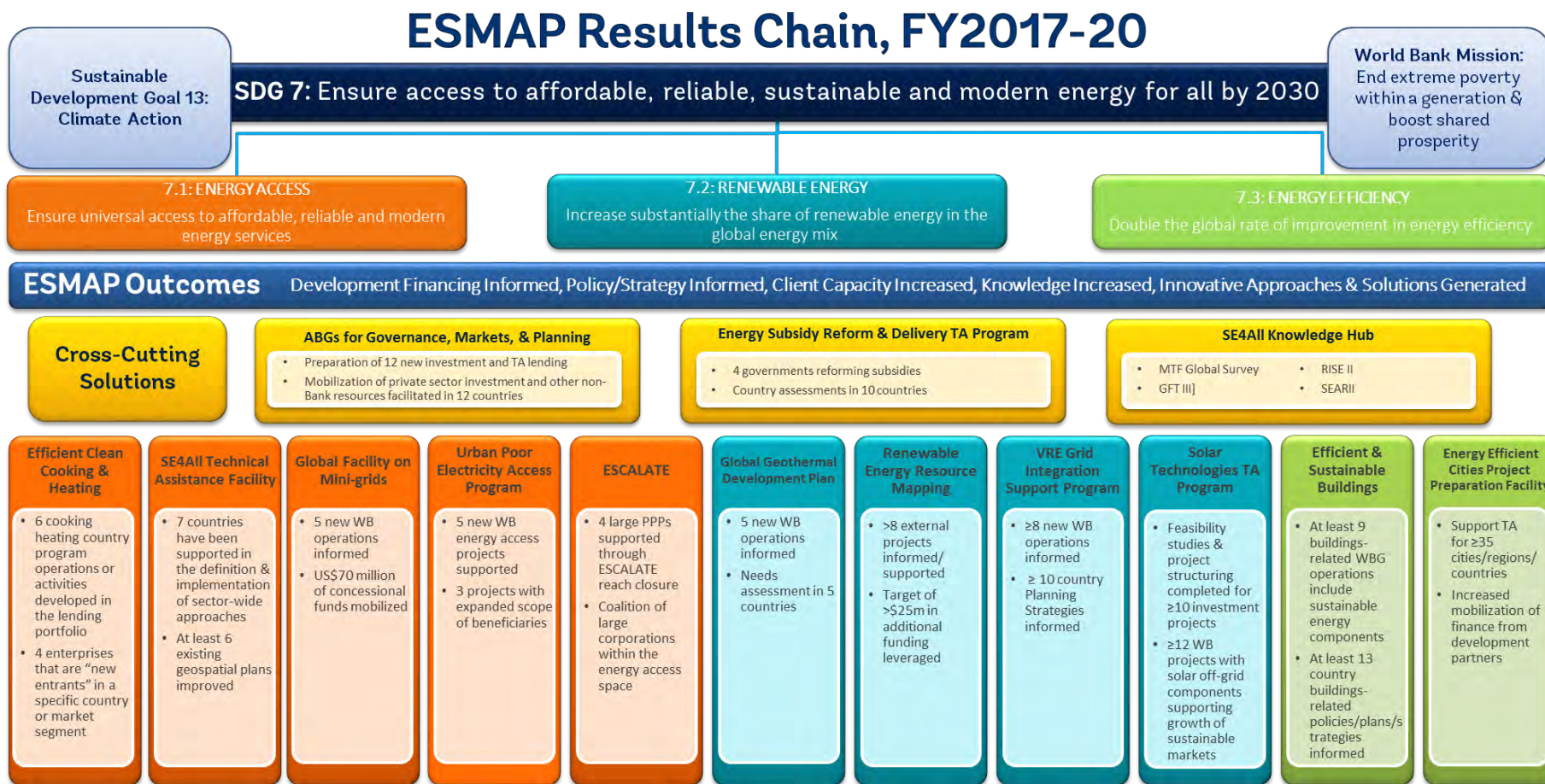
While the APR provides statistical descriptions of portfolio status, including outputs, across different dimensions of ESMAP's operations, it does not provide any assessment of how activities supported by ESMAP have impacted WBG operations and assisted clients. Lacking such analysis, the APR does not provide any guidance in terms of "lessons learned" that is normally a significant facet of organizational portfolio reviews.

One of the considerations in enhancing the APR is not to create undue and onerous reporting requirements on WBG task teams, but to count on new online monitoring tools that are under development by ESMAP, as well as at the WBG corporate-level. These include, for example the Development Partners Centre (web-based platform where development partners are able to access information on external funds (TFs) and IDA) and the new ESMAP M&E Platform that will include portfolio and financial information and will be available to ESMAP Donors. Other WB corporate systems (e.g. GRM and GFR tools are being merged into the Operations Portal) are also evolving towards a seamless integration of trust funds with the rest of the institution.

A possible element that could be added to the current APR process is a deeper assessment of all ESMAP-funded Technical Assistance (TA) activities that have completed implementation in the fiscal year that is under review. The monitoring/completion reports of such TAs could be assessed in clusters of ESMAP program areas by Bank-wide teams comprised of ESMAP staff, regional coordinators, and task teams to identify "what worked" and "what did not work" to identify whether and how the TAs were instrumental in influencing WBG lending activities and clients. Such assessment could provide a growing collection of "lessons learned" that could not only provide the TAG and CG with guidance for future policy directions, but also provide operational "knowledge" for teams designing and implementing operations.

During the next few months, leading up to the initiation of the FY17 APR in July 2017, ESMAP will consult with its various stakeholders, including the CG and TAG, to enhance the "state of the portfolio performance" contents in the APR, exploring some of the options identified above, but also keeping options open for other appropriate elements that may be suggested by stakeholders.

Figure 30. ESMAP Results Framework, FY17-20



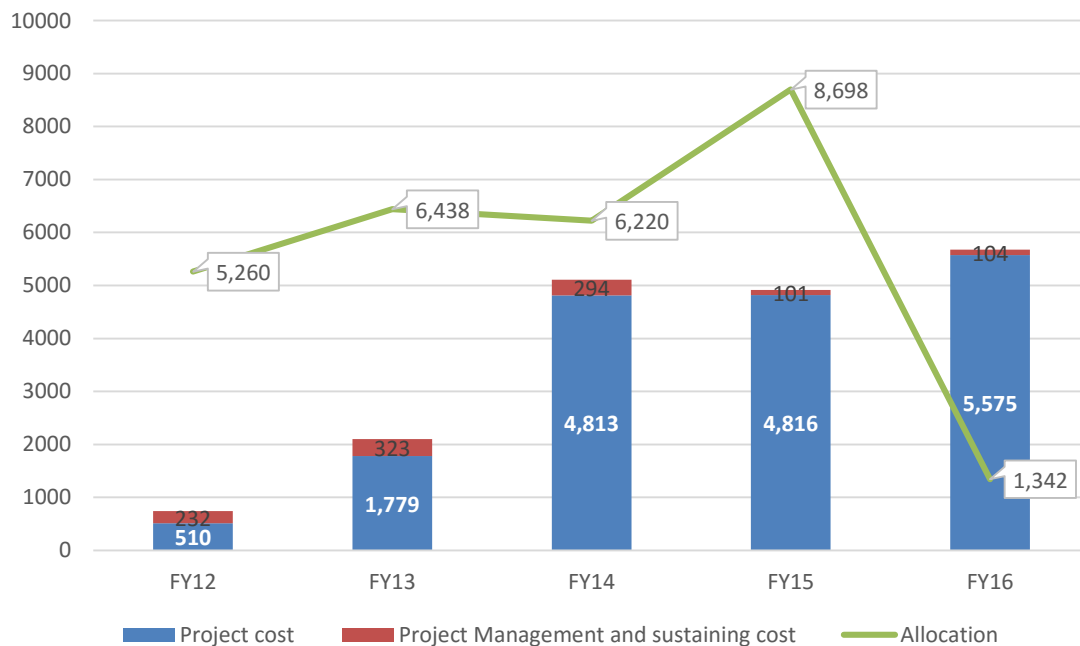
## 5 | Asia Sustainable and Alternative Energy (ASTAE)

The Asia Sustainable and Alternative Energy Program (ASTAE) is a global partnership created in 1992 to scale up the use of sustainable energy in the Asia-Pacific region in order to reduce energy poverty and protect the environment. ASTAE’s activities support countries in the fields of renewable energy, energy efficiency, and access to energy, as well as adaptation and mitigation to climate change.

ASTAE programs help design, implement, monitor and evaluate World Bank investment projects and provide technical assistance in 21 East Asia and Pacific (EAP) and South Asia (SAR) countries. ASTAE’s depth of knowledge and flexible funding helps accelerate and intensify early-stage energy sector innovations. This timely assistance—whether to conduct a study, hire a consultant, or test a promising “first of its kind” concept—can inform the direction of a World Bank investment project or help alter its course in the case of rapidly evolving conditions during the implementation phase. To better support World Bank investment projects and enable private sector investment, ASTAE also shares best practices to improve institutional, policy, financial, legal, and regulatory frameworks across the region.

During FY2012-16, a total of \$28 million was allocated to all ASTAE-funded activities, including completed activities.

**Figure 31 ASTAE Disbursements and Allocation, by FY, (\$ thousands), FY12-16**

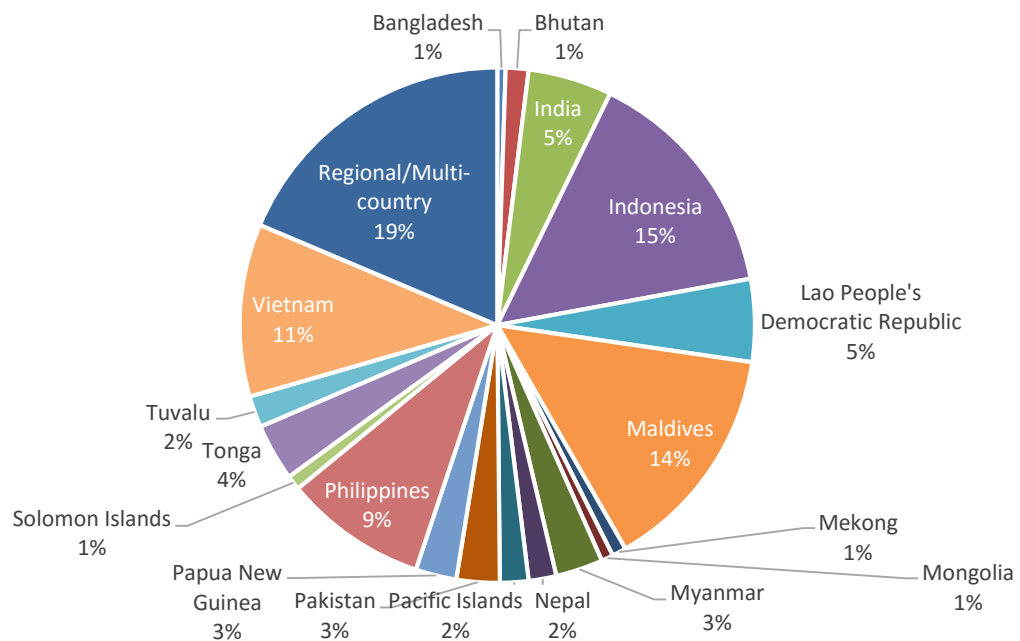




**Table 15 ASTAE New, Completed, & Ongoing activities, FY12-16**

	FY12	FY13	FY14	FY15	FY16
New	12	14	19	9	8
Completed	1	0	8	11	37
Ongoing	0	12	20	28	23
Total Activities	13	26	47	48	68
Activities included IDA countries	10	19	34	35	37
Activities included IDA Countries within Total Activities (%)	77%	73%	72%	73%	54%

**Figure 32 Share of ASTAE Allocation, by Country (%), FY12-16**



**Table 16 ASTAE Flagship Publications**

COUNTRY/ REGION	TITLE
<b>Bhutan</b>	Managing and Environmental and Social Impacts of Hydropower in Bhutan ASTAE co-financed
<b>Bangladesh</b>	Bangladesh SE4ALL: Clean Energy Business Environment Report
<b>Mongolia</b>	Heating in Poor, Peri-urban Ger Areas of Ulaanbaatar
<b>Nepal</b>	Nepal: Scaling up Electricity Access through Mini and Micro Hydropower Applications
<b>Nepal</b>	The Fiscal Impact of Long-Term Financing Options for Nepalese Hydropower: Management of Foreign Exchange Risk
<b>Pakistan</b>	Electricity Access in Pakistan, Methodological Report
<b>Pakistan</b>	Demand for Renewable Energy Generation in Pakistan
<b>Regional</b>	South-Asia – Programmatic Approach to impacts of climate risks on water, hydropower and dams
<b>Vietnam</b>	Energizing Green Cities in Southeast Asia: Application of Sustainable Urban Energy and Emissions Planning in Vietnam. Paper # C1-301, 2016. International Council on Large Electric Systems (CIGRE). Co-authors: Dejan R. Ostojic and Ranjan K. Bose, World Bank Presented at a global knowledge sharing event organized by CIGRE in Paris from August 21-26, 2016. For further details, visit - <a href="http://www.cigre.org">www.cigre.org</a>

## ASTAE Results

The ASTAE business plan was scheduled to close in FY16 but has been extended to FY17. In FY2016, ASTAE started eight new activities—4 in EAP and 4 in SAR—totalling \$1.4 million in seven countries and one regional activity.

ASTAE Result Framework consists in five indicators that track the impacts of ASTAE-supported activities on advancing the development of sustainable energy with the Bank and its clients. Three indicators are related specifically to the renewable energy, energy efficiency, and access to modern energy services pillars; two indicators cross all pillars. ASTAE pledges to influence World Bank loans and sets specific targets for its indicators by the end of each business plan period (table). Progress is measured yearly, noting that it can be uneven from one year to another depending on the schedule of approval of World Bank loans.

With the approval of eight ASTAE-supported Bank projects totalling \$1.05 billion in FY16, the value of ASTAE-supported projects approved by the World Bank’s Board of Executive Directors since the beginning of the current FY2012-17 Business Plan totals \$6.3 billion, double the pledged amount under the original business plan.

### **Indicator 1 | Total World Bank Lending Catalyzed by ASTAE Activities**

By providing advisory services and technical assistance, ASTAE informs the preparation, execution and evaluation of major World Bank energy projects. Eight ASTAE-supported projects were approved in FY2016 by the World Bank’s Board for a total of \$3,857 million.

**Table 17 ASTAE-Supported IDA/IBRD/GEF Projects Approved by the World Bank’s Board in FY2016**

Country	Project Title	USD million
Philippines	Philippines Renewable Energy Development (P147646)	560
Nepal	Nepal: Power Sector Reform and Sustainable Hydropower Development (P150066)	24
Myanmar	National Electrification Project (P152936)	567
Afghanistan	Afghanistan Power System Development Project Additional Financing (P152975)	15
Philippines	Access to Sustainable Energy Project (P153268)	23.24
China	Hebei Air Pollution Prevention and Control Program (P154672)	968
Indonesia	Power Distribution Development Program-for-Results (P154805)	1450
India	First Programmatic Electricity Distribution Reform Development Policy Loan for Rajasthan (P157224)	250
Total		3,857.24

**Indicator 2 | New Capacity and Increased Generation of Renewable Electricity.**

*Renewable Energy indicators have been reached, both in terms of support to new MW installed and increase of annual generation from renewable sources. Projects in Nepal, Indonesia and Vietnam provided most of the progress.*

**Table 18 ASTAE Renewable Electricity Capacity Added, by Country (FY2012–16)**

	Capacity (MW)	Title of the World Bank Project (weblink in the title)	Generation (GWh)	Title of the World Bank Project (weblink in the title)
Bangladesh	61	<a href="#">Rural Electrification and Renewable Energy Development II (RERED II) Project and Additional Financing (P131263, P150001)</a>	-	
China	-		370	<a href="#">China Renewable Energy Scale-Up Program Phase II (P127033)</a>
Indonesia	1,040	<a href="#">Upper Cisokan Pumped Storage Hydro-Electrical Power (1040 MW) Project (P112158)</a>	1,208	<a href="#">Geothermal Clean Energy Investment Project (P113078)</a>
Maldives	20	<a href="#">Accelerating Sustainable Private Investment in Renewable Energy (ASPIRE) Project: Maldives (P145482)</a>	37	<a href="#">Accelerating Sustainable Private Investment in Renewable Energy (ASPIRE) Project: Maldives (P145482)</a>
Myanmar	27	<a href="#">National Electrification Project (P152936)</a>		
Nepal	207	<a href="#">Kali Gandaki A Hydropower Plant Rehabilitation Project (KGAHPRP) (P132289)</a> <a href="#">Kabeli-A Hydro Electric Project (P122406)</a> <a href="#">Nepal: Grid Solar and Energy Efficiency (P146344)</a>	237	<a href="#">Kabeli-A Hydro Electric Project (P122406)</a> <a href="#">Nepal: Grid Solar and Energy Efficiency (P146344)</a>
Philippines	86	<a href="#">Access to Sustainable Energy Project (P153268)</a> <a href="#">Philippines Renewable Energy Development (P147646)</a>	344	<a href="#">Philippines Renewable Energy Development (P147646)</a>
Vietnam	43	<a href="#">Trung Son Hydropower Project (P084773)</a>	1,019	<a href="#">Trung Son Hydropower Project (P084773)</a>
Tuvalu	1	<a href="#">Energy Sector Development Project (P144573)</a>	2	<a href="#">Energy Sector Development Project (P144573)</a>
<b>TOTAL</b>	<b>1,484 MW</b>		<b>3,212 GWh</b>	

**Indicator 3 | Electricity Savings Resulting from Efficiency Improvements.**

Energy Efficiency indicators are higher than expected in terms of energy saved but remain below the expected progress in terms of capacity avoided. This is partly because many projects do not measure that capacity avoidance factor, especially in distribution and transmission losses projects. The strongest progress is related to the access to modern energy services with five Access-related projects going to Board in FY16. This includes catch-up electrification programs such as in Myanmar (1.2 million households) or in the India state of Rajasthan (2.5 million connections) as well as last mile electrification in Indonesia and the Philippines (1 million total). The progress on Clean Cooking remains below expected levels despite the 0.8 million stoves project in China stemming from the Clean Stove Initiative (box), thereby illustrating the complexity of this sub-sector.

**Table 19 ASTAE Cumulative Electricity Savings, by Country (FY2012–16)**

	Capacity (MW equivalent saved)	Title of the World Bank Project (weblink in the title)	Generation (GWh saved)	Title of the World Bank Project (weblink in the title)
Bangladesh	0.02	<a href="#">Rural Electrification and Renewable Energy Development II (RERED II) Project and Additional Financing</a> (P131263, P150001)	0.16	<a href="#">Rural Electrification and Renewable Energy Development II (RERED II) Project and Additional Financing</a> (P131263, P150001)
China	-		0.0062	<a href="#">Energy Efficiency Financing III Project</a> (P123239) <a href="#">Green Energy Schemes for Low-carbon City in Shanghai</a> (P127034)
Pakistan	350	<a href="#">Natural Gas Efficiency Project</a> (P120589)	2,820	<a href="#">Natural Gas Efficiency Project</a> (P120589)
Philippines	25	<a href="#">Philippines Renewable Energy Development</a> (P147646)	162	<a href="#">Philippines Renewable Energy Development</a> (P147646)
Tuvalu	0.985	<a href="#">Energy Sector Development Project</a> (P144573)	0.12	<a href="#">Energy Sector Development Project</a> (P144573)
Vietnam	0.966	<a href="#">Transmission Efficiency Project (TEP)</a> (P131558)	7.79	<a href="#">Transmission Efficiency Project (TEP)</a> (P131558)
<b>Total</b>	<b>376</b>		<b>2,991</b>	

**Indicator 4 | Households with Access to Modern Energy Services.**

This indicator reflects ASTAE’s success in extending access to modern energy services by measuring the number of households reached. The indicator comprises three sub-indicators: (i) the number of households receiving new access to electricity, (ii) the number of households receiving improved electricity, and (iii) the number of households receiving improved access to efficient stoves for heating and cooking.

**Table 20 ASTAE Households with Access to Modern Energy Services (FY2012-16)**

	New electricity access	Title of the World Bank Project (weblink in the title)	Improved electricity access	Title of the World Bank Project (weblink in the title)	Improved cooking and heating access	Title of the World Bank Project (weblink in the title)
Afghanistan	18,000	<a href="#">Afghanistan Power System Development Project Additional Financing</a> (P152975)				
Bangladesh	558,000	<a href="#">Rural Electrification and Renewable Energy Development II (RERED II) Project and Additional Financing</a> (P131263, P150001)	-		1,020,000	<a href="#">Rural Electrification and Renewable Energy Development II (RERED II) Project and Additional Financing</a> (P131263, P150001)
China					800,000	<a href="#">Hebei Air Pollution Prevention and Control Program</a> (P154672)
India	2,550,000	<a href="#">First Programmatic Electricity Distribution Reform Development Policy Loan for Rajasthan</a> (P157224)				

Indonesia	390,000	<a href="#">Power Distribution Development Program-for-Results (P154805)</a>				
Maldives	-		150,000	<a href="#">Accelerating Sustainable Private Investment in Renewable Energy (ASPIRE) Project: Maldives (P145482)</a>	-	
Myanmar	1,242,000	<a href="#">National Electrification Project (P152936)</a>				
Mongolia	-		-		175,000	<a href="#">Ulaanbaatar Clean Air Project (P122320)</a>
Nepal			163,000	<a href="#">Kabeli-A Hydro Electric Project (P122406)</a>		
Philippines	602,500	<a href="#">Access to Sustainable Energy Project (P153268)</a> <a href="#">Philippines Renewable Energy Development (P147646)</a>				
<b>Total</b>	<b>5,360,500</b>		<b>313,000</b>		<b>1,995,000</b>	

**Indicator 5 | Avoided Greenhouse Gas Emissions.** This indicator estimates the quantity of CO2 emissions that would be avoided over 20 years (the conventional lifespan of projects or equipment) through ASTAE-supported World Bank projects. It determines the CO2 equivalent saved directly and indirectly through the replacement of conventional thermal power plants with renewable energy and realizing the potential energy savings.

The CO2 emissions reductions expected from the ASTAE-supported projects are also significant at twice the initially targeted amounts.

**Table 21 ASTAE CO2 Mitigated, by Country, (FY2012–2016)**

Countries with ASTAE Activity that May Reduce GHG	CO <sub>2</sub> Mitigated	Title of the World Bank Project (weblink in the title)
	(million tons over 20 years)	
China	110.1	<a href="#">China Renewable Energy Scale-Up Program Phase II</a> (P127033) <a href="#">Energy Efficiency Financing III Project</a> (P123239) <a href="#">Green Energy Schemes for Low-carbon City in Shanghai</a> (P127034)
India	14.7	First Programmatic Electricity Distribution Reform Development Policy Loan for Rajasthan (P157224)
Maldives	0.5	<a href="#">Accelerating Sustainable Private Investment in Renewable Energy (ASPIRE) Project: Maldives</a> (P145482)
Myanmar	7.1	National Electrification Project (P152936)
Pakistan	240.0	<a href="#">Natural Gas Efficiency Project</a> (P120589)
Philippines	10.4	<a href="#">Philippines Renewable Energy Development</a> (P147646)
Vietnam	25.6	<a href="#">Clean Production &amp; Energy Efficiency Project</a> (P116846) <a href="#">Trung Son Hydropower Project</a> (P084773) <a href="#">Transmission Efficiency Project (TEP)</a> (P131558)
Nepal	2.8	<a href="#">Kabeli-A Hydro Electric Project</a> (P122406) <a href="#">Nepal: Grid Solar and Energy Efficiency</a> (P146344)
Tuvalu	0.02	<a href="#">Energy Sector Development Project</a> (P144573)
<b>Total</b>	<b>411.2</b>	



**Indicator 6 | Countries Benefiting from ASTAE Support.** This indicator ensures that ASTAE resources are used in a balanced manner across all ASTAE countries, providing equal funding opportunities to large countries and to smaller countries. ASTAE financed activities in 21 countries, which exceeded the target of 15 countries for the current ASTAE Business Plan, with 6 countries in SAR and 16 in EAP. This difference between EAP and SAR reflects the fact that EAP has more countries than SAR.

**Table 22 ASTAE Summary of Progress towards the FY2012-16 Business Plan Targets**

Direct Indicators	Unit	Value Pledged	Value Achieved FY12-15	Value Achieved FY16	Value Achieved FY12-16	Progress (percent)
<b>1. Total World Bank lending catalyzed by ASTAE activities</b>						
Project and program lending	million US\$	3,200	5,232	1,050	6,282	194%
<b>2. New capacity and increased generation of renewable electricity</b>						
Renewable energy, capacity	MW	1,500	1,372	112	1,484	99%
Renewable energy, generation	GWh/year	3,000	2,868	344	3,212	107%
<b>3. Electricity savings resulting from efficiency improvements</b>						
Energy savings, capacity	MW equivalent	1,000	351	25	376	38%
Energy savings, generation	GWh/year	2,000	2,8209	162	2,991	150%
<b>4. Households with access to modern energy services</b>						
Access to electricity (new)	households	2,000,000	558,000	4,802,500	5,360,500	268%
Access to electricity (improved)	households	1,000,000	313,000	-	313,000	31%
Improved stoves for heating (cooking and space)	households	5,000,000	1,195,000	800,000	1,995,000	40%
<b>5. Avoided greenhouse gas emissions</b>						
Direct CO <sub>2</sub> avoided over 20 years	million tons	200	379	32	411	205%
<b>6. Countries benefiting from ASTAE support</b>						
Number of countries	Countries	15	21	21	21	140%

## Annex 1 | Methodology and Data Sources

This Portfolio Review takes stock of financial information, results and outcomes of ESMAP (including SIDS Dock) and ASTAE activities approved and implemented in FY16 (July 2015 – June 2016). It also provide an overview, both in terms of results as well as financial figures, of the FY14-16 ESMAP Business Plan.

For data collection and analysis the following approach was used:

**Step 1 | Research and Data Collection.** First, an inventory was undertaken of ESMAP and ASTAE activities that were implemented in FY16, with a view to developing a picture of activities that took place during the FY, including activities' status (in particular completed activities), theme, country/regional location, allocation (and other financial information), outputs, and outcomes. For this purpose, ESMAP conducted a desk review of key project documentation from identification and approval until completion and dissemination. The following key documents were reviewed:

- Proposal Summary Form (PSF)
- Project Concept Document (PCN)
- Grant Funding Request (GFR)
- Activity Initiation Summary (AIS) / Activity Completion Summary (ACS)
- Activity Outputs (sector assessments, studies, best practice toolkits dissemination seminars and workshops, training, and other forms of advisory and analytical assistance)
- Grant Reporting Monitoring (GRM)

These documents were accessed through World Bank information systems and selected databases, including SAP, WBDocs, Operations Portal, Image Bank, Trust Funds systems, and ESMAP M&E portal and website.

**Step 2 | Outputs and Outcomes Achieved.** The assessment then focused on an analysis of completed activities—those that achieved outputs and outcomes during the FY—collecting information on the World Bank lending portfolio and operations informed by ESMAP, as well as regulatory, policy, and institutional reforms, knowledge and capacity building of clients supported by ESMAP.

The five high-level outcomes, as per the results framework defined by OPCS for analytical and advisory services are:

- (i) Development Finance Informed;
- (ii) Policy / Strategy Informed;
- (iii) Client Capacity Increased;
- (iv) Knowledge Increased; and
- (v) Innovative Approaches & Solutions Generated.

The achievement of each outcome for each completed activity is assessed and measured based on a set of indicators developed early in the project process (usually at the PSF/PCN stage, when TTLs define the scope and expected results of an activity).

**Step 3 | Triangulation.** Finally, the findings of the desk review were triangulated with information from other sources, including direct feedback from the Task Team Leaders (TTLs) of the activities, ESMAP Team Leaders, ESMAP Regional Coordinators, and key documents (e.g. Project Appraisal

Documents for lending operations informed by ESMAP, and Activity Completion Summary for advisory services and analytics).

Key considerations and Limitations of this Portfolio Review include:

- For the purpose of this review, primarily completed activities under each of the portfolios were considered. A substantial portion of activities are still ongoing, and it would be premature to assess their outcomes. It should be noted that, in some particular cases, certain ongoing activities have already started to demonstrate results.
- The review assessed ESMAP's influence and informing role, direct and indirect, on the WBG's lending operations and strategy on the energy sector. In most cases, although there is evidence of ESMAP activities informing Bank lending operations, it was not possible to segregate the specific loan amount directly linked to an ESMAP project from the full loan amount.
- Influenced investments, lending, or contributions from external partners or donors are listed and included separately as „other financiers”.
- Given the complex set of factors that affect outcomes, attribution to specific ESMAP activities is often difficult. In many cases, a direct link between ESMAP interventions and subsequent downstream activities is more evident.
- No country surveys or visits were undertaken for any of the activities evaluated. Research and analysis were conducted solely based on the sources of information available in WBG systems.
- The assessment focuses only on tracking the results and outcomes directly influenced by ESMAP activities. Since ESMAP activities also have substantial indirect impacts, the results and outcomes compiled in this report are likely to under-report the overall influence of ESMAP activities. Also, given the upstream nature of these activities, the report does not cover impact assessment considering the longer time frame required for its proper tracking and measurement.

## Annex 2 | Glossary

**Activity:** Refers to the individual and specific project implemented under an ESMAP initiative or program.

**Activity Completion Summary (ACS):** An ACS is required for all ASA tasks, regardless of activity cost. The ACS is completed and submitted for approval in the Operations Portal and consists of two parts: (1) rating each result indicator selected in the Activity Initiation Summary (AIS) that specifies the outcome of a development objective; and (2) summarizing major conclusions/recommendations resulting from the task.

**Activity Initiation Summary (AIS):** The AIS is an agreement to deliver a project or product at an agreed-upon cost and time frame. It identifies such data elements as country, sectors, themes, financing costs and sources.

**Advisory Services and Analytics (ASA):** Advisory Services and Analytics (ASA) are discrete and programmatic non-lending activities of the World Bank that help its external clients or audiences to attain a specific development objective. ASA can either be stand-alone activities or a complement to lending programs. They typically aim to help clients adopt better policies, implement reforms, strengthen institutions, build capacity and inform development operations.

**Allocation:** Amount allocated to the grants (i.e. actual fund transfer), as monitored in the WB's Systems, Applications, and Products (SAP) - business-application software that supports many of the World Bank's core administrative processes.

**Annual Block Grants (ABGs):** Allocation of funds made every fiscal year by ESMAP to each of the Bank's Regions for the execution of analytical and advisory activities. ESMAP ABGs are an integral part of regional work programs with allocation managed by the regions' energy sector managers. ABGs are demand driven with no ex-ante thematic allocations. ESMAP's business model allows for quick review and approval of proposals, as well as flexibility in activity adjustment during the fiscal year (changing circumstances and client requests) and for reallocation of funds within region. The ABG allocations are determined following factors weighted equally: Region's energy lending volume, Disbursement of region's ABG funds, Contribution of Bank budget to ABG activities, World Bank lending informed by region's ABG activities, Regional portfolio performance.

**Baseline Value:** An initial reference point against which progress can be assessed or comparisons made. Baseline values are identified at the Grant Funding Request (GFR) stage for every ESMAP activity.

**Client:** From ESMAP's perspective, refers to World Bank client countries (IBRD and IDA) represented through their governments, agencies, and target population.

**Disbursement Rate:** Ratio between the grant disbursed amount and the grant allocation amount for an activity under implementation.

**Emergency Recovery Loan (ERL):** support the restoration of assets and production levels immediately after an extraordinary event, such as war, civil disturbance, or natural disaster seriously disrupting a borrower's economy. An ERL takes into account the Country Assistance Strategy and sectoral development strategies.

**Grant Fund Request (GFR):** tool for Task Teams and Trust Fund Program Managers to process requests and approvals of new Grants (Child Trust Funds) administered by the Bank. The GFR automates the creation of a grant account (child trust fund) and the funds allocation for disbursement. Information captured at the initial Grant Proposal stage will be carried all the way through the Grant approval and activation process, and to the monitoring and reporting stage.

**Grant Reporting and Monitoring (GRM):** simplified tool for Task Team Leaders (TTL) to provide qualitative reports on the progress and results of grant-financed activities.

**High-level Impact:** The ultimate, global result to which a project is contributing—the impact of the project whether positive and negative, primary and secondary, long-term effects produced by a development intervention, directly or indirectly, intended or unintended. According to ESMAP's FY14-16 logframe, there are three high-level (global) impacts: (i) poverty alleviation; (ii) economic development; and (iii) climate change mitigation. ESMAP attribution for high-level impacts is very low.

**High-level Outcome:** The outcome level immediately higher to ESMAP low-level outcomes. According to ESMAP's FY14-16 logframe, high-level impacts (and their targets) are directly associated with the goals of SE4ALL, namely: (i) universal energy access (electricity and modern cooking fuels); (ii) renewable energy share in global energy mix; and (iii) global rate of improvement in energy efficiency. ESMAP attribution under high-level outcomes is low. *The Global Tracking Framework, co-authored by the World Bank, ESMAP, and the International Energy Agency (IEA), in partnership with 13 other agencies, monitors progress towards these three goals of the SE4ALL initiative.*

**Implementation Completion and Results reports (ICRs):** they are an integral part of the World Bank's drive to increase development effectiveness, through a continuous process of self-evaluation, lesson learning and application, sharing of knowledge, and being accountable for results. The lessons learned from ICRs improve the quality and effectiveness of Bank loans/credits, especially for follow-on operations, while borrower/stakeholder participation in the ICR process enhances later designs, preparation, and implementation.

**Implementation Rate:** Ratio between the grant disbursed plus grant committed amounts, and the grant allocation for an activity under implementation.

**Implementation Status and Results (ISR) report:** A key internal reporting tool for monitoring the progress of project implementation. Since it provides ratings on project implementation performance and likelihood of achieving objectives, the ISR functions as a management tool to communicate critical and action-oriented information about the Bank's portfolio.

**Indicator:** Quantitative or qualitative factor or variable that provides a simple and reliable means to measure achievement of an outcome. Each outcome has several sets of indicators.

**Input:** Resources required for conducting and delivering ESMAP work program. From ESMAP's perspective, this refers to: (i) contributions from donors; (ii) WB/ESMAP staff skills and continuity; (iii) ESMAP role in WBG energy practice; and (iv) World Bank operational processes and procedures for Bank-executed and Recipient-executed grants.

**Investment Project Financing (IPF):** aims to promote poverty reduction and sustainable development of member countries by providing financial and related operational support to specific projects that promote broad-based economic growth, contribute to social and environmental sustainability, enhance the effectiveness of the public or private sectors, or otherwise contribute to the overall development of member states.

**Knowledge Product (KP):** KPs are intended for Bank Staff and aim to support operations through production, retention, and dissemination of knowledge, often shared with external audiences, adding value to the product.

**Logframe:** Management tool used to improve the design of interventions, most often at the project level. It involves identifying strategic elements (inputs, outputs, outcomes, impact) and their causal relationships, indicators, and the assumptions or risks that may influence success and failure.

**Low-level Outcome:** Effect or behavior anticipated from each component/output, preferably at the client level. From ESMAP's perspective, low-level outcomes correspond to the ones designed for tracking results under World Bank AAA. ESMAP's attribution for low-level outcomes is medium.

**Managing Unit:** The managing unit identifies the cost centre of the unit managing a project or a trust fund.

**Outcome:** The likely or achieved short-term and medium-term effects of an intervention's outputs; effect or behavior anticipated from each component/outputs, preferably at the client level.

**Output:** Refer to the specific results and tangible products (goods and services) produced by undertaking a series of ESMAP tasks, activities, or program.

**Project Appraisal Document (PAD):** For each investment project proposed for Bank financing, the document that sets forth the World Bank staff's appraisal and assessment of the feasibility of, and justification for, the project.

**Project Concept Note (PCN):** The PCN has the following functions: (i) To examine the strategic rationale for Bank involvement (ii) To seek a go/no-go decision from Country Director and processing track (iii) To obtain early guidance/agreement on issues and approach for project preparation (iv) Confirm the risk category, budget and processing of the operation.

**Project Description:** Provides a narrative summary of what the project intends to achieve and how.

**Program-for-Results (PforR):** links disbursements of funds directly to the delivery of defined results, helping countries improve the design and implementation of their own development programs and achieve lasting results by strengthening institutions and building capacity.

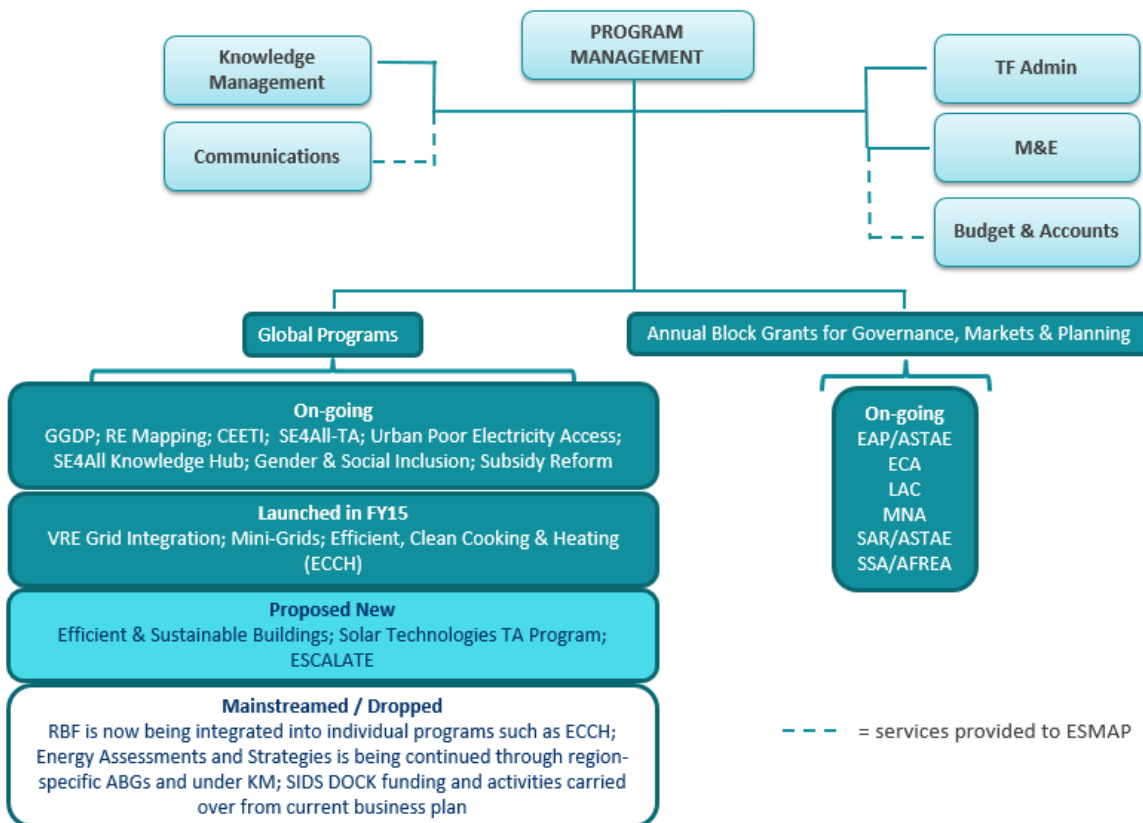
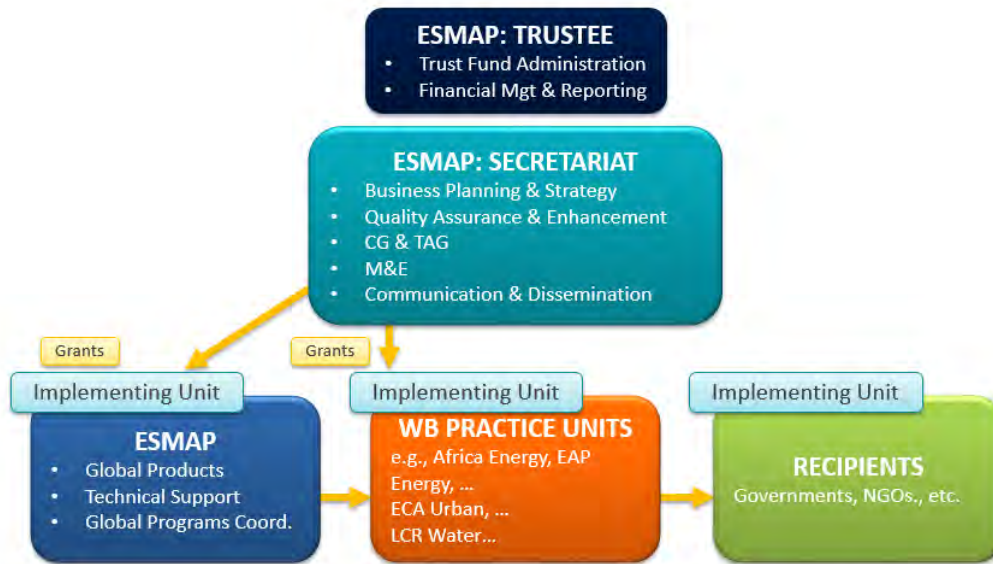
**Results Chain:** The casual sequence for a development intervention that stipulates the necessary sequence to achieve desired objectives beginning with inputs, moving through programs/activities, outputs, and culminating in outcomes, impacts, and feedback.

**Specific Investment Loan (SIL):** support the creation, rehabilitation, and maintenance of economic, social, and institutional infrastructure. In addition, SILs may finance consultant services and management and training programs. SILs help to ensure the technical, financial, economic, environmental, and institutional viability of a specific investment. They also support the reform of policies that affect the productivity of the investment.

**Target Group:** The specific individuals or organizations for whose benefit the development intervention is undertaken.

**Target Value:** The desired and measurable result expected for an indicator at a specific time. Target values are identified at the Grant Funding Request (GFR) stage for every ESMAP activity.

## Annex 3 | ESMAP Structure



## Annex 4 | ESMAP FY16 List of New, Ongoing, Completed Activities

### NEW

Activity	Country	Task Manager	Project ID	TF
<b>AFR</b>				
Botswana Renewable Energy and Energy Efficiency Strategies	Botswana	Joseph Mwelwa Kapika	P155061	TF0A1245
AFREA II: DRC-- Scaling Up Electricity Access	Congo, Democratic Republic of	Alain Ouedraogo	P157240	TF0A1731
Cote d'Ivoire: CI Electricity Access Scale Up Program	Cote d'Ivoire	Sunil W. Mathrani	P155065	TF0A0967
Ethiopia Energy Sector Review and Strategy	Ethiopia	Issa Diaw	P146616	TF0A1745
Exploring the Potential for the Application of Solar Photovoltaic (PV) Pumping Technologies in the Water Supply Sector - Utility Energy Efficiency Business Model	Ghana	Sanyu Sarah Senkatuka Lutalo	P119063	TF0A1521
Kenya: Implementation Roadmap of Energy Bill	Kenya	Sudeshna Ghosh Banerjee	P120014	TF0A2442
Kenya Geothermal Strategy	Kenya	Sudeshna Ghosh Banerjee	P153179	TF0A2274
Liberia Renewable Energy Access Project	Liberia	David Vilar Ferrenbach	P149683	TF0A2153
Madagascar Pump Fuel Price Subsidy Removal TA	Madagascar	Faniry Nantenaina Razafimanantsoa Harivelo	P153084	TF0A1645
Mali Rural Electrification Hybrid System: CEMG initiative	Mali	Manuel Berlengiero	P150382	TF0A2604
Cabo Verde Distributed Solar Energy Systems Project	Cabo Verde	Karen Bazex	P151979	TF0A1811
Dar es Salaam City Water and Sewerage Services Energy Efficiency Review	Tanzania	Yitbarek Tessema	P150361	TF0A1123
Tanzania: Cycle mapping for improved urban mobility	Tanzania	Edward Charles Anderson	P151006	TF0A1678
<b>EAP</b>				
Energy Saving Management Action Plan for Water and Wastewater Utilities in Guilin	China	Sing Cho	P133017	TF0A0894
China Clean Stoves Initiative In Supporting Hebei Pollution Prevention And Control Program	China	Garo J. Batmanian	P154672	TF0A1249
China: Green Logistics for Chinese Municipalities	China	Reda Hamedoun	P132562	TF0A1463
Green Transport ICT	East Asia and Pacific	Holly Krambeck	P149499	TF0A1107
Pre-feasibility study and roadmap for development geothermal power in the Republic of Fiji	Fiji	Kamleshwar Prasad Khelawan	P159698	TF0A2559
Indonesia-Philippines South-South Knowledge Exchange event	Indonesia	Peter Johansen	P112158	TF0A0921
Support to the Integrated Catchment Management (ICM)-informed project preparation of Matenggeng Pumped Storage Hydro-Electrical Project	Indonesia	Peter Johansen	P112158	TF0A2399
Supervision and Preparation of Scale-Up of Indonesia CSI Pilot	Indonesia	Yabei Zhang	P144213	TF0A1707
Lao PDR Cook Stove Initiative	Lao People's Democratic Republic	Somil Nagpal	P151425	TF0A2720
Greater Mekong Sub-Region (GMS) Power Market Development Programmatic TA	Mekong	Dejan R. Ostojic	P151457	TF0A2614
Myanmar Economic Cost of Natural Gas Study	Myanmar	Dejan R. Ostojic	P143988	TF0A1170



<b>Myanmar National Electrification Project: inclusive community participation</b>	Myanmar	Dejan R. Ostojic	P152936	TF0A2542
<b>VRE Grid Integration for Pacific Islands Sustainable Energy Industry Development Project</b>	Pacific Islands	Leopold Sedogo	P152653	TF0A2962
<b>Pacific Islands Sustainable Energy Industry Development Project Implementation Support SIDS DOCK Grant</b>	Pacific Islands	Leopold Sedogo	P152653	TF0A1341
<b>Vietnam: Energy Subsidy Reform Phase 1</b>	Vietnam	Masami Kojima	P157852	TF0A1495
<b>Electricity Vietnam (EVN) – Communications Strategy for Tariff Reform</b>	Vietnam	Mai Thi Hong Bo	P157760	TF0A2145
<b>Electricity Market Simulation Model of Vietnam</b>	Vietnam	Aidan Tendai Padraic Gregan	P147685	TF0A0913
<b>Roadmap for Natural Gas Market Development</b>	Vietnam	Alan F. Townsend	P157552	TF0A1683
<b>Support the MOIT to finalize the design of next phase of the Vietnam National Energy Efficiency Program (VNEEP), period 2016—2020</b>	Vietnam	Ky Hong Tran	P116846	TF0A2465
<b>ECA</b>				
<b>Armenia: Improvement of Power-Tariff Setting and Addressing of Social Impacts of Tariff Increases</b>	Armenia	Nistha Sinha	P160031	TF0A2774
<b>Poverty and Social Impacts of Improving Fiscal Sustainability and Quality of Power Distribution in Azerbaijan</b>	Azerbaijan	Nistha Sinha	P158671	TF0A2185
<b>Belarus: End User Heat Control and Cost Allocation Project</b>	Belarus	Feng Liu	P158862	TF0A1938
<b>Bosnia &amp; Herzegovina Power Sector Note</b>	Bosnia and Herzegovina	Jari Vayrynen	P157714	TF0A2072
<b>Energy Efficiency Financing Option Papers for Kosovo, Turkey and Georgia</b>	Europe and Central Asia	Jasneet Singh	P157135	TF0A1303
<b>Improving Enabling Environment for Small Hydropower in Kyrgyzstan</b>	Kyrgyz Republic	Kathrin Hofer	P157685	TF0A1736
<b>Kyrgyzstan Improving Efficiency of Individual Heating Solutions</b>	Kyrgyz Republic	Kathrin Hofer	P158386	TF0A1830
<b>Moldova Power System Interconnection Analysis</b>	Moldova	Sandu Ghidirim	P159050	TF0A2738
<b>Serbia Natural Gas Sector Analysis</b>	Serbia	Katharina B. Gassner	P159271	TF0A2398
<b>Supporting Energy Subsidy Reform in Southeast Europe</b>	South Eastern Europe and Balkans	Trang Van Nguyen	P158779	TF0A1829
<b>Turkey: Sustainability of Electricity Distribution Companies</b>	Turkey	Kari J. Nyman	P155872	TF0A1099
<b>Ukraine: Advancing Energy Tariff and Subsidy Reforms</b>	Ukraine	Ani Balabanyan	P157758	TF0A1656
<b>Facilitating Electricity and Gas Market Reforms in Ukraine</b>	Ukraine	Ani Balabanyan	P158496	TF0A2267
<b>Ukraine JIT - Advice to the design of EE fund</b>	Ukraine	Feng Liu	P159624	TF0A2466
<b>Uzbekistan: Impact of Energy Subsidies - Way Forward</b>	Uzbekistan	Yadviga Viktorivna Semikolenova	P153801	TF0A0712
<b>Uzbekistan Power Sector Planning Study</b>	Uzbekistan	Samuel Kwesi Ewuah Oguah	P157270	TF0A1604
<b>Towards Energy Efficient Resilient Cities in Uzbekistan</b>	Uzbekistan	Rosanna Nitti	P159268	TF0A2668
<b>LCR</b>				

<b>International Workshop on Deploying New Solar Technologies in Isolated Rural Areas: Supporting their Adoption in the LAC Region</b>	Bolivia	Lucia Spinelli	P127837	TF0A2718
<b>Energy Efficiency and Wastewater Re-Use Recommendations for Espirito Santo's Water and Sewerage Utility (CESAN)</b>	Brazil	Jean-Martin Brault	P156612	TF0A1250
<b>Costa Rica: Scaling Up Distributed Generation with Roof-top Solar PV</b>	Central America	Mariano Gonzalez Serrano	P158461	TF0A1939
<b>Guatemala Wind and Solar Integration Study</b>	Guatemala	Mariano Gonzalez Serrano	P154681	TF0A0766
<b>Distributional Analyses and Reform Options for Petroleum Price Reforms in Haiti - Phase II</b>	Haiti	Evans Jadotte	P155192	TF0A1664
<b>LAC: Challenges and Opportunities in the Energy Sector</b>	Latin America	Gabriela Elizondo Azuela	P158942	TF0A2669
<b>Achieving energy efficient transport in cities in Latin America</b>	Latin America	Camila Adriana Rodriguez Hernandez	P157566	TF0A1601
<b>International Conference On Energy Efficiency in Cities</b>	Mexico	Karen Bazex	P149872	TF0A1872
<b>Mexico – Sustainable Land Use for Energy Efficient Cities</b>	Mexico	Angelica Nunez del Campo	P157932	TF0A2397
<b>Solar PV Demonstration Project in the OECS countries</b>	OECS Countries	Mark Stephen Lambrides	P153404	TF0A1182
<b>Pacific Islands Sustainable Energy Industry Development Project SIDS DOCK Financing</b>	Pacific Islands	Leopold Sedogo	P152653	TF0A1342
<b>Solar PV Demonstration Prj in the OECS countries - Grant Activities</b>	OECS Countries	Mark Stephen Lambrides	P153404	TF0A1672
<b>MNA</b>				
<b>Energy Subsidies and Price Reform in Algeria</b>	Algeria	Moez Cherif	P158632	TF0A2423
<b>Programmatic Energy Reforms in Egypt - TA (P156023)</b>	Egypt, Arab Republic of	Ashish Khanna	P156023	TF0A1192
<b>Towards Energy Efficiency Implementation in Cities in Egypt</b>	Egypt, Arab Republic of	Pedzisayi Makumbe	P154867	TF0A1068
<b>Energy Subsidies and Tariff Reform</b>	Iraq	Sheoli Pargal	P155966	TF0A1193
<b>Jordan Energy Sector Assistance: NEPCO Restructuring, Procurement Review, LNG Capacity Building</b>	Jordan	Ferhat Esen	P151876	TF0A1434
<b>Assessment of the legal and administrative barriers for the development of the national hydropower market for Lebanon</b>	Lebanon	Manaf Touati	P156222	TF0A1067
<b>Lebanon- Promoting Energy Efficiency in Bus Rapid Transit</b>	Lebanon	Ziad Salim EL Nakat	P146691	TF0A1380
<b>Support to MENA Countries Preparedness of SSNs for Subsidy Reform - Algeria, Djibouti, Jordan, Morocco, Tunisia, Yemen</b>	Middle East and North Africa	Amr S. Moubarak	P157697	TF0A1937
<b>Morocco City Energy Efficiency</b>	Morocco	Manaf Touati	P156179	TF0A1191
<b>Securing Energy for Development (SED) in West Bank and Gaza</b>	West Bank and Gaza	Roger Coma Cunill	P157348	TF0A2316
<b>SAR</b>				
<b>Bangladesh: Energy Efficiency Improvement Program in Industries</b>	Bangladesh	Ashok Sarkar	P156861	TF0A0966
<b>Policy and System Requirements for Scaling Up Power Trade in Bangladesh</b>	Bangladesh	Sheoli Pargal	P150086	TF0A2737
<b>India: North East Region - Assessment of T&amp;D projects impact on access to electricity</b>	India	Rohit Mittal	P127974	TF0A1152
<b>India: Solar Parks -- Grid Integration Study and Capacity Building</b>	India	Demetrios Papathanasiou	P156974	TF0A1530
<b>India: Support to Electricity Distribution System Strengthening and Modernization in Andhra Pradesh</b>	India	Mani Khurana	P155038	TF0A2027

Nepal: Conflict Management and Prevention for Energy Projects	Nepal	Jie Tang	P150066	TF0A1365
Sri Lanka: Capacity Building for Planning and VRE Grid Integration	Sri Lanka	Zhuo Cheng	P157023	TF0A2028
<b>Global</b>				
Capacity Building for Leaders in Energy Efficient Urban Transport Planning - 2	World	Thierry Denis Desclos	P154030	TF0A0711
Energy Subsidy Reform Knowledge Products	World	Bipulendu Narayan Singh	P155434	TF0A0767
Energy Subsidy Reform Knowledge Events	World	Victor B. Loksha	P156184	TF0A0978
Efficient, Clean Cooking and Heating (ECCH) Program	World	Wendy E. Hughes	P156948	TF0A1176
Global Survey for Multi-Tier Energy Access Tracking	World	Dana Rysankova	P156666	TF0A1178
Enhancing Knowledge Sharing on Subsidy Reforms: Case Studies on Political Economy of Energy Subsidy Reform	World	Maria Gabriela Inchauste Comboni	P147403	TF0A1197
World: Energy Subsidy Reform Online Community	World	Thomas Flochel	P156185	TF0A1310
World: Energy Subsidy Reform Experts-Peer Panel	World	Thomas Flochel	P155903	TF0A1311
ESMAP Variable Renewable Energy Grid Integration Support Program	World	Silvia Martinez Romero	P157434	TF0A1792
Energy Subsidy Reform Assessment Framework (ESRAF)	World	Praveen Kumar	P157812	TF0A2777
Rethinking Power Sector Reform	World	Vivien Foster	P157376	TF0A1999

## ONGOING

Activity	Country	Task Manager	Project ID	TF
<b>AFR</b>				
SE4ALL TA for Burundi	Burundi	Kyran O'Sullivan	P145719	TF015025
SE4ALL TA for Guinea	Guinea	Moez Cherif	P145846	TF015026
SE4ALL TA for Mozambique	Mozambique	Maria Isabel A. S. Neto	P145918	TF015027
SE4ALL TA for Liberia	Liberia	Clemencia Torres De Mastle	P145844	TF015038
Enhancing Regional Power Trade in Africa	Africa	Erik Magnus Fernstrom	P145847	TF015039
SE4ALL TA for Senegal	Senegal	Awa Seck	P145845	TF015060
Cost Review of Transmission Development in Africa	Africa	Jianping Zhao	P152329	TF019065
Uganda-DRC 220kV Interconnector	Africa	Mbuso Gwafila	P152376	TF019280
Regional study on the performance of distribution utilities in SSA	Africa	Pedro Antmann	P152434	TF0A0084
Role of Subsidies: Financing Electricity Supply and Providing Affordable Access in Sub-Saharan Africa	Africa	Christopher Philip Trimble	P146627	TF015603
AFREA II: New Models to Scale Up Power Generation Investments in Africa	Africa	Elvira Morella	P146263	TF016638
AFREA 2 Lighting Africa Expansion	Africa	Raihan Elahi	P146987	TF016736
AFREA 2 Gender and Energy Program	Africa	Awa Seck	P149119	TF016837

<b>AFREA II - Africa Electrification Initiative</b>	Africa	David Vilar Ferrenbach	P149443	TF016878
<b>AFREA 2: Power and Agriculture in Sub-Saharan Africa</b>	Africa	Sudeshna Ghosh Banerjee	P150323	TF017286
<b>Increased Electricity Access Support Program</b>	Africa	David Vilar Ferrenbach	P149441	TF017322
<b>AFREA 2 Africa Region Solar Strategy</b>	Africa	Christopher Saunders	P149497	TF017387
<b>AFREA 2: Africa Clean Cooking Energy Solutions (ACCES)</b>	Africa	Jan Friedrich Kappen	P146621	TF017650
<b>AFREA 2: African Rural Electrification Concession</b>	Africa	Richard H. Hosier	P150241	TF018952
<b>Preparation &amp; SPN of Cabo Verde Distributed Solar Energy Systems Project</b>	Cabo Verde	Fabrice Karl Bertholet	P151979	TF019384
<b>Renewable Energy Resource Mapping and Geospatial Planning: Ethiopia</b>	Ethiopia	Issa Diaw	P151309	TF018977
<b>AFREA II: Rural Electrification and Water Services Sustainability Mechanism</b>	Gabon	Stephan Claude Frederic Garnier	P152126	TF0A0576
<b>Renewable Energy Resource Mapping and Geospatial Planning: Madagascar</b>	Madagascar	Vonjy Miarintsoa Rakotondramanana	P145350	TF015505
<b>Madagascar: Support for the development of small hydro IPP</b>	Madagascar	Vonjy Miarintsoa Rakotondramanana	P153220	TF0A0391
<b>Renewable Energy Resource Mapping and Geospatial Planning: Malawi</b>	Malawi	Maria Isabel A. S. Neto	P151289	TF018261
<b>AFREA 2 - Mali: Support to Energy Services Access</b>	Mali	Thierno Bah	P150382	TF018265
<b>AFREA II Nigeria: Electrification Access Program Development - TA</b>	Nigeria	Rahul Kitchlu	P147397	TF017111
<b>Unlocking Nigeria's Potential for Gas</b>	Nigeria	Masami Kojima	P151162	TF017735
<b>Seychelles: Improving Electricity Planning</b>	Seychelles	Maria Isabel A. S. Neto	P154048	TF0A0312
<b>AFREA 2: Somalia Power Sector Development Master Plan</b>	Somalia	Anders Cajus Pedersen	P146618	TF0A0179
<b>South Sudan Energy Sector TA Project</b>	South Sudan	Rahul Kitchlu	P145581	TF016502
<b>Renewable Energy Resource Mapping and Geospatial Planning: Tanzania</b>	Tanzania	Anders Cajus Pedersen	P145287	TF015889
<b>Zambia Renewable Energy Resource Mapping Initiative</b>	Zambia	Raihan Elahi	P145271	TF015888
	<b>EAP</b>			
<b>Promotion of Power Sector Reform to Unlock Renewable Energy Development</b>	China	Xiaodong Wang	P127033	TF015488
<b>Developing an Innovative Energy Efficiency Financing Mechanism in China</b>	China	Xiaodong Wang	P152109	TF018528
<b>Developing Low-Carbon Strategy for Shenzhen</b>	China	Ximing Peng	P150222	TF017401
<b>China: Fossil Fuel Subsidy Study</b>	China	Yanqin Song	P151404	TF017847
<b>China: Wuhan integrated transport development project – learning from best international practice in smart transport and EE</b>	China	Arturo Ardila Gomez	P152139	TF018596
<b>Urumqi District Heating Pricing Technical Assistance</b>	China	Todd M. Johnson	P151293	TF018757
<b>Inclusive Green Growth for EAP Cities caca boudin</b>	East Asia and Pacific	Judy L. Baker	P146777	TF018844
<b>Renewable Energy Resource Mapping and Geospatial Planning: Indonesia</b>	Indonesia	Aidan Tendai Padraic Gregan	P145273	TF015979
<b>LOCAL BENEFIT SHARING FOR HYDROPOWER PROJECTS IN INDONESIA</b>	Indonesia	Gailius J. Draugelis	P152585	TF017323
<b>Indonesia Capacity Strengthening and Risk Mitigation for Geothermal Development</b>	Indonesia	Peter Johansen	P155047	TF018641
<b>Lao PDR - Background analysis and design of health impact RBF mechanism for Clean Stove Initiative</b>	Lao People's Democratic Republic	Rutu Dave	P130355	TF016198

<b>Development of Myanmar National Electrification Program</b>	Myanmar	Dejan R. Ostojic	P143988	TF015267
<b>Renewable Energy Resource Mapping and Geospatial Planning: Papua New Guinea</b>	Papua New Guinea	Gerard Fae	P145864	TF016576
<b>PHILIPPINES POWER SECTOR STRATEGY- VRE DISTRIBUTION GRID CODE</b>	Philippines	Alan F. Townsend	P123636	TF018820
<b>Energy Sector Development Project</b>	Tuvalu	Leopold Sedogo	P144573	TF018949
<b>Vanuatu Energy Sector Development Project</b>	Vanuatu	Kamleshwar Prasad Khelawan	P145311	TF014991
<b>Renewable Energy Resource Mapping and Geospatial Planning: Vietnam</b>	Vietnam	Ky Hong Tran	P145513	TF015250
<b>VN Equitization and Divestiture Strategy for the Vietnam Electricity's Generation Companies</b>	Vietnam	Joel J. Maweni	P149628	TF019381
<b>ECA</b>				
<b>Directions for the Energy Sector in the Western Balkans</b>	Europe and Central Asia	Claudia Ines Vasquez Suarez	P133231	TF017843
<b>Georgia Power Sector Strategy</b>	Georgia	Joseph Melitauri	P147865	TF018961
<b>Power Market Structure Options for Kazakhstan</b>	Kazakhstan	Mirlan Aldayarov	P146035	TF015351
<b>Efficiency Improvements of the District Heating System in the Kyrgyz Republic</b>	Kyrgyz Republic	Kathrin Hofer	P151970	TF018244
<b>Kyrgyz Republic: Urban Development Project</b>	Kyrgyz Republic	Kremena M. Ionkova	P151416	TF0A0078
<b>Macedonia Municipal Energy Efficiency Promotion</b>	Macedonia, former Yugoslav Republic of	Jasneet Singh	P150863	TF017385
<b>Ukraine: Moving Forward Energy Tariffs Reforms</b>	Ukraine	Yadviga Viktorivna Semikolenova	P152593	TF018188
<b>Scaling Up Energy Efficiency in Buildings in Uzbekistan</b>	Uzbekistan	Feng Liu	P152135	TF018243
<b>Small Island Developing States (SIDS) - Geothermal Development in Dominica</b>	Dominica	Migara Jayawardena	P156500	TF013661
<b>Assessment of Geothermal Potential in LAC</b>	Latin America	Migara Jayawardena	P144569	TF014176
<b>BZ Energy Resilience for Climate Adapt</b>	Belize	Migara Jayawardena	P149522	TF018049
<b>Interface between Carbon and Energy Pricing Policy</b>	Brazil	Christophe de Gouvello	P146371	TF017987
<b>Central America Clean Cooking Initiative (CACCI)</b>	Central America	Koffi Ekouevi	P146805	TF015217
<b>Energy Subsidy Reform in Central America</b>	Central America	Marco Antonio Hernandez Ore	P147077	TF018135
<b>CL Technical Assistance for Sustainable Geothermal Development in Chile</b>	Chile	Migara Jayawardena	P152820	TF0A0164
<b>LAC</b>				
<b>TA for Geothermal Project Preparation in LAC</b>	Latin America	Migara Jayawardena	P144569	TF015130
<b>Achieving energy efficient urban transport in cities in Latin America</b>	Latin America	Felipe Targa Rodriguez	P144262	TF015216
<b>Brazil Energy Efficient Cities Program</b>	Latin America	Christophe de Gouvello	P150942	TF018404
<b>LAC Urban Energy Efficiency</b>	Latin America	Janina Andrea Franco Salazar	P148297	TF016044
<b>Energizing Agriculture: Enhancing Efficiency in Agriculture in LAC</b>	Latin America	Katie Kennedy Freeman	P155769	TF0A0577

<b>Mexico Municipal Energy Efficiency Project</b>	Mexico	Janina Andrea Franco Salazar	P149872	TF0A0331
<b>Mexico: Supporting a low-carbon economy</b>	Mexico	Karen Bazex	P077717	TF018999
<b>Geothermal Resource Development in Saint Lucia SIDS DOCK RETF</b>	St. Lucia	Migara Jayawardena	P149959	TF018390
<b>Geothermal Resource Development in Saint Lucia SIDS DOCK BETF</b>	St. Lucia	Migara Jayawardena	P149959	TF018391
<b>MNA</b>				
<b>Djibouti: Geothermal Exploration Project</b>	Djibouti	Roger Coma Cunill	P127143	TF014765
<b>Egypt Gas Regulator Capacity Building</b>	Egypt, Arab Republic of	Ashish Khanna	P146007	TF017302
<b>Egypt: Phase II of Subsidy Reforms TA from the Energy Subsidy Reform and Delivery TA Facility</b>	Egypt, Arab Republic of	Joern Torsten Huenteler	P155336	TF0A0395
<b>Benchmarking Electricity Utilities performance in the MENA Region</b>	Middle East and North Africa	Daniel Camos Daurella	P146656	TF015918
<b>Strategic Development of Energy Sector in Tunisia – Phase II</b>	Tunisia	Anas Benbarka	P148147	TF0A0098
<b>Tunisia-Italy Electricity Transmission Interconnection Project</b>	Tunisia	Sameh I. Mobarek	P152745	TF0A0425
<b>Energy Efficiency Action Plan</b>	West Bank and Gaza	Roger Coma Cunill	P147961	TF016472
<b>SAR</b>				
<b>Afghanistan "Energy Security Trade-Offs under High Uncertainty"</b>	Afghanistan	Richard Jeremy Spencer	P146259	TF015939
<b>Analysis of Economy-wide Impact of Energy Sector Reforms in Bangladesh</b>	Bangladesh	Sheoli Pargal	P150086	TF017733
<b>Open Accessibility Planning for Integrated and Inclusive Transport in Dhaka</b>	Bangladesh	Ke Fang	P151756	TF018095
<b>India: Efficient &amp; Sustainable City Bus Services - Capacity Building Program in Fuel Efficiency</b>	India	Nupur Gupta	P132418	TF015597
<b>Renewable Energy Resource Mapping and Geospatial Planning: Maldives</b>	Maldives	Abdulaziz Faghi	P146018	TF015531
<b>RE Resource Mapping: Nepal</b>	Nepal	Tomoyuki Yamashita	P150328	TF018527
<b>Renewable Energy Resource Mapping and Geospatial Planning: Pakistan</b>	Pakistan	Anjum Ahmad	P146140	TF015343
<b>Nepal: Developing Improved Solutions for Cooking</b>	South Asia	Sandeep Kohli	P149764	TF017515
<b>Scaling Up Energy Efficiency and DSM Business Line in South Asia</b>	South Asia	Ashok Sarkar	P147807	TF016012
<b>Global</b>				
<b>Renewable Energy Resource Mapping</b>	World	Oliver Knight	P131926	TF012735
<b>Global Geothermal Development Plan</b>	World	Pierre Audinet	P130625	TF013201
<b>State of Access Report</b>	World	Koffi Ekouevi	P148200	TF014219
<b>Economic Tradeoffs of the Water and Energy Nexus</b>	World	Diego Juan Rodriguez	P144930	TF014380
<b>Assessing climate risks of electricity systems</b>	World	Xiaoping Wang	P145157	TF014453
<b>Energy Subsidy Reform and Delivery: Safeguarding the Poor and Vulnerable</b>	World	Ramesh Ramankutty	P154486	TF014887
<b>City Energy Efficiency Transformation Initiative: Low Carbon Growth for Cities through Energy Efficiency</b>	World	Ivan Jaques Goldenberg	P145972	TF015829
<b>Gender Equality and Development e-Course</b>	World	Stefan Agersborg	P129889	TF016033

<b>EDGE Green Building Market Transformation Program</b>	World	Prashant Kapoor	IFC-00599988	TF018220
<b>THIRSTY ENERGY: THE CASE OF CHINA</b>	World	Diego Juan Rodriguez	P144930	TF018974
<b>Data Analytics for Intelligent Energy Systems</b>	World	Karin Anna Maria Lerner	P152356	TF019039
<b>Capacity building</b>	World	Martina Bosi	P152431	TF019055
<b>Global rollout of Readiness for Investment in Sustainable Energy (RISE)</b>	World	Gevorg Sargsyan	P154461	TF0A0166
<b>Global Facility for Promotion of Green Mini Grids</b>	World	Johannes C. Exel	P154383	TF0A0414
<b>World Bank Staff Training on VRE Integration as part of the Power System Planning Program</b>	World	Rhonda Lenai Jordan Antoine	P148174	TF018706

**COMPLETED**

<b>AFR</b>				
<b>ESMAP Africa Electrification Experience</b>	Africa	Jenny Maria Hasselsten	P110999	TF010713
<b>Clean Cooking Initiative for Africa</b>	Africa	Zayra Luz Gabriela Romo Mercado	P127726	TF011318
<b>Lighting Africa Program Expansion</b>	Africa	Daniel J. Murphy	P116289	TF011698
<b>Energy Efficiency Development in Sub-Saharan Africa Cities</b>	Africa	Karan Capoor	P129252	TF011742
<b>Niger Energy Sector Assessment</b>	Niger	Issa Diaw	P098637	TF012591
<b>Power and Mining in Africa</b>	Africa	Sudeshna Ghosh Banerjee	P132627	TF013054
<b>Ethiopia Compact Fluorescent Lamps (CFL) Recycling Plant Technical Assistance</b>	Ethiopia	Raihan Elahi	P132093	TF013081
<b>Preparation of a Grid Code, Feed-in-Tariffs and Model Energy Supply Purchase Agreements for Renewable Energy Systems Greater than 50kW</b>	Mauritius	Silvia Martinez Romero	P131818	TF013174
<b>Sao Tome project (SIDS docks)</b>	Sao Tome and Principe	Silvia Martinez Romero	P132646	TF013250
<b>Energy Sector Capacity Building</b>	South Sudan	Raihan Elahi	P144307	TF013329
<b>Ghana Energy Sector Review</b>	Ghana	Sunil W. Mathrani	P131421	TF013335
<b>Mauritius - Support for Renewable Energy Systems (Supervision)</b>	Mauritius	Silvia Martinez Romero	P131818	TF013369
<b>Harnessing African Gas for African Power</b>	Africa	David John Santley	P131804	TF013482
<b>Kenya's power sector</b>	Kenya	Kyran O'Sullivan	P133675	TF013741
<b>Seychelles RE Feed-in Tariff and Grid Co</b>	Seychelles	Silvia Martinez Romero	P143254	TF013827
<b>Cape Verde Energy Conservation and Energy Efficiency Plan</b>	Cabo Verde	Fabrice Karl Bertholet	P143681	TF013950
<b>Seychelles RE Feed-in Tariff and Grid Co</b>	Seychelles	Silvia Martinez Romero	P143254	TF014187
<b>Niger Energy Sector Assessment</b>	Africa	Awa Seck	P145426	TF014597
<b>Harnessing African Gas for African Power</b>	Africa	David John Santley	P131804	TF014823
<b>LS Wind Power PPP</b>	South Africa	Daniel Croft	IFC-00585328	TF014832

<b>Assessment of the Interactions between the Power and Water Supply Sectors in Kenya and Malawi and their Operational, Economic and Environmental Implications</b>	Africa	Andreas Rohde	P148096	TF016006
<b>AFREA 2: Roadmap for Energy Access PforR</b>	Africa	Manuel Berlingiero	P147765	TF017505
<b>AFREA 2: Review of Hydropower Development in Africa</b>	Africa	Catherine Signe Tovey	P149492	TF017874
<b>Energy Mix Diversification in Burkina Faso</b>	Burkina Faso	Jan Friedrich Kappen	P149893	TF019408
<b>Nigeria: Climate Risk Climate Analysis in Water and Hydropower Management</b>	Nigeria	Raffaello Cervigni	P117818	TF098704
<b>Niger Electricity Access Expansion</b>	Niger	Pedro E. Sanchez	P147750	TF017388
<b>LNG Import Options for West Africa</b>	Western Africa	Sunil W. Mathrani	P147355	TF017084
<b>EAP</b>				
<b>Renewable Development and Market Reform</b>	Philippines	Alan F. Townsend	P112371	TF010615
<b>Capacity Building for Smart Grid Development in China</b>	China	Ximing Peng	P127871	TF010910
<b>Low Carbon City Platform</b>	China	Axel E. N. Baeumler	P123996	TF010960
<b>Philippines Rural Electricity Cooperatives: Reform and Restructuring</b>	Philippines	Alan F. Townsend	P123636	TF011026
<b>Integrating Renewable Energy in Grid Code</b>	Philippines	Alan F. Townsend	P123636	TF012488
<b>Provincial EE Practitioner's Forum Support</b>	China	Gailius J. Draugelis	P130451	TF012502
<b>Vietnam Energy Efficiency Support</b>	Vietnam	Beatriz Arizu de Jablonski	P129546	TF012555
<b>Issues and Options in Monitoring, Verification and Reporting in Energy Efficiency</b>	China	Xiaodong Wang	P130449	TF013096
<b>Vietnam HCMC Bus Energy Efficiency</b>	Vietnam	Ajay Kumar	P131211	TF013325
<b>China Electricity Regulation to Integrated Climate Change Considerations</b>	China	Ximing Peng	P133532	TF013376
<b>Support The Development of an Electrification Rollout Plan in Papua New Guinea</b>	Papua New Guinea	Gerard Fae	P132320	TF013388
<b>Financing Options with Private Sector Participation for a Medium Hydro Power Project in outer Islands</b>	Indonesia	Anh Nguyet Pham	P132943	TF013538
<b>Defining and Measuring Low-Carbon Cities in China</b>	China	Xiaodong Wang	P129835	TF013696
<b>Indonesia: Geospatial Mapping and Least Cost Electrification Planning TA</b>	Indonesia	Dhruva Sahai	P128568	TF014533
<b>Myanmar SE4ALL Consultations</b>	Myanmar	Dejan R. Ostojic	P143988	TF014663
<b>Financing Options with PPP for a Medium Hydro Power Project in outer Islands</b>	Indonesia	Anh Nguyet Pham	P145283	TF014708
<b>Support to the design of an RBF mechanism for the implementation of the Indonesia Clean Stove Initiative</b>	Indonesia	Yabei Zhang	P129829	TF014996
<b>SEGES: MAC Tool _ China</b>	China	Victor B. Loksha		TF015405
<b>GEF FSP - CHINA: ENERGY EFFICIENCY FINANCING PROJECT</b>	China	Xiaodong Wang	P098916	TF016922
<b>Reforming the Minibuses in Surabaya</b>	Indonesia	Reindert Westra	P146316	TF015581
<b>Geothermal Clean Energy Investment Project</b>	Indonesia	Anh Nguyet Pham	P113078	TF016013
<b>China Heat Regulation Phase II</b>	China	Gailius J. Draugelis	P116044	TF097453
<b>Government Facilities Energy Efficiency Project</b>	China	Gailius J. Draugelis	P123066	TF097674
<b>VN-FY09 Cluster-Infra Policy/Regu Reform</b>	Vietnam	Defne Gencer	P113836	TF098207
<b>Evaluation of Incentive Mechanisms for Wind Power in China</b>	China	Yanqin Song	P123227	TF098693



<b>Metro Manila Bus Network Optimization Plan</b>	Philippines	Ajay Kumar	P132401	TF015532
<b>Electric Cooperative Regulatory Efficiency</b>	Philippines	Alan F. Townsend	P123636	TF015735
<b>ECA</b>				
<b>Electricity Supply Reliability Project</b>	Armenia	Ani Balabanyan	P116748	TF010682
<b>Belarus, Biomass Based District Heating</b>	Belarus	Pekka Kalevi Salminen	P130977	TF010741
<b>Power Supply Options Study</b>	Tajikistan	Daryl Fields	P128881	TF011282
<b>Cumulative Environmental Impacts of Hydroelectric Power Plants</b>	Turkey	Esra Arikan	P129244	TF011674
<b>Power Sector Tariff Study</b>	Armenia	Artur Kochnakyan	P129287	TF011994
<b>Regional Energy Sector Note</b>	Caucasus	Arturo S. Rivera	P122951	TF012028
<b>Energy Efficiency Scale-Up Plan in Buildings</b>	South Eastern Europe and Balkans	Jasneet Singh	P133200	TF013202
<b>Cross-Border Electricity Trading &amp; Smart Grid Solutions</b>	Turkey	Sergio Augusto Gonzalez Coltrinari	P133749	TF013317
<b>Strategic Analysis of Water Resources Development Options in the Upper Amu Darya Basin</b>	Europe and Central Asia	Sanjay Pahuja	P133217	TF013452
<b>Armenia Power Sector Policy Note</b>	Armenia	Artur Kochnakyan	P133834	TF013496
<b>Heating and Energy Efficiency Assessment for the Building Sector of the Kyrgyz Republic and Tajikistan</b>	Central Asia	Ani Balabanyan	P133058	TF013540
<b>Biomass-based District Heating</b>	Belarus	Pekka Kalevi Salminen	P130977	TF013949
<b>Turkey Sustainable Cities Action Plan</b>	Turkey	Stephen George Karam	P133345	TF013993
<b>Power Sector Note</b>	Kyrgyz Republic	Ani Balabanyan	P133446	TF014857
<b>Assessment of the Role of Glaciers in Stream Flow from the Pamir and Tien Shan Mountains</b>	Europe and Central Asia	Winston Yu	P145760	TF015037
<b>Armenia: Financial recovery of the power sector</b>	Armenia	Artur Kochnakyan	P154276	TF0A0077
<b>Belarus Heat Tariff Reform and Social Impact Mitigation</b>	Belarus	Fan Zhang	P146249	TF015900
<b>Belarus: Scaling Up Energy Efficiency in the Building Sector</b>	Belarus	Feng Liu	P152143	TF018365
<b>Belarus Heat Tariff Reform and Social Impact Mitigation</b>	Belarus	Fan Zhang	P146249	TF016256
<b>Western Balkans Biomass Heating Study</b>	EU Accession Countries	Jari Vayrynen	P148325	TF017297
<b>Wholesaling Energy Efficiency in Water Utilities in the Danube Region</b>	Europe and Central Asia	David Michaud	P128416	TF015669
<b>ECA Energy Subsidy Core Group</b>	Europe and Central Asia	Ani Balabanyan	P150205	TF017233
<b>Knowledge Sharing and EE Outreach</b>	Europe and Central Asia	Kathrin Hofer	P152761	TF018721
<b>Tariff Setting Methodology</b>	Kyrgyz Republic	Ani Balabanyan	P154684	TF015433
<b>Moldova Power Sector Note</b>	Moldova	Sandu Ghidirim	P146401	TF015899
<b>District Heating and Electricity Tariff and Affordability Analysis</b>	Moldova	Shinya Nishimura	P151113	TF019116
<b>Bulgaria Gas Dialogue</b>	Bulgaria	Peter Johansen	P118225	TF097417

<b>Energy Efficiency Strategy for Manufacturing Sector</b>	Uzbekistan	Iskander Buranov	P122464	TF097753
<b>Electricity Supply Reliability and Energy Efficiency Project</b>	Armenia	Artur Kochnakyan	P116748	TF097778
<b>Chisinau Energy Supply Improvement Technical Assistance</b>	Moldova	Shinya Nishimura	P123396	TF097895
<b>District Heating Analytical and Advisory Activities(AAA) - Belarus &amp; Ukraine</b>	Europe and Central Asia	Yadviga Viktorivna Semikolenova	P112754	TF097978
<b>Serbia Low Carbon Energy Path</b>	Serbia	Arturo S. Rivera	P121716	TF098193
<b>Capacity Building for Electricity Market Operations: Facilitating the Integration of Renewable Energy in Turkey through an Actively Managed Automated Grid (Amag)</b>	Turkey	Sergio Augusto Gonzalez Coltrinari	P114534	TF098587
<b>Uzbekistan, Afghanistan, and Pakistan - ES Assessment</b>	Uzbekistan	Sunil Kumar Khosla	P122927	TF098597
<b>Regional Energy Sector Note</b>	Azerbaijan	Arturo S. Rivera	P122951	TF099035
<b>Energy Reform Milestones and Challenges</b>	Turkey	Kari J. Nyman	P149638	TF017198
<b>Social Compact in Electricity Privatization in Southeastern Turkey</b>	Turkey	Zeynep Durnev Darendeliler	P147492	TF018291
<b>Turkey: Energy Efficiency Institutional Review</b>	Turkey	Jasneet Singh	P146501	TF015504
<b>Ukraine: Energy Efficiency Transformation in Cities</b>	Ukraine	Tamar Sulukhia	P150553	TF017110
<b>Sustainable Urban Transport for the City of Kyiv</b>	Ukraine	Jung Eun Oh	P152325	TF018398
<b>Least Cost Assessment for the Heating Sector of Uzbekistan</b>	Uzbekistan	Pekka Kalevi Salminen	P146206	TF017011
<b>LAC</b>				
<b>6L Impacts of High Oil Prices in LCR</b>	Latin America	Rigoberto Yepez-Garcia	P128535	TF011043
<b>Energy Efficiency Initiatives Towards Green Transport</b>	Brazil	Georges Bianco Darido	P123713	TF011143
<b>Technical Assistance for Energy Planning in Peru</b>	Peru	David Reinstein	P129510	TF011473
<b>Climate Change Auctions Best Practices</b>	Latin America	Chandra Shekhar Sinha	P129195	TF011996
<b>Tool for Rapid Assessment of City Energy (TRACE) Model in Pilot Cities in Latin America</b>	Latin America	Todd M. Johnson	P133060	TF013404
<b>Greening Mexico's Electricity Generation by Internalizing Externalities</b>	Mexico	Guillermo Hernandez Gonzalez	P132533	TF013425
<b>Green Transport and Energy Efficiency Initiatives</b>	Latin America	Shomik Raj Mehndiratta	P144262	TF013905
<b>Introduction of Liquefied Natural Gas in Central America and the Caribbean</b>	Central America	Francisco J. Sucre	P143848	TF013959
<b>Mexico and Brazil: Building Digital Infrastructure to Support User Tools and Planning for Energy Efficient Urban Transport</b>	Latin America	Shomik Raj Mehndiratta	P144262	TF014250
<b>Peru Second Rural Electrification Project</b>	Peru	Janina Andrea Franco Salazar	P117864	TF014343
<b>HT Variable Renewable Energy in weak power systems: The case of HT</b>	Latin America	Frederic Verdol	P145385	TF014441
<b>NI Greater Managua Water and Sanitation (Prasma)</b>	Nicaragua	Martin P. Gambrill	P110092	TF014483
<b>Energy Sector Diagnostics in LAC</b>	Latin America	Migara Jayawardena	P144942	TF014534
<b>LAC Regional Workshop on EE/NRW</b>	Uruguay	Carmen Rosa Yee-Batista	P118064	TF014538
<b>6O-ECERA Eastern Carib. Engy Reg Auth.</b>	OECS Countries	Mark Stephen Lambrides	P101414	TF014779
<b>Deploying new solar technologies for isolated rural areas: supporting their adoption in LAC</b>	Bolivia	Lucia Spinelli	P127837	TF016688
<b>Strengthening Capacity for Commodity Risk Management in the Energy Sector in the Dominican Republic</b>	Dominican Republic	David Reinstein	P147772	TF016481

<b>Best practices for sustainable hydropower development</b>	Guatemala	Ernesto Sanchez-Triana	P144921	TF016452
<b>Distributional Analyses and Reform Options for Petroleum Price Reforms</b>	Haiti	Raju Singh		TF016723
<b>Strategic Engagement in the Power Sector</b>	Honduras	Koffi Ekouevi	P104034	TF016762
<b>Jamaica Emergency Integrated Resource Plan</b>	Jamaica	Todd M. Johnson	P112780	TF017508
<b>Energy Efficiency in Water and Wastewater Utilities in LAC</b>	Latin America	Carmen Rosa Yee-Batista	P146986	TF015394
<b>Pricing Policies in the Energy Sector</b>	Latin America	Koffi Ekouevi	P147007	TF017504
<b>Renewable Energy Forum</b>	Mexico	Karen Bazex	P077717	TF016482
<b>EAP-Phase II - Energy, Environment and Population</b>	Latin America	Alonso Zarzar Casis	P113882	TF097473
<b>Managing the Impact of High and Volatile Oil Prices</b>	Latin America	Rigoberto Yopez-Garcia	P119291	TF097851
<b>Central America (CCH) Program Energy Study</b>	Central America	Xiaoping Wang	P110201	TF097894
<b>Support Productive Uses Promotion Peru</b>	Peru	Janina Andrea Franco Salazar	P123643	TF097910
<b>Central America Programmatic Study Module 6: Diversification of Energy Matrix</b>	Central America	Xiaoping Wang	P122936	TF098138
<b>Central America Improved Cook Stoves Toolkit</b>	Central America	Janina Andrea Franco Salazar	P124390	TF098139
<b>LCR Energy Procurement &amp; Auctions</b>	Latin America	Luiz T. A. Maurer	P112430	TF098361
<b>Dissemination for ESMAP Tasks</b>	Latin America	Todd M. Johnson		TF098642
<b>ENACAL Master Plan for Operational Efficiency in Managua/Nicaragua</b>	Nicaragua	Lilian Pena Pereira Weiss	P110092	TF018089
<b>Eastern Carib. Engy Reg Authority (ECERA) Project</b>	OECS Countries	Mark Stephen Lambrides	P101414	TF016770
<b>Delivery of Technical Assistance to the Government of Panama to Reduce Barriers for the Development and Use of Renewable Energy and EE</b>	Panama	Mark Stephen Lambrides	P153321	TF018413
<b>Uruguay Low Carbon Study</b>	Uruguay	Holger A. Kray	P124181	TF015392
<b>MNA</b>				
<b>Tunisia - Low Carbon Action Plan for Transport Sector</b>	Tunisia	Olivier P. Le Ber	P121039	TF010803
<b>Policy Note on Social Accountability in the Egypt Energy Sector</b>	Egypt, Arab Republic of	Waleed Saleh I. Alsuraih	P117407	TF012745
<b>Development of a Manual to Procure New Energy Efficient Water/Sewage Pumping, Street-Lighting and Public Building Services</b>	West Bank and Gaza	Christianna Johnnides Brotsis	P127163	TF013286
<b>Capacity Development for Electricity Sector Reform</b>	Iraq	Simon J. Stolp	P143115	TF013505
<b>A Compendium on "Power Sector in the MENA Region"</b>	Middle East and North Africa	Fowzia Hassan	P144117	TF013927
<b>Yemen Energy Sector Strategy</b>	Yemen, Republic of	Jianping Zhao	P145786	TF014787
<b>Egypt Energy Pricing and Subsidy TA</b>	Egypt, Arab Republic of	Sudeshna Ghosh Banerjee	P129680	TF016712
<b>Data analytics for urban transport to mitigate climate change – Cairo</b>	Egypt, Arab Republic of	Isabelle Ngoc Dung Huynh	P148192	TF015989
<b>Iraq Energy Efficiency Action Plan</b>	Iraq	Ferhat Esen	P147640	TF016255
<b>Iraq Best Practice: Public Investment in Power Infrastructure</b>	Iraq	Paul Baringanire	P154859	TF0A0394
<b>Lebanon- Wind Energy Resource Mapping</b>	Lebanon	Daniel Camos Daurella	P147643	TF016411

<b>Arab World Electricity Networks Integration</b>	Middle East and North Africa	Husam Mohamed Beides	P122363	TF097589
<b>Jordan - Energy Financing &amp; Institutional Framework</b>	Jordan	Husam Mohamed Beides	P110853	TF097699
<b>Egypt - Cairo Congestion Study</b>	Egypt, Arab Republic of	Ziad Salim EL Nakat	P121712	TF097871
<b>Yemen - Renewable Energy Framework</b>	Yemen, Republic of	Jianping Zhao	P122591	TF097977
<b>Lebanon - Support to Implementation of Electricity Sector</b>	Lebanon	Simon J. Stolp	P113858	TF098140
<b>Tunisia Transport TA - Greenhouse Gas (GHG) Mitigation Plan</b>	Tunisia	Olivier P. Le Ber	P121039	TF098190
<b>Middle East and North Africa -Regional Solar Power Initiative</b>	Middle East and North Africa	Fanny Kathinka Missfeldt-Ringius	P113684	TF099696
<b>Energy Management for Water Utility Program</b>	West Bank and Gaza	Iyad Rammal	P101289	TF017126
<b>SAR</b>				
<b>Unleashing potential of Concentrating Solar Power</b>	India	Ashish Khanna	P119536	TF010764
<b>Institutional Strengthening of Power Utilities in North-East Region (NER)</b>	India	Rohit Mittal	P127974	TF012992
<b>Pakistan Power Distribution Non-Technical Losses Reduction Strategy</b>	Pakistan	Mohammad Saqib	P146176	TF013503
<b>Low Water Growth and Water Efficiency in South Asia</b>	South Asia	Chandra Shekhar Sinha	P146196	TF014707
<b>India: State-Level Dissemination of India Power Sector Review</b>	India	Mohua Mukherjee		TF018733
<b>Developing a Regulatory Framework for Maldives Energy Sector</b>	Maldives	Abdulaziz Faghi	P123047	TF097868
<b>South Asia Regional Energy Assessments</b>	South Asia	Mohua Mukherjee	P122369	TF097872
<b>The Indian Power Sector: A Stocktaking and Directions for the Future</b>	India	Sheoli Pargal		TF097888
<b>Support to Strategic Energy Sector Development</b>	Nepal	Pravin Karki	P122960	TF097896
<b>Luhri Hydro Electric Project</b>	India	Kwawu Mensan Gaba	P102843	TF097954
<b>Strategic Communication for Improving Governance and Efficiency in the Power Sector</b>	South Asia	Ashish Khanna	P151986	TF017891
<b>Gender Mainstreaming in Energy Sector in South Asia</b>	South Asia	Chaohua Zhang	P148553	TF016127
<b>Colombo Low Carbon Urban Transport TA</b>	Sri Lanka	Zhiyu Chen	P132250	TF015554
<b>Global</b>				
<b>Results-Based Funding: Knowledge Exchange Activities to Learn from Other Sectors and Support Implementation of P4R</b>	World	Oliver Knight	P127532	TF010310
<b>Climate Vulnerability in the Energy Sector</b>	World	Pierre Audinet	P127170	TF010529
<b>Economics of energy climate investment</b>	World	Pierre Audinet	P127171	TF010926
<b>International Experience with Private Sector Participation and Open Access in Power Grids</b>	World	Victor B. Loksha	P128995	TF010985
<b>Clean energy staff training and knowledge platform</b>	World	Almudena Mateos Merino	P127169	TF011003
<b>Clean energy guidebooks and briefs</b>	World	Pierre Audinet	P127172	TF011004
<b>Revolving Fund Options Paper</b>	World	Almudena Mateos Merino	P129321	TF011115
<b>Synchronization of the Mashreq Power Grids with Turkey and ENTSO-E</b>	World	Waleed Saleh I. Alsuraih	P128157	TF011344

Energy Sector Management Assistance Program - Energy Week 2012	World	Wendy E. Hughes	P130530	TF011686
Virtual Network to Support SIDS DOCK Platform	World	Almudena Mateos Merino	P129318	TF011974
Promoting Innovation in Renewable Energy and Energy Efficiency in Small Island Developing States (SIDS)	World	Habiba Gitay	P129323	TF012228
Smart Grids Knowledge/Experience Exchange	World	Peter Johansen	P131558	TF012809
Making Cities more Energy Efficient	World	Feng Liu	P127534	TF013032
Tool for Rapid Assessment of City Energy (TRACE)	World	Pedzisayi Makumbe		TF013059
Social Dimensions of Policy Change in the Energy Sector: Impacts and Mitigation Options	World	Sameer Shukla	P133359	TF013142
Defining and Measuring Access to Energy	World	Mikul Bhatia	P129411	TF013483
Capacity Building for Energy Efficiency Urban Transport	World	Marc Sanford Shotten	P127138	TF013484
Energy Efficient urban transport policy toolkit	World	Marc Sanford Shotten	P132394	TF013604
ESMAP Knowledge Exchange Forum / Energy Week 2013	World	Nicholas Andrew Keyes	P144178	TF013826
Economics of household energy	World	Venkata Ramana Putti	P127216	TF013994
Clean cookstoves mapping	World	Venkata Ramana Putti	P127219	TF014101
Incubating Innovation for Rural Electrification	World	Venkata Ramana Putti	P144311	TF014233
Integration of RE into low carbon infrastructure	World	Silvia Martinez Romero	P128961	TF014352
Electricity Technology Options Assessment Guide	World	Sameer Shukla	P121518	TF097386
Low Carbon Growth Country studies(LCCS) Knowledge Products	World	Pierre Audinet	P117056	TF097414
Scaling Up the Deployment of Grid-Connected RE Technologies in Developing Countries	World	Cindy J. Suh	P123069	TF097416
REMTI - Knowledge Exchange	World	Cindy J. Suh	P123072	TF097419
Energy Adaptation Knowledge Dissemination	World	Pierre Audinet	P123137	TF097882
Energy Adaptation Country Briefs	World	Pierre Audinet	P123139	TF097885
Low carbon development in power sector	World	Venkata Ramana Putti	P121622	TF097887
Electricity Transmission planning and integration of renewable energy	World	Marcelino Madrigal	P118729	TF098059
Revisiting Policy Options for the Market Structure in the Power Sector	World	Maria Vagliasindi	P113129	TF098272
Analysis of Costs of Delivering Demand Side Energy Efficiency Activities	World	Ashok Sarkar	P119998	TF098567
Private and Public Sector Roles in the Power Sector: Towards a New Policy Agenda?	World	Maria Vagliasindi	P120423	TF098654
Int'l Experience with PSP in Power Grids	World	Victor B. Loksha		TF015140
Capacity Building for Leaders in Energy Efficient Urban Transport Planning	World	Marc Sanford Shotten	P146468	TF015158
Gender and Large Energy Infrastructure	World	Maria Beatriz Orlando	P147443	TF015555
Piloting Multi-Tier Energy Access Metric	World	Mikul Bhatia	P146792	TF016503
Turn Down the Heat - Phase 3	World	Kanta K. Rigaud	P146364	TF017079
Sustainable Energy for All Global Tracking Framework 2015	World	Gabriela Elizondo Azuela	P151123	TF018722



## Annex 5 | ESMAP FY16 List of Outcomes

OBJECTIVE	INDICATOR	ACHIEVEMENTS	RELATED ESMAP ACTIVITIES	
Outcomes	Development Financing Informed  Client countries provided with just-in-time technical assistance for pre-investment activities necessary to resolve program design issues and offer additional options	Existing operations informed  Government expenditure informed  Mobilization of non-Bank resources informed  Preparation of new operation informed	4 Existing operations informed	
			<ul style="list-style-type: none"> <li>1   <a href="#">Electricity System Enhancement Project</a> (Liberia, P120660)</li> <li>2   <a href="#">Additional Financing for Energy Development and Access Project</a> (Ghana, P147878)</li> <li>3   <a href="#">Rural Electrification Hybrid System Project</a> (Mali, P131084)</li> <li>4   <a href="#">Electric Power Project</a> (Myanmar, P143988)</li> </ul>	<ul style="list-style-type: none"> <li>1   AFREA II - Africa Electrification Initiative</li> <li>2   AFREA II - Africa Electrification Initiative</li> <li>3   AFREA II - Mali: Support to Energy Services Access</li> <li>4   Development of Myanmar National Electrification Program</li> </ul>
			10 New operations informed	
			<ul style="list-style-type: none"> <li>5   <a href="#">First Programmatic Energy and Water Sector Reforms Developmental Policy Loan</a> (Jordan, P154299)</li> <li>6   <a href="#">Hubei Xiaogan Logistics Infrastructure</a> (China, P132562)</li> <li>7   <a href="#">Wuhan Integrated Transport Development</a> (China, P148294)</li> <li>8   <a href="#">Urban Development Project</a> (Kyrgyz Republic, P151416)</li> <li>9   <a href="#">Electricity Network Reinforcement and Expansion Project</a> (ENREP) Additional Financing (Ethiopia, P155563)</li> <li>10   <a href="#">Rural Electrification Expansion Program</a> (Tanzania, P153781)</li> <li>11   <a href="#">Liberia Renewable Energy Access Project</a> (Liberia, P149683)</li> <li>12   <a href="#">Electricity Access Expansion Project</a> (Niger, P153743)</li> <li>13   <a href="#">Power Sector Financial Recovery Program</a> (Armenia, P157571)</li> <li>14   <a href="#">Municipal Energy Efficiency Project</a> (Mexico, P149872)</li> </ul>	<ul style="list-style-type: none"> <li>5   Jordan Energy Sector Assistance: NEPCO Restructuring, Procurement Review, LNG Capacity Building</li> <li>6   China: Green logistics for Chinese municipalities: application in Xiaogan and beyond</li> <li>7   China: Wuhan integrated transport development project – learning from best international practice in smart transport and EE</li> <li>8   Kyrgyz Republic: Urban Development Project</li> <li>9   AFREA II - Lighting Africa Expansion</li> <li>10   AFREA II - Lighting Africa Expansion</li> <li>11   AFREA II - Lighting Africa Expansion</li> <li>12   AFREA II - Niger Electricity Access Expansion</li> <li>13   Armenia Financial recovery of the power sector</li> <li>14   International Conference On Energy Efficiency in Cities &amp; Mexico Municipal EE Project</li> </ul>

	<p>Policy &amp; Strategy Informed and Client Capacity Increased</p> <p>Increased institutional capacity of ESMAP client countries to plan, manage, and regulate the implementation of policies, strategies, and programs that deliver clean, reliable, and affordable energy services required by their citizens for poverty reduction and environmentally sustainable economic growth</p>	<p>Government policy/strategy informed</p>	<p>24 outcomes</p>	<ul style="list-style-type: none"> <li>• Niger Electricity Access Expansion</li> <li>• South Sudan Energy Sector Technical Assistance Project</li> <li>• Seychelles: Improving Electricity Planning</li> <li>• Developing Low-Carbon Strategy for Shenzhen</li> <li>• Developing an Innovative Energy Efficiency Financing Mechanism in China</li> <li>• Philippines Power Sector Strategy - VRE Distribution Grid Code</li> <li>• Power Market Structure Options for Kazakhstan</li> <li>• Tariff Setting Methodology</li> <li>• Armenia: Financial Recovery of the Power Sector</li> <li>• Efficiency Improvements of the District Heating System in the Kyrgyz Republic</li> <li>• Georgia Power Sector Strategy</li> <li>• Ukraine: Moving Forward Energy Tariffs Reforms</li> <li>• Uzbekistan: Impact of Energy Subsidies - Way Forward</li> <li>• Deploying new solar technologies for isolated rural areas: supporting their adoption in LCR</li> <li>• Delivery of Technical Assistance to the Government of Panama to Reduce Barriers for the Development and Use of Renewable Energy and EE</li> <li>• Mexico: Supporting a low-carbon economy</li> <li>• Energy Efficiency Action Plan</li> <li>• Egypt: Phase II of Subsidy Reforms TA from the Energy Subsidy Reform and Delivery TA Facility</li> <li>• Afghanistan "Energy Security Trade-Offs under High Uncertainty"</li> <li>• Scaling Up Energy Efficiency and DSM Business Line in South Asia</li> <li>• Open Accessibility Planning for Integrated and Inclusive Transport in Dhaka</li> <li>• Bangladesh: Energy Efficiency Improvement Program in Industries</li> <li>• International Experience with PSP in Power Grids</li> <li>• Piloting Multi-Tier Energy Access Metric</li> </ul>
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		Public debate stimulated/initiated	3 outcomes	<ul style="list-style-type: none"> <li>China: Wuhan Integrated Transport Development Project - learning from best international practice in smart transport and EE</li> <li>Ukraine: Moving Forward Energy Tariffs Reforms</li> <li>India: State-Level Dissemination of India Power Sector Review</li> </ul>
		Contributed to stakeholder involvement	1 outcome	<ul style="list-style-type: none"> <li>Ukraine Moving Forward Energy Tariffs Reforms</li> </ul>
		Development community/partner policy/strategy informed	2 outcomes	<ul style="list-style-type: none"> <li>Uzbekistan Impact of Energy Subsidies - Way Forward</li> <li>New Models to Scale Up Power Generation Investments in Africa</li> </ul>
		Bank country strategy informed/influenced	2 outcomes	<ul style="list-style-type: none"> <li>West Bank and Gaza Energy Efficiency Action Plan</li> <li>Role of Subsidies: Financing Electricity Supply and Providing Affordable Access in Sub-Saharan Africa</li> </ul>
		Bank sector strategy informed/influenced	1 outcome	<ul style="list-style-type: none"> <li>Review of Hydropower Development in Africa</li> </ul>
		Design capacity strengthened	9 outcomes	<ul style="list-style-type: none"> <li>Niger Electricity Access Expansion</li> <li>Ukraine Moving Forward Energy Tariffs Reforms</li> <li>China Wuhan integrated transport development project – learning from best international practice in smart transport and EE</li> <li>Mali Support to Energy Services Access</li> <li>Thirsty Energy: The Case of China</li> <li>Moldova Power Sector Note</li> <li>Mexico Supporting a low-carbon economy</li> <li>Guatemala Wind and Solar Integration Study</li> <li>West Bank and Gaza Energy Efficiency Action Plan</li> </ul>
		Implementation capacity strengthened	11 outcomes	<ul style="list-style-type: none"> <li>South Sudan Energy Sector TA Project</li> <li>China Fossil Fuel Subsidy Study</li> <li>Myanmar Economic Cost of Natural Gas Study</li> <li>Macedonia Municipal Energy Efficiency Promotion</li> </ul>

				<ul style="list-style-type: none"> <li>• Kyrgyz Republic Efficiency Improvements of the District Heating System</li> <li>• LCR Urban Energy Efficiency</li> <li>• Egypt: Phase II of Subsidy Reforms TA from the Energy Subsidy Reform and Delivery TA Facility</li> <li>• Iraq Best Practice: Public Investment In Power Infrastructure</li> <li>• Jordan Energy Sector Assistance: NEPCO Restructuring, Procurement Review, LNG Capacity Building</li> <li>• India: Efficient &amp; Sustainable City Bus Services – Capacity Building Program in Fuel Efficiency</li> <li>• Data Analytics for Intelligent Energy Systems</li> </ul>
		M&E capacity increased	1 outcome	<ul style="list-style-type: none"> <li>• Georgia Power Sector Strategy</li> </ul>
		Client is recognized with good practice or similar awards		
	<p>Knowledge Increased/Deepened and Innovative Approaches &amp; Solutions Generated</p> <p>ESMAP-supported research and analyses strengthen the sector’s knowledge and evidence-base to deliver improved clean energy access, energy efficiency, and generation in developing countries</p>	Facilitated exchange of best practice with clients	13 outcomes	<ul style="list-style-type: none"> <li>• AFREA II: New Models to Scale Up Power Generation Investments in Africa</li> <li>• AFREA II: African Rural Electrification Concession</li> <li>• Electricity Market Simulation Model of Vietnam</li> <li>• Energy Reform Milestones and Challenges</li> <li>• Knowledge Sharing and EE Outreach</li> <li>• Kyrgyz Republic: Urban Development Project</li> <li>• Achieving Energy Efficient Urban Transport in Cities in Latin America</li> <li>• LCR Urban Energy Efficiency</li> <li>• International Conference On Energy Efficiency In Cities</li> <li>• Gender Mainstreaming in Energy Sector in South Asia</li> <li>• India: Efficient &amp; Sustainable City Bus Services - Capacity Building Program in Fuel Efficiency</li> <li>• Bangladesh: Energy Efficiency Improvement Program in Industries</li> <li>• Enhancing Knowledge Sharing on Subsidy Reforms: Case Studies on Political Economy of Energy Subsidy Reform</li> </ul>

		Facilitated exchange of best practice with partners	2 outcomes	<ul style="list-style-type: none"> <li>• AFREA II: Mali Support to Energy Services Access</li> <li>• Ukraine: Moving Forward Energy Tariffs Reforms</li> </ul>
		Disseminated best practices	7 outcomes	<ul style="list-style-type: none"> <li>• Piloting Multi-Tier Energy Access Metric</li> <li>• AFREA II: Power and Agriculture in Sub-Saharan Africa</li> <li>• Lighting Africa Expansion</li> <li>• Niger Electricity Access Expansion</li> <li>• AFREA II: Review of Hydropower Development in Africa</li> <li>• Scaling Up Energy Efficiency and DSM Business Line in South Asia</li> <li>• International Experience with PSP in Power Grids</li> </ul>
		New innovative approach developed	7 outcomes	<ul style="list-style-type: none"> <li>• India: State-Level Dissemination of India Power Sector Review</li> <li>• AFREA II: Power and Agriculture in Sub-Saharan Africa</li> <li>• Lighting Africa Expansion</li> <li>• AFREA II: Review of Hydropower Development in Africa</li> <li>• Tanzania: Cycle mapping for improved urban mobility</li> <li>• Inclusive Green Growth for EAP Cities</li> <li>• Data Analytics for Intelligent Energy Systems</li> </ul>

## Annex 6 | ESMAP FY16 List of Outputs

Region	PID	Title Activity	Country	Output Type	Output
<b>AFREA</b>					
Africa	P149443	AFREA II - Africa Electrification Initiative	Liberia	ASA	Pre-feasibility study on hybrid renewable energy-diesel isolated mini-grids;
			Liberia	ASA	Shield Wire Scheme: Manual for planning, design, construction and operation
			Ghana	ASA	Mini/micro-grid business models and regulations workshop and assessment
			AFR	ASA	Study on Market-based Interventions for Alternative Biomass Cooking Fuels. Study on Innovative BoP Business Models in Refugee Camps (Uganda and DRC) and Slums. Advocacy Toolkit for Trade Barriers Removal.
			AFR	KP	Study tour of key Zambian energy stakeholders to Namibia and Ghana, for learning from practitioners the benefits of low cost technologies for rural electrification.
	P146621	AFREA II: Africa Clean Cooking Energy Solutions (ACCES)	AFR	ASA	Revised TOR to hire an NGO/firm to assist in the implementation of the project component; Revised TOR to jumpstart the implementation by enabling cook stove producers/manufacturers to receive grants for advertisements, consumer outreach activities.
				KP	Customizable Excel model designed to generate high-level projections to inform advocacy for lowering trade barriers to clean and improved cook stoves. WTP/CA assessment for Uganda
				KP	Workshop and presentation on LPG Cooking in Sub-Saharan Africa
	P149497	AFREA II: Africa Region Solar Strategy	AFR	ASA	Study to develop strategic directions for interventions on solar energy in Sub-Saharan Africa by the Africa Energy Group.
	P149119	AFREA II: Gender and Energy Program	AFR	ASA	Advisory and Operational Support on Gender Mainstreaming: PCN Screening Process, Program management; Advisory Services for Projects; Operational Support for Projects
	P149441	AFREA II: Increased Electricity Access Support Program	Uganda	ASA	Uganda Capacity Building and National Policy proposal.
			Burkina Faso, Cote d'Ivoire, Liberia and Sierra Leone	KP	Study tour in Burkina Faso and workshops in Cote d'Ivoire, Liberia and Sierra Leone to exchange experiences on Low Cost Electrification Technology support.
	P146263	AFREA II: New Models to Scale Up Power Generation Investments in Africa	Cote d'Ivoire, Cameroon, Ethiopia, Ghana, Kenya, Mauritius, Nigeria, Senegal, South Africa, Tanzania, Togo, Uganda and Zambia	ASA	The case study series present the experiences of countries where IPPs of the key typologies and major generation investments financed from Chinese sources are identified. Countries: Cote d'Ivoire, Cameroon, Ethiopia, Ghana, Kenya, Mauritius, Nigeria, Senegal, South Africa, Tanzania, Togo, Uganda and Zambia
	P150323	AFREA II: Power and Agriculture in Sub-Saharan Africa	AFR	ASA	Africa-wide stocktaking of power demand of agriculture value-chains
P152126	AFREA II: Rural Electrification and Water Services Sustainability Mechanism	Gabon	ASA	Inventory of infrastructure in the rural areas of Gabon and cost estimates	
			ASA	Organizational diagnosis and capacity building needs of the National Council for Water and Electricity.	
			ASA	Benchmarking of costs of basic rural services and infrastructure.	
P149492	AFREA II: Review of Hydropower Development in Africa	AFR	KP	Dissemination: KP and presentation in Hydro 2015 conference	

CLEAN ENERGY					
East Asia and Pacific	P145273	Renewable Energy Resource Mapping and Geospatial Planning: Indonesia	Indonesia	ASA	Geospatial mapping, least cost electrification planning
	P145864	Renewable Energy Resource Mapping and Geospatial Planning: Papua New Guinea	Papua New Guinea	ASA	Wind resource maps and associated datasets together with a final report that describes the resource methodology and results. ( <a href="#">URL</a> )
	P123636	Philippines Power Sector Strategy - VRE Distribution Grid Code	Philippines	ASA	Report and Workshop on the assessment of the impact of VRE systems. ( <a href="#">URL</a> )
				ASA	Report: Review of international experience in connecting VRE at distribution voltages ( <a href="#">URL</a> )
Latin America and Caribbean	P127837	Deploying new solar technologies for isolated rural areas: supporting their adoption in LAC	Argentina, Bolivia	ASA	Document summarizing the technical improvements required to meet the Lighting Global Minimum Quality Standards and advisory services to reach these
				ASA	Study. Deploying new solar technologies for isolated rural areas: supporting their adoption in the LAC region.
				ASA	Surveys: field surveys in different Eco-Regions of Bolivia and Argentina to determine consumer preference and field performance
South Asia	P146018	Renewable Energy Resource Mapping and Geospatial Planning: Maldives	Maldives	ASA	Preliminary Mesoscale maps: existing data was gathered and preliminary Mesoscale maps were built using satellite data, atmospheric models and existing ground measurement.
	P146140	Renewable Energy Resource Mapping and Geospatial Planning: Pakistan	Pakistan	ASA	Biomass resource maps (GIS layers), associated datasets, final report describing resource potential, methodology and results; strategic environmental assessment
				KP	Stakeholder workshops to present the methodology, results and the strategic environmental assessment
	P150328	RE Resource Mapping: Nepal	Nepal	ASA	Preliminary Mesoscale Mapping: maps of satellite-derived wind data and map of Meteorological Stations/Wind Masts and Elevation at different resolutions.
P157024	Sri Lanka: Capacity Building for Planning and VRE Grid Integration	Sri Lanka	ASA	Review of the CEB 2015-2034 Long Term Generation Expansion Plan	
Global	P157434	ESMAP Variable Renewable Energy Grid Integration Support Program	Global	KP	Knowledge exchange events and BBLs ( <a href="#">URL</a> )

## ENERGY ACCESS

Africa	P147750	Niger Electricity Access Expansion	Nigeria	ASA	Economic and Financial Analysis of Investment projects in Electricity Access
				ASA	Analysis of average cost of electricity: (1) analysis of electricity average cost; (2) presentation and discussion with authorities of tariff setting options and principles; (3) capacity building of Ministry & Nigelec to set and review tariffs ( <a href="#">URL</a> )
				ASA	Discussion with the Niger authorities on international best practices for structuring regulatory agency and drafting electricity law including regulatory aspects.
				ASA	Assessment of the supply options for the short and medium term
				ASA	Technical preparation of investment program in selected sites
	P145581	South Sudan Energy Sector Technical Assistance Project	South Sudan	ASA	Terms of Reference and Related Preparation and Implementation Plans
				ASA	Preparation of the Inception report for the Energy Sector TA Project
				KP	Capacity Building: support for the development of the program design as well as in the preparation of the TOR/RFP and bidding documents for carrying out capacity building activities, including in-house training, workshops and seminars
				KP	Off-Grid Access: support for the development of the program design as well as the TOR/RFP and bidding documents to launch an off-grid rural electrification program, including support for analytical approaches for gender targeting as well as selecting rural communities.
				KP	Inception workshop for the Energy Sector TA Project
East Asia and Pacific	P143988	Development of Myanmar National Electrification Program	Myanmar	ASA	A GIS-based least cost electrification planning system was put into place and an analytic basis for electrification planning was established. ( <a href="#">URL</a> )
				ASA	Universal access roadmap and investment prospectus developed for a national electrification program. ( <a href="#">URL</a> )
				KP	Local media briefing and interaction in four cities accompanied by social media campaign.
				KP	Workshop: Understanding the energy sector and the topic of electricity access in Myanmar ( <a href="#">URL</a> )
				KP	Building institutional capacity for national electrification: Policy consultants, training programs and study tours
Latin America and Caribbean	P146805	Central America Clean Cooking Initiative (CAACCI)	El Salvador, Guatemala, Honduras, Nicaragua	ASA	Investment prospectus for Guatemala, Honduras, and Nicaragua: includes near- and medium-term implementation and financing plans.
				ASA	National cook stove standards and certification procedures: design of financing products for producers, distributors, and consumers.
South Asia	P155038	India: Support to Electricity Distribution System Strengthening and Modernization in Andhra Pradesh	India	ASA	Assessment report for review of the SCADA and distribution control centre, which enables the client to be well-informed while determining technical specifications and costing of key equipment for use by the Andhra Discoms.
Global	P146792	Piloting Multi-Tier Energy Access Metric	Global	ASA	Survey Questionnaires and Structure of Analytical Report was finalized based on feedback from early pilots in select countries. ( <a href="#">URL</a> )

## ENERGY ASSESSMENTS AND STRATEGIES

Africa	P154048	Seychelles: Improving Electricity Planning	Seychelles	ASA	Report ("Improving Electricity Planning- Least cost expansion plan") and workshop describing the Least cost planning exercise methodology and recommendations.
	P151162	Unlocking Nigeria's Potential for Gas	Nigeria	KP	Internal World Bank policy note
East Asia and Pacific	P123636	Electric Cooperative Regulatory Efficiency	Philippines	ASA	Report: Study of Regulatory Process Efficiency for EC Investment Plans and associated draft submission to ERC.
	P151404	China: Fossil Fuel Subsidy Study	China	ASA	Technical Report: Taxonomy of fossil energy subsidies and quantification methods
	P147685	Vietnam Wholesale Competitive Electricity Market Development	Vietnam	ASA	Development of computer models of Vietnam's power system and training clients in the use of that model
	P157852	Vietnam: Energy Subsidy Reform Phase 1	Vietnam	ASA	Approach and methodology for subsidy quantification, international experience with fuel subsidies
	P149629	Equitization and Divestiture Strategy for the Vietnam Electricity's Generation Companies	Vietnam	KP	Stakeholder Workshops: Workshops for consultations with stakeholders on the output
	P143988	Myanmar Economic Cost of Natural Gas Study	Myanmar	KP	Workshops on Economic Costs of Natural Gas: A series of workshops to consult with study counterparts, share the results, and provide trainings on economic modelling.
				ASA	Report Economic Costs of Natural Gases: Review of Myanmar gas supply and demand balance.
ASA				Mathematical model for economic costs calculations and impact on Myanmar's exports and government revenue	
Europe and Central Asia	P147492	Social Compact in Electricity Privatization in South-eastern Turkey	Turkey	ASA	Implementation of the User Association "Action Plans".
	P146035	Power market structure options for Kazakhstan	Kazakhstan	ASA	Sector Issues Note which assesses the current state of the sector, its regulatory environment, operational and financial performance, the current and forecasted demand and supply balance of electricity.
	P146333	Tariff Setting Methodology	Kyrgyz Republic	ASA	Design of a communication strategy and development of a performance accountability and feedback mechanism.
				ASA	Report defining the methodology for setting end-user power and heating tariffs for customer classes
				ASA	Methodology to determine the revenue requirement for the regulated power and heating sector companies.
				ASA	Report defining the revenue requirement for the regulated power and heating sector companies.
	P148325	Western Balkans Biomass Heating Study	Albania, Bosnia and Herzegovina, Croatia, Kosovo, Macedonia former Yugoslav Republic, Montenegro, Serbia	ASA	Identification of Key Stakeholders: stakeholder reference lists by country
ASA				Activity reference database: Stocktaking of Biomass Heating Data, Assessments and Initiatives.	
P154276	Armenia: Financial Recovery of the Power Sector	Armenia	ASA	Financial diagnostics report: includes analysis of the financial standing of the state-owned power companies, analysis of the causes of their financial distress with detailed focus on financial investments, payables and receivables, liquidity and overall solvency. ( <a href="#">URL</a> )	
			ASA	Financial recovery plan: includes corporate-level recommendations on improvement of the financial standing as well as broader legal and regulatory improvements that may be needed to avoid financial distress in future to ensure the sustainability of results. ( <a href="#">URL</a> )	

	P151113	District Heating and Electricity Tariff and Affordability Analysis	Moldova	ASA	Report on District Heating and Electricity Tariff and Affordability Analysis in Moldova ( <a href="#">URL</a> )
	P147865	Georgia Power Sector Strategy	Georgia	ASA	Energy Sector Issues Paper which addresses high level strategic issues in the energy sector and builds on the existing Government's energy sector strategies and sector development plans ( <a href="#">URL</a> )
	P152593	Ukraine: Moving Forward Energy Tariffs Reforms	Ukraine	ASA	Communication plan: Support to the Government to develop the second phase of the information campaign. ( <a href="#">URL</a> )
KP				Capacity building to design and implement targeted social protection programs: workshop materials, workshop, study tour. ( <a href="#">URL</a> )	
KP				Follow-up quantitative and qualitative impact assessment of the energy subsidies reforms: PPT presentation, short report, workshop with the Government and donors and a separate workshop with media and CSOs. ( <a href="#">URL</a> )	
KP				Preliminary analysis of the performance of the new social protection program: PPT presentation, short report, workshop, adjusted operational manual for the social protection program. ( <a href="#">URL</a> )	
KP				At least 15 regional trainings for journalists took place and training materials were provided. ( <a href="#">URL</a> )	
	P157270	Uzbekistan Power Sector Planning Study	Uzbekistan	ASA	Least cost planning analysis: a model of the Uzbekistan system and a short report summarizing the key input assumptions and methodology on the least cost planning analysis.
	P153801	Uzbekistan: Impact of Energy Subsidies - Way Forward	Uzbekistan	ASA	Diagnostic analysis of the sector: PPT presentation that covers the fiscal impact of energy subsidies in the gas, electricity and heat sectors, a sector tariff analysis for gas, electricity and heating, metering and consumption based billing.
	P150205	ECA Energy Subsidy Core Group	ECA	KP	Organization of learning events such as BBLs and prepare knowledge briefs to show case the successful operations and also to share the lessons learnt
Latin America and Caribbean	P144921	Best practices for sustainable hydropower development	Guatemala	ASA	Report on best practices in sustainable hydropower development.
				KP	Dissemination of report of best practices in sustainable hydropower development
	P112780	Jamaica Emergency Integrated Resource Plan	Jamaica	ASA	Development of an Integrated Resource Plan and a road map for implementation that includes an assessment of the least cost electricity supply plan for Jamaica and options for reducing demand through energy efficiency.
				KP	Two sessions of consultative workshops
	P147007	Pricing Policies in the Energy Sector	LAC	ASA	Regional Study to evaluate the effects of various energy pricing mechanisms used in Latin America and the Caribbean and analyse the extent to which they are aligned with poverty reduction and shared prosperity objectives.
	P104034	Strategic Engagement in the Power Sector	Honduras	ASA	Management support to ENEE for implementation of PROMEF IMS.
	P155769	Energizing Agriculture: Enhancing Efficiency in Agriculture in LAC	LAC	ASA	An Excel-Based tool for Assessing Energy in Agriculture Value Chains was implemented. The tool is accompanied by a short guide on how to maximize the use of the tool. ( <a href="#">URL</a> )
				KP	A workshop in Costa Rica and a workshop in Mexico to train client counterparts on the Excel tools, and present the case studies.
	P154681	Guatemala Wind and Solar Integration Study	Guatemala	ASA	Three reports were prepared that present the techno-economic analysis made to evaluate the maximum penetration of wind & solar power in Guatemala's SNI for 2015, 2016 and 2018, and 2020. ( <a href="#">URL</a> )
P149522	BZ Energy Resilience for Climate Adapt	Belize	ASA	Analysis of energy system in Belize that evaluates vulnerabilities including identification of exposure to extreme weather events.	
			ASA	Identification of sector specific interventions for initiating a process of engaging in national climate adaptation planning.	



	P132356	Distributional Analyses and Reform Options for Petroleum Price Reforms	Haiti	KP	A note was prepared for presenting the estimations of the fiscal costs, the distributional effects, and the price effects of possible reform options. ( <a href="#">URL</a> )
Middle East and North Africa	P154859	Iraq Best Practice: Public Investment in Power Infrastructure	Iraq	ASA	Indicative Project Pipeline, based on modern power system planning techniques, and economic and financial analysis of investments.
				ASA	Standard Project Documentation: Feasibility Study, Environmental and Social Impact Assessment and Risk Mitigation, Procurement.
	P151876	Jordan Energy Sector Assistance: NEPCO Restructuring, Procurement Review, LNG Capacity Building	Jordan	ASA	Liquefied Natural Gas (LNG) Capacity Building/Training: development of local capacity in the area of LNG market fundamentals, operations, contract management and utilization strategy.
South Asia	P150066	Nepal: Conflict Management and Prevention for Energy Projects	Nepal	ASA	Mechanism for NEA to manage and prevent conflicts with energy projects.
				ASA	Review conflicts under transmission line and hydropower projects.
				KP	Capacity building of NEA, Government agencies and CSOs in conflict management.
	P151986	Strategic Communication for Improving Governance and Efficiency in the Power Sector	SA Region	KP	Special screenings and debates among key stakeholders.
Global	P147403	Enhancing Knowledge Sharing on Subsidy Reforms: Case Studies on Political Economy of Energy Subsidy Reform	Global	ASA	Executive summary and literature review: synthesis of the results of case studies into a single chapter, which presents the analytical framework, includes a broader literature review, and provides lessons from the case studies.
				ASA	Ghana Case Study: documentation of the country context, including the macro-fiscal, social, and political setting in which the reforms took place as detailed in the conceptual framework.

## ENERGY EFFICIENCY

Africa	P151006	Tanzania: Cycle mapping for improved urban mobility	Tanzania	ASA	Cycle Mobility Dataset: This output provides for cycle routes in Dar es Salaam, both formal and informal. Data is published on Open Street Map and made available as GTFS datasets			
				KP	Cycle Data Training and Community Engagement			
East Asia and Pacific	P150222	Developing Low-Carbon Strategy for Shenzhen	China	ASA	For the development of Shenzhen Low-carbon City Roadmap: summary report on Shenzhen's existing studies and policies, MAC curve analysis and low-carbon development roadmap with policy options and mechanisms ( <a href="#">URL</a> )			
				P146316	Reforming the Minibuses in Surabaya	Indonesia	ASA	Institutional and Industry Capacity Review of the Government's and industry's capability to fund, plan, regulate and operate an integrated bus-based public transport network on a "buy-the-service" basis
							ASA	Operator Contractual Arrangements Advisory: assistance to the city to formulate an appropriate draft contract for Angkot operating services.
							ASA	Policy note and facilitated discussion on new vehicle financing options
							ASA	Policy note on consultation strategy: Leveraging on existing capability, assistance to the city government to plan the development of the capabilities and resources needed
							ASA	Assistance to the city government to review the details of the institutional structure and reforms, and contracting arrangements proposed in CDIA's Pre-Feasibility study
ASA	Progress report on outcome of discussions with stakeholders							

	P152140	China: Wuhan Integrated Transport Development Project: learning from best international practice in smart transport and EE	China	ASA	Analysis and organization of the knowledge and information collected from the literature review, case studies, and interviews to build an analytical framework for Smart City and ITS energy benefits
				ASA	Literature review note for obtaining the state of the art of current research in this field
				ASA	Report: Preliminary design of an EE or Green Fund that includes domestic experience of green fund and recommendations of innovative financing mechanism for China
				ASA	Development of institutional capacity that enabled the city to develop its energy efficient and green growth business plan and using it to attract public private investments
				KP	Report, workshop, journal article for submission: This component completes the final report and carries out its dissemination; Workshops for disseminating the study findings within and outside China
Europe and Central Asia	P150863	Macedonia Municipal Energy Efficiency Promotion	Macedonia former Yugoslav Republic	ASA	Pilot for municipal Energy Efficiency action plans and projects. ( <a href="#">URL</a> )
				KP	Information dissemination: two case studies, two guidance notes, options paper for financing municipal EE beyond MSIP ( <a href="#">URL</a> )
	P152143	Belarus: Scaling Up Energy Efficiency in the Building Sector	Belarus	ASA	Assessment of options for financing and delivery of large-scale building retrofit programs. ( <a href="#">URL</a> )
				ASA	Baseline study, as part of the integrated study. ( <a href="#">URL</a> )
				ASA	Development of a road map for scaling up investments: study report in the form of a policy note which presents the main findings and recommendations, including sequencing of actions and timelines. ( <a href="#">URL</a> )
	P151970	Efficiency Improvements of the District Heating System in the Kyrgyz Republic	Kyrgyz Republic	ASA	Detailed investment and implementation plan to improve efficiency and reliability of the DH network operated by Bishkekteploset. ( <a href="#">URL</a> )
				ASA	Specific policy recommendations and time-bound transition plan to move towards consumption-based billing. ( <a href="#">URL</a> )
	P151416	Kyrgyz Republic: Urban Development Project	Kyrgyz Republic	ASA	Pre-feasibility studies for the street lightning and water and sanitation systems in 3-4 towns.
				ASA	TRACE studies completed in 3-4 towns in Kyrgyzstan.
				KP	City workshops: to present preliminary results and main recommendations from the TRACE studies.
	P152325	Sustainable Urban Transport for the City of Kyiv	Ukraine	ASA	Assessment and benchmarking of the public transport systems of Kyiv.
				ASA	Recommendations to improve the public transport systems of Kyiv.
P152761	Knowledge Sharing and EE Outreach	ECA	KP	Awareness raising products: high-level policy note and flagship presentation on energy efficiency. ( <a href="#">URL</a> )	
			KP	Knowledge sharing: two Live Wires, one on industrial energy efficiency programs and the other on ESCO market development. ( <a href="#">URL</a> )	
Latin America and Caribbean Latin	P148297	LAC Urban Energy Efficiency	Jamaica, Mexico	KP	National Urban Energy Efficiency Workshop in Colombia.
				KP	National-level workshop for Secondary Cities in Mexico together with input to a Guidebook of Best Practices of Urban Energy Use in LAC
	P150942	Brazil Energy Efficient Cities Program	Brazil	KP	Energy Efficiency in Public Street Lighting: several business models were prepared for at least two configurations of public street lighting at municipal levels. ( <a href="#">URL</a> )
	P077717	Mexico: Supporting a low-carbon economy	Mexico	KP	Clean energy and energy efficiency workshop and conference on topics related to clean energy and energy efficiency.
				KP	Knowledge exchanges with other countries which have successfully expanded renewable energy in their matrix, for instance: Brazil, Colombia and Peru.
P149872	International Conference On Energy Efficiency in Cities	Mexico	KP	International Conference on Energy Efficiency in Cities ( <a href="#">URL</a> )	
P156612	Energy Efficiency and Wastewater Re-Use Recommendations for Espirito Santo's Water	Brazil	KP	Dissemination events	

		and Sewerage Utility (CESAN)			
Middle East and North Africa	P147961	Energy Efficiency Action Plan	West Bank and Gaza	KP	The final dissemination workshop was financed and organized by the French Development Agency (AFD) in coordination with PENRA and the World Bank.
				ASA	Energy Efficiency Action Plan for West Bank and Gaza: defines practical steps to promote wider implementation of the identified energy efficiency measures in the short to medium term.
				ASA	Energy Efficiency Potential in West Bank and Gaza: assesses the potential benefits of energy efficiency measures, in terms of cost savings to the Palestinian Authority and emission savings to the environment.
	P101289	Energy Management for Water Utility Program	West Bank and Gaza	KP	Supporting knowledge exchange on the water-energy nexus: a summary report from the workshop, detailing lessons learned and experiences exchanged.
			ASA	A summary report highlighting the support provided by the Energy Efficiency (EE) expert.	
South Asia	P132250	Colombo Low Carbon Urban Transport TA	Sri Lanka	ASA	Report- Assessment of GHG emissions from transport in the Colombo Metropolitan Region.
				ASA	A low carbon future scenario was developed for CMR's urban transport sector. Based on the scenario, GHG emissions are assessed and compared with the baseline scenario.
				ASA	A pre-feasibility study for one of the mode integration projects at railway stations in CMR was conducted.
				KP	Dissemination workshop: the output of the activities was presented to the stakeholders and further steps were discussed.
	P151756	Open Accessibility Planning for Integrated and Inclusive Transport in Dhaka	Bangladesh	ASA	Summary Report: Accessibility planning pilot on a BRT corridor. ( <a href="#">URL</a> )
				KP	Data sharing, knowledge exchange and training for the presentation of the technical notes acquired during the project
	P156861	Bangladesh: Energy Efficiency Improvement Program in Industries	Bangladesh	ASA	Report: Assessment, Development and Overall Design of Energy Efficiency Improvement Implementation Program in Industries. ( <a href="#">URL</a> )
	P132418	India: Efficient & Sustainable City Bus Services - Capacity Building Program in Fuel Efficiency	India	KP	Performance Reports: Review of available Guidelines and Materials and practices for Fuel Efficiency in Bus Operations and development of standard materials for the Indian context; the draft guidelines and manuals were tested on 3 pilot cities
				KP	Workshops and Training events organized with Ministry of Urban Development to propagate the use of and assist with adoption of fuel conserving techniques to State Transport Undertakings (STUs) and private operators across India.
	P147807	Scaling Up Energy Efficiency and DSM Business Line in South Asia	Afghanistan, Bangladesh, India, Nepal, Pakistan, Sri Lanka	KP	Workshop: review of the work done in South Asia and review of Global EE Experience and applicability to South Asia
ASA				Preparation of Country EE Strategic Roadmap: delivery of solutions and Business Models for Implementing EE in South Asia	
P156861	Bangladesh: Energy Efficiency Improvement Program in Industries	Bangladesh	ASA	Report: Strengthening the Energy Efficiency Institutional Architecture for Industry and Capacity Building.	
			KP	Workshop: Strengthening the Energy Efficiency Institutional Architecture for Industry and Capacity Building.	
Global	P145972	City Energy Efficiency Transformation Initiative: Low Carbon Growth for Cities through Energy Efficiency	Global	KP	E-learning course on Energy Efficiency in Cities ( <a href="#">URL</a> )
				KP	Street Lighting LED BBL - half-day learning event on Scaling-up LED Lighting Deployment: Implementation and Financial Solutions
				ASA	Efficient Street Lighting case studies: series of 6 case studies on Public Lighting LED Delivery Models ( <a href="#">URL</a> )
	P152356	Data Analytics for Intelligent Energy Systems	Global	KP	Dissemination and knowledge exchange of experiences and insights from the research, the online survey and the pilot projects. ( <a href="#">URL</a> )

				ASA	Design and implementation of four pilot projects demonstrating the use cases of open source models of advanced data analytics. ( <a href="#">URL</a> )
				ASA	Research and documentation of opportunities and challenges related to advanced data analytics for urban energy efficiency. ( <a href="#">URL</a> )

#### RESULT BASED FINANCING

East Asia and Pacific	P130355	Lao PDR - Background analysis and design of health impact RBF mechanism for Clean Stove Initiative	Lao People's Democratic Republic	ASA	Design of Health Impact Result Based Financing Mechanism and Final Reports including academic journal publications
				ASA	Health Impact Study Report
				ASA	Social Acceptability Study Report: Field trials of sample households with selected improved high efficiency wood burning cook stoves

#### GENDER

Global	P129889	Gender Equality and Development e-Course	Global	KP	Self-paced course designed and completed and can be accessed through the ESMAP website and the World Bank's On-Line Training Campus. Course materials (presentations, speaking points, resources) used as inputs into various face-to-face trainings and events. ( <a href="#">URL</a> )
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## Annex 9| ASTAE FY16 New, Ongoing, Completed Activities

Table. NEW ASTAE Activities, FY2016

Activity	Country	Region	Task Manager	Project ID	TF
Lao PDR Cook Stove Initiative	Lao PDR	EAST ASIA AND PACIFIC	Somil Nagpal	P151425	TF0A2719
Mongolia: Support to the Preparation of the Second Energy Sector Project (ESP2)	Mongolia	EAST ASIA AND PACIFIC	Peter Johansen	P152343	TF0A2911
Myanmar National Electrification Project: impact evaluation baseline based on geographic information system	Myanmar	EAST ASIA AND PACIFIC	Dejan R. Ostojic	P152936	TF0A2560
Vietnam: IFRS Gap Analysis	Vietnam	EAST ASIA AND PACIFIC	Christopher Robert Fabling	P154033	TF0A0778
Supporting Environmentally and Socially Sustainable Hydropower Development	Bhutan	SOUTH ASIA	Mats Johan Rikard Liden	P156263	TF0A1145
Support to 24X7 Power For All Program in India: The states of Andhra Pradesh & Rajasthan	India	SOUTH ASIA	Mani Khurana	P155038	TF0A2029
Renewable Energy Resource Mapping and Geospatial Planning: Pakistan	Pakistan	SOUTH ASIA	Anjum Ahmad	P146140	TF0A1129

Table. ONGOING ASTAE Activities, FY2016

Activity	Country	Region	Task Manager	Project ID	TF
Indonesia - Renewable Energy Access Improvement	Indonesia	EAST ASIA AND PACIFIC	Joel J. Maweni	P154805	TF012055
Clean Stove Initiative Phase 2 (Bank executed part)	Lao People's Democratic Republic	EAST ASIA AND PACIFIC	Rutu Dave	P130355	TF013165
Clean Stove Initiative, Support to the emergence of scalable biomass stoves markets	Indonesia	EAST ASIA AND PACIFIC	Yabei Zhang	P144213	TF013192
Tina River Hydropower Development Project: Benefit Sharing and Technical Quality Assurance	Solomon Islands	EAST ASIA AND PACIFIC	Takafumi Kadono	P152779	TF014731
Support for Preparation of Indonesia Hydropower Project	Indonesia	EAST ASIA AND PACIFIC	Gailius J. Draugelis	P149098	TF016686
Support to Integrated Catchment Program for Upper Cisokan Pumped Storage Project	Indonesia	EAST ASIA AND PACIFIC	Peter Johansen	P112158	TF017432
Strategic Advisory for the Lao Power Sector Reform	Lao People's Democratic Republic	EAST ASIA AND PACIFIC	Franz Gerner	P109736	TF016634
Strengthening institutions for on- and off-grid electrification in Myanmar	Myanmar	EAST ASIA AND PACIFIC	Dejan R. Ostojic	P152936	TF018655

<b>Implementation Support for the Pacific Energy Program</b>	Pacific Islands	EAST ASIA AND PACIFIC	Leopold Sedogo	P152653	TF018560
<b>Capacity Strengthening of the National Electrification Administration, Department of Energy and the Energy Regulatory Commission in the Philippines</b>	Philippines	EAST ASIA AND PACIFIC	Alan F. Townsend	P153268	TF018561
<b>VN Pumped Storage Hydropower Development Strategy</b>	Vietnam	EAST ASIA AND PACIFIC	Franz Gerner	P153258	TF019282
<b>Sustainable Urban Energy and Emissions Planning (SUEEP) – Phase 3: Energizing Green Growth of Da Nang City in Vietnam</b>	Vietnam	EAST ASIA AND PACIFIC	Dejan R. Ostojic	P146777	TF015290
<b>Using Satellite Imagery to Monitor Progress of Rural Electrification</b>	Asia	OTHER	Kwawu Mensan Gaba	P144130	TF012718
<b>EAP Gender and Energy Facility</b>	World	OTHER	Helene Monika Carlsson Rex	P151262	TF017722
<b>Clean Energy Development and Regulatory Support</b>	Maldives	SOUTH ASIA	Sandeep Kohli	P145482	TF011483
<b>Mitigation Options for Short-Lived Climate Pollutants in South Asia</b>	South Asia	SOUTH ASIA	Chandra Shekhar Sinha	P146366	TF014748
<b>Solar Market Development for Off-grid Access in Pakistan and Afghanistan</b>	South Asia	SOUTH ASIA	Fanny Kathinka Missfeldt-Ringius	P154290	TF014975
<b>Strategy to Scale-up Renewable Energy: Pakistan</b>	Pakistan	SOUTH ASIA	Oliver Knight	P146251	TF015062
<b>PREPARE for energy access in UP and Bihar</b>	India	SOUTH ASIA	Mani Khurana	P144678	TF015852
<b>India: Program for Grid Based Solar Sector</b>	India	SOUTH ASIA	Demetrios Papatthanasiou	P154283	TF018987
<b>Maldives: Renewable Energy Resource Mapping and Geospatial Planning</b>	Maldives	SOUTH ASIA	Abdulaziz Faghi	P146018	TF018526
<b>Development of Private Sector Models for Off-Grid Electrification in South Asia</b>	South Asia	SOUTH ASIA	Sandeep Kohli	P146107	TF015524
<b>Clean Cooking in South Asia (India): Options and Strategies</b>	South Asia	SOUTH ASIA	Chandra Shekhar Sinha	P146366	TF019361

**Table. COMPLETED ASTAE Activities, FY2016**

<b>Activity</b>	<b>Country</b>	<b>Region</b>	<b>Task Manager</b>	<b>Project ID</b>	<b>TF</b>
<b>Building Innovation Capacity in Clean Energy in Indonesia</b>	Indonesia	EAST ASIA AND PACIFIC	Ratna Kesuma	P121842	TF011057
<b>Geothermal Power Development Program II</b>	Indonesia	EAST ASIA AND PACIFIC	Peter Johansen	P113078	TF011403
<b>Greenhouse Gas Emission Mitigation in Road Transport: Toolkit Implementation and Life-Cycle Analysis</b>	Vietnam	EAST ASIA AND PACIFIC	Holly Krambeck	P143390	TF012199
<b>Enhance Awareness of Effort at Electrification of Rural Herders through Solar Home Systems in Mongolia</b>	Mongolia	EAST ASIA AND PACIFIC	Peter Johansen	P099321	TF012278
<b>Cumulative Impact Assessment on Small Hydropower Projects on River Cascades</b>	Vietnam	EAST ASIA AND PACIFIC	Franz Gerner	P103238	TF012511

<b>Assessing the Key Elements for the Development of a Third Party Access Code for the Transmission and Distribution Networks in Papua New Guinea</b>	Papua New Guinea	EAST ASIA AND PACIFIC	Roberto Gabriel Aiello	P101578	TF012565
<b>Fundamentals of an Energy Roadmap in Small Island Developing States – Experiences from the Pacific</b>	Tonga	EAST ASIA AND PACIFIC	Roberto Gabriel Aiello	P131250	TF012932
<b>Evaluation of Social Impacts of Mongolia Renewable Energy and Rural Electricity Access Project</b>	Mongolia	EAST ASIA AND PACIFIC	Peter Johansen	P040907	TF013145
<b>Integration of Social Dimension in Energy Access Projects</b>	East Asia and Pacific	EAST ASIA AND PACIFIC	Helene Monika Carlsson Rex	P144091	TF013726
<b>Electric Cooperatives Reform and Restructuring – Phase II</b>	Philippines	EAST ASIA AND PACIFIC	Alan F. Townsend	P147646	TF014010
<b>Philippines Renewable Energy Policy Implementation Support</b>	Philippines	EAST ASIA AND PACIFIC	Alan F. Townsend	P147646	TF014290
<b>Implementation Support for the Tonga TERM-IU</b>	Tonga	EAST ASIA AND PACIFIC	Roberto Gabriel Aiello	P131250	TF014515
<b>EAP-Clean Stoves Initiative Forum</b>	East Asia and Pacific	EAST ASIA AND PACIFIC	Yabei Zhang	P129830	TF016810
<b>Large Enterprises Energy Efficiency Project</b>	Indonesia	EAST ASIA AND PACIFIC	Dhruva Sahai	P148620	TF016122
<b>EAP-SAR Renewable Energy and Energy Efficiency South-South Knowledge Exchange</b>	Mekong	EAST ASIA AND PACIFIC	Dejan R. Ostojic	P150457	TF016950
<b>Papua New Guinea (PNG) Renewable Energy (RE) Resource Mapping and Geospatial Planning</b>	Papua New Guinea	EAST ASIA AND PACIFIC	Gerard Fae	P145864	TF018964
<b>Philippines ERC Capacity Strengthening</b>	Philippines	EAST ASIA AND PACIFIC	Alan F. Townsend	P147646	TF016756
<b>Renewable Energy and Energy Efficiency Knowledge Exchange for Pacific Island Countries</b>	Tonga	EAST ASIA AND PACIFIC	Roberto Gabriel Aiello	P131250	TF017304
<b>Preparation and early implementation support for the Tuvalu Energy Sector Development Project</b>	Tuvalu	EAST ASIA AND PACIFIC	Roberto Gabriel Aiello	P144573	TF016082

<b>Capacity Building Support to Vietnam Pumped Storage Power Program</b>	Vietnam	EAST ASIA AND PACIFIC	Franz Gerner	P084773	TF016105
<b>Renewable Energy Integration and System Efficiency and Reliability Enhancement</b>	Vietnam	EAST ASIA AND PACIFIC	Peter Johansen	P131558	TF015206
<b>Household Energy in South Asia Region</b>	Bangladesh	SOUTH ASIA	Zubair K.M. Sadeque	P131263	TF011458
<b>Showcasing Results in World Bank Supported Intervention in Bangladesh Rural Electrification</b>	Bangladesh	SOUTH ASIA	Zubair K.M. Sadeque	P071794	TF011533
<b>Access to electricity solutions in South Asia</b>	India	SOUTH ASIA	Sheoli Pargal	P145887	TF012096
<b>Natural Gas Loss Reduction</b>	Pakistan	SOUTH ASIA	Bjorn Hamso	P120589	TF012308
<b>Scaling up Decentralized Energy Access in Nepal</b>	Nepal	SOUTH ASIA	Priti Kumar	P144683	TF016453
<b>Photovoltaic Technology Workshop in Kathmandu</b>	Nepal	SOUTH ASIA	Jie Tang	P146344	TF016520
<b>Impacts of Climate Change on Water</b>	South Asia	SOUTH ASIA	Pravin Karki	P149462	TF016916
<b>Renewable Energy Training for South Asia Officials</b>	South Asia	SOUTH ASIA	Laurent Durix	P150207	TF016917



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