

Ministry of Foreign Affairs – (Department for Multilateral Cooperation and Climate Change - MKL)

Meeting in the Council for Development Policy 26 October 2017

Agenda item 6

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| 1. Overall purpose | For discussion and recommendation to the Minister |
| 2. Title: | Support to the Energy Sector Management Assistance Programme (ESMAP) |
| 3. Presentation for Programme Committee: | 8 June 2017 |

Energy Sector Management Assistance Programme (ESMAP)

Key results:

- **Energy access:** 6 cooking heating country program operations or activities developed in the lending portfolio and 4 enterprises that are “new entrants” in a specific country or market segment.
- **Renewable Energy Resource Mapping:** 8 projects on RE resource mapping informed/supported; At least \$25million additional funding has been leveraged.
- **Variable Renewable Energy:** 8 new World Bank operations on VRE.
- 10 country planning strategies on variable renewable energy grid.
- **Energy efficiency:** at least 13 country buildings-related policies/plans/strategies informed.

Justification for support.

- Demand-driven energy sector reform with focus on the poor and vulnerable population segments.
- Aligned with the strategic objective of inclusive, Sustainable Growth.
- Contributes to the achievement of SDG 7 and SDG 13.
- Promotes Danish competences in renewable energy.
- Danish support contributes to leveraging private funding.

How will we ensure results and monitor progress

- Active involvement in the donor group (governing board).
- Annual Progress Reports and Portfolio Review Summary
- Input from Technical Advisory Group during programme implementation.

Risk and challenges

- Risk of duplication of activities and sources of finance. Mitigation measures such as active involvement in the donor governing board, reiterating both the importance of in-country coordination amongst bilateral and multilateral development partners.
- Possible delay or implementation problems caused by the political, social, economic and institutional context in ESMAP client counties are mitigated through close monitoring of on-the-ground country environment.

File No.	2017-21726				
Country	N/A				
Responsible Unit	MKL				
Sector	Energy				
	<i>45 Mill.</i>	2017	2018	2019	2020
Commitment	45				45
Projected ann. Disb.	18	10	10	7	45
Duration	2017-2020				
Finance Act code.	06.38.02.17				
Desk officer	Monica Hapiach Christensen				
Financial officer	Jonas Henriques				

SDGs relevant for Programme



Budget for ESMAP's

Thematic Programme	
Annual Block Grants	40 million USD
SE4ALL Knowledge Hub	16 million USD
Energy Subsidy Reform	20 million USD
Efficient Clean Cooking & Heating	24 million USD
SE4ALL Technical Assistance/Electrification	12 million USD
Mini-Grids	10 million USD
Urban Poor	4 million USD
RE Mapping	14 million USD
Global Geothermal Development	6 million USD
VRE Grid Integration	14 million USD
Solar Support	11 million USD
Lighting Global	11 million USD
Efficient & Sustainable Buildings	10 million USD
EE City Services	15 million USD
Programme Management and Administration	4 million USD
Communication	2 million USD
Knowledge Management	1 million USD
Monitoring and Evaluation	1 million USD
Programme Support	45 million DKK
Total Business Plan Budget	215 million USD

Strat. objective(s)

Contribute towards realising SDG 7: i) Ensuring universal access to affordable, reliable and modern energy services; ii) Increasing substantially the share of renewable energy in the global energy mix, and iii) Doubling the global rate of improvement in energy efficiency.

Thematic Objectives

Development finance informed; Client Capacity Increased; Policy/Strategy Informed; Knowledge increased; Innovative Approaches & Solutions Generated

List of Engagements

- Efficient Clean Cooking and Heating
- Urban Poor Electricity Access Program
- Renewable Energy Resource Mapping
- VRE Grid Integration Support Program
- Energy efficiency

Ministry of Foreign Affairs of Denmark

Danida

Development Engagement Document
Energy Sector Management Assistance Programme (ESMAP)

File no.: 2017-21726

List of Abbreviations

ABG	Annual Block Grants
BETFs	Bank-executed Trust Funds
BP	Business Plan
CEN	Country Engagement Note
CG	Consultative Group
CPF	Completion and Learning Review
ESMAP	Country Partnership Framework
EE	Energy Sector Management Assistance Programme
FCV	Energy Efficiency
FY	Fragility, Violence and Conflict
GFR	Financial Year
GP	Grant Financing Request
GRM	Grant Reporting and Monitoring
GTF	Global Tracking Framework
IBRD	International Bank for Reconstruction and Development
IDA	International Development Aid
IEA	International Energy Agency
IFC	International Finance Corporation
IRENA	International Renewable Energy Agency
MDTF	Multi Donor Trust Fund
MFA	Ministry of Foreign Affairs of Denmark
MIGA	Multilateral Investment Guarantee Fund
M&E	Monitoring and Evaluation
MTF	Multi-tier Framework for Measuring Energy Access
NDC	Nationally Determined Contribution
NEA	National Electrification Administration
PM	Programme Management
PSF	Proposal Summary Form
RC	Regional Coordinator
RE Mapping	Renewable Energy Resource Assessment and Mapping
RETFS	Recipient-executed Trust Funds
RISE	Regulatory Indicators in Sustainable Energy
RM	Regional Manager
SDG	Sustainable development goal
SE4All	Sustainable Energy for All
TAG	Technical Advisory Group
TF	Trust Fund
TRACE	Tool for Rapid Assessment of City Energy
TTL	Task Team Leader
VRE	Variable Renewable Energy
WB	World Bank
WBG	World Bank Group

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1. Introduction

The Energy Sector Management Assistance Program (ESMAP) is a global knowledge and technical assistance program administered by the World Bank (WB). Established in 1983, it provides analytical and advisory services to low- and middle-income countries to reduce poverty and boost growth, through environmentally sustainable energy solutions. With funding from 16 donors¹ and the World Bank, ESMAP supports client countries through targeted technical assistance, knowledge generation and dissemination, pre-investment project preparation, and implementation support. ESMAP tackles questions related to energy in all its forms in both rural and urban settings. It influences billions in loans for development projects, leverages public and private financing, working with global agendas on energy and climate in country partnership programs and beyond. Practically, ESMAP works in every WB client country supporting improved energy sector performance and governance, enhancing access to modern energy services, increasing the efficiency of energy use, and/or promoting renewable energy. The program is fully integrated with the WB's country policy dialogue and lending programs, working through WB country teams.

Denmark has been a long-time supporter of ESMAP, providing support since 2005. The last core contribution of 53 million DKK to ESMAP was committed in 2013. Additional soft earmarked contributions have been provided from the Climate Envelope to specific parts of the ESMAP programme. These include a 27.5 million DKK and a 6 million DKK contribution to energy subsidy reform in 2013 and 2016, 14 million DKK in support to the mini-grids programme, and 16.5 million DKK in support to renewable energy/resource mapping in Ethiopia. The new Danish core contribution of DKK 45 million will be channelled through ESMAP's Multi Donor Trust Fund (MDTF) and will support the implementation of ESMAP's BP for FY 2017-2020. A Danish secondment within the area of variable renewable energy will be included in this contribution, with an estimated budget of 4.2 million DKK.

The present development engagement document details the objectives and management arrangements for the Danish contribution to ESMAP's Business Plan (BP) for financial year (FY) 2017-2020 as agreed between the parties specified below. The overall objective of the development cooperation is to contribute towards realising the Sustainable Development Goal (SDG) 7. Thus, the objective is threefold; *"1) ensuring universal access to affordable, reliable and modern energy services, 2) Increasing substantially the share of renewable energy in the global energy mix, and 3) Doubling the global rate of improvement in energy efficiency."*

The development engagement document is annexed to the Administration Agreement, along with amendment number 4, between the Kingdom of Denmark, acting through its Ministry of Foreign Affairs, and the International Bank for Reconstruction and Development and the International Development Association. The development engagement document constitutes an integrated part hereof together with the documentation specified below.

¹ Current ESMAP donors include: Australia, Austria, Denmark, Finland, France, Germany, Iceland, Japan, Lithuania, Luxembourg, the Netherlands, Norway, the Rockefeller Foundation, Sweden, Switzerland, and the United Kingdom. There is currently a proposal for a direct contribution from the EU to ESMAP, and an Administrative Agreement is pending full execution for Italy to become an ESMAP donor.

1.1 Parties

The Ministry of Foreign Affairs of Denmark (MFA) and the World Bank's Energy Sector Management Assistance Program (ESMAP).

1.2 Documentation

"The Documentation" refers to the partner documentation for the supported intervention, which is ESMAP's Business Plan for FY2017-2020².

2. Strategic Considerations and Justifications

The Danish contribution to ESMAP's 2017-2020 BP is aligned with the strategic objective of *inclusive, Sustainable Growth* in the Danish strategy for development cooperation and humanitarian assistance "The World 2030". ESMAP's thematic focus areas *Energy Access, Renewable Energy* and *Energy Efficiency* coincide with those of the SDG7 "Affordable and clean energy", and ESMAP contributes directly to SDG13 "Climate Action"; key priority areas for Denmark. Understanding energy as an enabling factor, ESMAP also contributes importantly to a range of other SDGs, i.e. poverty reduction (SDG1), health (SDG3), employment and economic growth (SDG8) as well as sustainable cities (SDG11). Furthermore, ESMAP's focus on improving framework conditions and using public funds to catalyze private investments while working in partnerships is all very well aligned with Denmark's strategic priorities. Finally, ESMAP is a key facility in terms of addressing the objective of the Paris Climate Agreement; to keep global temperature increases below 2 degrees Celsius compared to pre-industrial level.

By focusing on the whole energy sector, from improving enabling conditions to actual implementation of energy sector reform, ESMAP has a holistic approach to the implementation of SDG 7 in various developing countries. As a WB administered programme, ESMAP is uniquely positioned to engage in dialogue with policy makers, while leveraging finance and providing technical assistance to meet the demand for energy sector reform in client countries. Furthermore, ESMAP is in a strong position to mobilise other WB units and in-country actors when necessary. ESMAP currently has a broad range of cooperative activities with development partners, for example with the International Energy Agency (IEA) and a consortium of organizations on the Sustainable Energy for All (SE4All) Global Tracking Framework³ and with the International Renewable Energy Agency (IRENA) on renewable energy resource mapping.

The current Danish Organisation Strategy (2013-2017) for the World Bank Group (WBG)⁴ states that contributions should only be provided to trust funds that support key priority areas in Danish development cooperation, while maintaining a preference for core support. The area of climate change and the ESMAP trust fund are explicitly mentioned as points in case. The 3-year Danish secondment to ESMAP is both in line with the Organisation Strategy and "The World 2030" in that it enables the use and promotion of the Danish resource base, in an area where Denmark has key competences, at the same time as the secondment meets the strategical needs of ESMAP. Besides the Danish secondment, the MFA will regularly

² Can be provided upon request.

³ Monitors progress towards realizing SDG7.

⁴ Can be provided upon request.

consider entering into dialog with relevant Danish civil society organisations to qualify the development of ESMAP policies.

The secondee will be part of the ESMAP Renewable Energy team (and part of the Bank Clean Energy Global Solutions Group) and will support the implementation of the Variable Renewable Energy (VRE) Grid Integration Program, with potential overlap with other ESMAP initiatives such as the Minigrid Program or the ESMAP Solar Support Program. The secondment will enable ESMAP to scale up the work on VRE grid integration and to meet the increasing demand for grid integration from client countries. There is currently no senior level specialist in VRE grid integration in ESMAP, and there are no donor-funded senior-level staff positions on solar and wind power. Thus, the Danish secondment will ensure a strong link between key Danish competences on renewable energy while contributing to ESMAP client countries' demands in this area. Section 5 includes a budget for the secondment, and annex 6 presents draft terms of reference for the position.

3. Programme Description

3.1 ESMAP's Business Plan for 2017-2020

In order to meet the SDG7 by 2030 and implement the Paris Agreement, there is a need for focused government commitment, making good use of relevant experience as well as to stimulate and attract investment in the energy sector. The ESMAP BP for FY2017-2020 seeks to address these challenges and support the WB's Climate Change Action Plan and the WB's twin goals of eliminating extreme poverty and boosting shared prosperity. The BP is organized around three thematic areas, corresponding to the three SDG7 targets on *energy access*, *renewable energy*, and *energy efficiency*. Three cross-cutting areas of *energy markets*, *governance and planning*, *energy subsidy reform* and *energy knowledge tools* have been identified to tackle broader sectoral issues.

With regards to *energy access*, ESMAP support for analysis and knowledge exchange underpins high level dialog with governments, helping to improve energy access planning, effectively integrate grid and off-grid electrification solutions, support clean cooking in energy access strategies and programs, and provide both global and locally-adapted knowledge and data needed for both the public and the private provision of energy access. ESMAP technical and operational assistance supports governments in mobilizing financing from the WBG, other development partners and the private sector. Activities in this thematic area include: 1) support to countries with electricity access deficits in improving planning capacity and developing programmatic, sector-wide approaches for national electrification strategies and programs (SE4ALL Technical Assistance); 2) supporting rural access through off-grid solutions, focusing on catalysing private sector engagement, 3) supporting access for the urban poor through demonstrating and documenting upscaling solutions for slums and informal settlements and 4) transforming the sector into a viable investment destination to increase access to more efficient, cleaner cooking and heating solutions.

Under the thematic area Energy Access, ESMAP orients its focus to countries and population segments based on the principle of "leaving no one behind". Energy issues affect women and men differently, as each has different roles and responsibilities in their households, markets, and communities. In the area of energy access, specifically access to clean cooking, gender equity is particularly pronounced. The fuels and technologies households use for cooking have become a major global health issue. Approximately 4 million

premature deaths, primarily among women and children, are caused each year by inhaling carbon monoxide and particulate matter from traditional biomass cookstoves. Furthermore, dependence on polluting fuel has wider social and environmental impacts for displaced people. Women and girls often collect fuel from outside the camp and are thus vulnerable to attacks; fuel collection takes away time for education, parental care, livelihoods, and social activities; where people cannot afford to buy fuel, missing meals and selling food rations is common⁵. Thus, addressing access to energy is an example of how ESMAP contributes to addressing rights-fulfilment in a number of ways. ESMAP also addresses gender equity in the BP for FY2017-2020 by mainstreaming gender across its business lines and grant programs. Internal processes will integrate gender considerations such as the Annual Block Grant call for proposals and review; and the M&E efforts through continued tracking of gender inputs and results during the proposal, implementation, and completion stages.

Almost all developing and emerging countries include goals in their NDCs to increase the share of renewables in their energy supply. As costs come down, *renewable energy* increasingly offers benefits to developing and emerging countries beyond climate change mitigation: cost-effective additions to diversify generation capacity, improved energy security through reduced exposure to fuel imports and price fluctuations, and reduced local pollution, among others. ESMAP has prioritised activities where engagement by the WB, working closely with other development partners, and building on the programmes comparative advantages, can help address these challenges. Thus, ESMAP will in this thematic area work with: 1) resource assessment and mapping, 2) integrating variable renewables in electrical grids, 3) global geothermal development and 4) assisting countries looking to structure their first solar projects, and helping to strengthen their enabling environment, including developing road maps for large-scale deployment of solar energy.

Factors such as rapid urbanization in many developing and emerging economies, combined with rising incomes, ageing infrastructure and impacts of climate change are putting increased pressure on energy supply for cities, with implications for municipal budgets and reliability of supply. There is a clear global mandate and powerful local drivers for action on EE. Yet, critical challenges remain to be addressed to stimulate more rapid uptake of EE opportunities. These include, amongst others, simplifying and streamlining the identification of energy efficiency opportunities as well as development of the evidence, capacity and enabling framework for action on energy efficiency. The thematic area of *energy efficiency* will be centred on activities within “Efficient and Sustainable Buildings” and “Efficient City Services”. Efficient and Sustainable Buildings focuses on addressing and removing barriers for investments in a sector that has large untapped economic potential, experience significant growth, is responsible for a large share of global energy consumption and is key to many countries’ NDCs. The program on Efficient City Services addresses identification, development and implementation support of investment projects for urban energy efficiency across the urban, energy, transport, and water sector.

Energy markets, governance and planning. Meeting the SDG7 in access, renewable energy and energy efficiency by 2030 requires strong financial health of the power sector, strong system planning, clear sector and market rules, and predictable regulation allowing return on investment. ESMAP support in this area

⁵ Global Tracking Framework 2017.

include: 1) assessments and diagnostics, 2) technical assistance and 3) capacity building and knowledge exchange. ESMAP provides to each operational region of the WB funding in the form of Annual Block Grants (ABGs) to address these core sector issues. Contrary to the grants tied to the three thematic areas, the ABGs provide flexible financing to address policy, regulatory and institutional constraints at the country level that impede the achievement of the SDG7 goals. For example, by providing support for improved sector governance, ABGs aid in creating an enabling environment for private investment in renewables or energy efficiency. ABGs also support least cost expansion planning and strategy development – necessary inputs into decisions for enhancing access such as choosing between power imports or domestic production, distributed or centralized generation, grid extension, etc. Annex 2 provides additional information about the strategic use and focus of the ABGs.

Energy subsidy reform. Global spending on fossil fuel consumption subsidies totalled US\$325 billion in 2015, draining public resources and reducing prospects for sustainable development and the transition to renewables. Energy subsidies distort incentives for energy efficiency and for private investments in the sector. Despite being regressive and inefficient, energy subsidies are popular across all income groups. The Energy Subsidy Reform initiative started in 2013 and mainly consist of comprehensive technical assistance to governments, coordinating the full range of the WB's expertise in macroeconomic and fiscal matters, poverty analysis and policy, communications and consultations, energy, and social protection. Through its knowledge program, this initiative has also provided a space for governments to hear from peers about their experiences, to encourage reform where governments may be uncertain about the likelihood of success. In response to the strong demand so far, ESMAP will expand its current technical assistance to governments, building on the successful work that has been done in a number of countries, while helping other countries in starting their effort on subsidy reform. A standardized framework for assessment of energy subsidies is also being developed to guide teams as they engage with clients on this complex topic, while the knowledge exchange will be continued in order to deepen dialog among governments, both on a regional and global level.

SE4All Knowledge Hub. The SE4All initiative, launched in 2011 by the UN Secretary General, aims to help achieve the three SDG7 targets by 2030, cf. section 1. The WB, through ESMAP and the Energy and Extractives Global Practice, hosts the SE4All Global Knowledge Hub. The Knowledge Hub facilitates the creation, enhancement, and exchange of knowledge for the overall initiative in partnership with SE4All partner agencies. The focus is on tracking progress towards achieving the three SDG7 targets and on creating and sharing critical knowledge needed for the achievement of these goals. Measuring and tracking progress toward these common goals is vital to maintain momentum and direct resources. Further information on these activities may be found in annex 8. Knowledge management, communication and awareness raising, including ESMAP's current role as the SE4All Knowledge Hub, are key areas of activities for ESMAP. Increased emphasis has, particularly since 2016, been put on ESMAP's strategy towards knowledge management and communication, to ensure that external stakeholders, partner countries as well as development partners are informed about ESMAP's work, tools and other knowledge products. Information about ESMAP's knowledge management and communication strategy is further elaborated in annex 7.

ESMAP activities have a broad geographical coverage with allocations to low-income and middle-income countries, (in WBG terminology this translates into the distinction between IDA and IBRD). Whereas allocations between IDA (44%) and IBRD (37%) were relatively balanced in ESMAP's BP FY2014-2016, IDA funding has been strongly increased. Geographically, this translates into a relatively strong focus on sub-Saharan Africa. This increase is due to the greater needs for financial and technical assistance in the energy sector in low income countries. At the same time, about 75% of the world's extreme poor currently live in middle income countries and even with continued economic growth, about 50% of the world's poor will live in lower middle income countries. The poor in middle-income countries often suffer disproportionately from unreliable energy supply. Therefore, ESMAP will continue to provide assistance to middle income countries, within the framework of ensuring reliable access to energy for economic growth that lifts the extremely poor out of poverty and boosts shared prosperity also for the excluded and vulnerable in middle income countries.

In a number of areas, ESMAP has adopted the WBG's approach. Examples of this are ESMAP's approach to poverty reduction, climate change, mobilizing private sector investments (the 'cascade approach'⁶) and fragility, conflict and violence (FCV). Regarding FCV, ESMAP aims to address sources of instability and build resilience, emphasizing prevention. ESMAP will remain engaged during active conflict and through countries in recovery and transition.

3.2 ESMAP Achievements and Lessons Learned

Previous ESMAP activities have informed the development and execution of the FY17-20 BP. During the previous BP, cumulative ESMAP support contributed to leveraging over \$3.7 billion in WB lending. In addition, these lending projects leveraged a further \$1.8 billion from public, private and other sources. During this same period, ESMAP supported more than 250 analytical and advisory activities, totaling \$118 million in about 130 countries through covering a broad range of energy issues.

Transformative interventions, such as those developed under the Lighting Africa initiative⁷, were found to achieve cost-effectiveness through scalable activities that have market-wide effects, compared to traditional initiatives focusing on one-to-one advisory support. In addition, programmatic, sector-wide approaches, such as those designed under SE4All Technical Assistance Facility⁸, have demonstrated ESMAP's impact in countries with electricity access deficits, such as Myanmar, where geospatial, least cost grid rollout plan with pre-electrification investments in mini-grid and off-grid solutions are designed to accelerate universal access to electricity.

The ESMAP-developed Tool for Rapid Assessment of City Energy (TRACE) - a simple city energy diagnostic tool - was designed to highlight sectors with the most significant potential for energy efficiency

⁶ This approach implies giving preference to mobilising private sector investments wherever possible, and stepping up to different types of concessional and grant financing where no other funds are available.

⁷ Lighting Africa seeks to accelerate the adoption of clean off-grid lighting technologies by households and businesses throughout Sub-Saharan Africa.

⁸ The Technical Assistance Facility is part of the World Bank Group's commitments announced at the UN's Rio+20 Summit. The facility will provide funding and technical expertise to assist selected SE4All opt-in countries in planning and developing short to medium-term prospectuses to mobilize investments to reach universal energy access by 2030.

enhancements and suggest measures that can be implemented to realize that potential. As a result, multi-sectoral Bank teams could engage clients in a structured and more holistic dialogue on municipal energy efficiency across all regions and sectors (buildings, street lighting, transport, water, etc.). Beyond facilitating client dialogues, TRACE-based diagnostics have led to investments in municipal energy efficiency. In addition, the work done and supported by ESMAP has enabled not only a significant increase in urban operations with energy efficiency components, but has also helped influence and shape the WB's strategies and sectoral policies. This experience has further focused ESMAP's work on energy efficiency in the new BP to target i) *Efficient and Sustainable Buildings*, which provides a dedicated focus to address and remove barriers in a sector that is responsible for a large share of global energy consumption; and ii) *Efficient City Services*, which focus on identification, development and implementation support of investment projects for urban energy efficiency across the urban, energy, transport and water sector.

Another example of the implications of ESMAP activities relate to the renewable energy area. Here, ESMAP's renewable energy resource assessment and mapping (RE Mapping) has helped raise the profile of RE Mapping internationally. As a result, WBG teams are now integrating resource assessment and ground-based measurements into lending and investment operations, and much broader demand has been created for introductory RE Mapping. For the FY17-20 BP, ESMAP will invest in developing globally-accessible tools and data where possible, drawing on the latest methodologies, to produce for all countries what used to be commissioned individually at high cost. This will allow more funds to be targeted at high priority regional or country activities, including ground-based measurement campaigns to fill crucial data gaps, technical assistance to utilize and enhance the data provided, and country studies where a global approach is not feasible. Annex 1 provides an overview of ESMAP's key achievements, including those described above, from the previous BP period of 2014-2016.

An external evaluation of ESMAP was carried out in 2015-2016 to evaluate initial achievements of the FY14-16 BP. Key findings of the evaluation include the following: i) ESMAP is highly relevant to global and regional challenges in the energy sector, including those identified by the SE4All initiative, the International Energy Agency's World Energy Outlook, and the WBG's 2013 energy sector directions paper; ii) ESMAP's direct links to WBG energy sector operations and policy discussions have been critical for understanding client demand, responding quickly to client demands for assistance, and assessing when a political window of opportunity opens; iii) Changes in the FY2014-2016 BP have been responsive to the Consultative Group (CG)⁹ and to the findings and recommendations of the previous evaluation; iv) Overall, ESMAP is widely seen as providing high quality and responsive management; v) ESMAP has maintained a lean administrative budget; vi) ESMAP's influence on private sector and other non-World Bank investment is likely greater than currently reported due to potential under-reporting; vii) ESMAP has responded to recommendations from the previous external evaluation, and there has been a visible increase in gender and social inclusion in ESMAP activities.

⁹ ESMAP is governed by an independent Consultative Group (CG), consisting of representatives from contributing donor governments. The CG makes decisions by consensus and meets at least once a year to provide feedback and guidance on ESMAP's strategic direction, achievements, use of resources and funding priorities.

The external evaluation also states ESMAP's unique comparative advantage due to its position within the WB. ESMAP has; i) global presence in more than 100 client countries and widespread engagement in energy, as well as in other relevant sectors; ii) ongoing policy dialogue with client country governments and other key stakeholders, in many cases as the energy sector lead among development partners; and iii) ability to leverage cross-sectoral engagement and public and private sector financing through World Bank and International Finance Corporation (IFC) operational engagements. The WB platform enables ESMAP to; i) draw on global experience from across the WBG portfolio to inform knowledge products, knowledge exchange and technical assistance; ii) influence WB policy dialogue and lending, which in turn has a broader influence with decision makers in client countries and other development partners and which can lead to co-financing or parallel financing; and iii) harness the WBG's convening power to take a lead role in international coordination and at the country level in selected areas and countries, to unlock new sources of investment, exchange of new solutions, and to catalyze reform.

3.3 Programme Objective and Theory of Change

The objective of ESMAP's 2017-2020 BP is to contribute towards realising SDG 7, that is; *1) ensuring universal access to affordable, reliable and modern energy services, 2) Increasing substantially the share of renewable energy in the global energy mix, and 3) Doubling the global rate of improvement in energy efficiency.* Taking account of the global challenges, ESMAP's comparative advantages, and its goals of influencing public investment and catalyzing private investment, ESMAP's work program focuses on specific priorities within the broader thematic areas, where ESMAP can make a difference in the short to medium term and have a disproportional influence on long-term outcomes.

Under the thematic area *Energy Access*, ESMAP aims to create enabling conditions for large-scale national energy access efforts, accelerate private sector investments in off-grid electrification, extend energy services to the rapidly growing urban poor in slums/informal settlements, and transform the cooking sector to accelerate adoption of cleaner stoves and fuels. Under the thematic area *Renewable Energy*, ESMAP aims to ensure that: 1) all developing countries understand their resource potential, 2) the blockages to the integration of high penetrations of renewables are removed and expanded; and 3) private sector finance is crowded in to scale-up solar power. Under the thematic area *Energy Efficiency*, ESMAP aims to: 1) integrate energy efficiency in planning, implementation and management of projects that improve urban services, and 2) promote energy efficiency and its integration with renewable energy and other sustainability aspects in buildings. Under the cross-cutting area *Energy Sector Governance, Markets and Planning*, ESMAP aims to establish strong financial health of the power sector, strong system planning, clear sector and market rules, and predictable regulation allowing return on investment. ESMAP support through the ABGs allows the WB regional energy teams to respond to client demand for assistance in power sector reform, governance, planning, markets, regional integration, as well as other areas critical to developing a viable energy sector. Further information on the ABGs is provided in annex 2.

Assumptions underpinning the above include those identified in the risk framework, cf. annex 3. Thus, the above-mentioned change in each thematic area is expected to happen if ESMAP activities and projects: (a) do not suffer implementation problems or delays, including those caused by country/regional political and/or governance; (b) have adequate results measurement and dissemination of results; and (c) co-ordinate and promote coherence with the relevant programs of contributing donor partners; the benefits

of ESMAP support reaches vulnerable population, including girls and women, especially in fragile environments.

3.4 Summary of Risks and Responses

The MFA will focus on key contextual, programmatic and institutional risks, based on ESMAP's risk management framework, cf. annex 3.

Programmatic risks. The risk of duplication of activities and sources of finance have been rated as 'likely' as the institutional architecture related to sustainable energy is both crowded and complex, which requires strong in-country coordination and partnerships. The MFA will mitigate this risk through active involvement in the CG, and by reiterating both the importance of in-country coordination amongst bilateral and multilateral development partners. ESMAP will aim to ensure that its donor representatives at the country level are kept informed about activities supported by ESMAP. The MFA will also consider how the Technical Advisory Group (TAG) can be used to mitigate this risk. Another risk that the MFA will continue to assess throughout the implementation of the BP for FY 2017-2020 is the possible lack of donor commitment to the current BP, cf. section 5, which will consequently require a reprioritization of allocations. The risk is rated as very unlikely as previous experience with ESMAP BPs show that the budget normally gets covered towards the end of the BP period. Nevertheless, the MFA will pursue the issue of funding if, unexpectedly, there is an actual budget shortfall.

Contextual risks. A key contextual risk that has been categorised as 'likely' concern possible delay or implementation problems caused by the political, social, economic and institutional context in ESMAP client countries. ESMAP works in a diverse range of country settings; from stable, middle income countries to fragile, low income countries. Thus, there might be various external circumstances that impact on the implementation of ESMAP activities and their reach, i.e. to vulnerable population segments. ESMAP will mitigate this risk through close monitoring of on-the-ground country environment, building on the lessons from other WB programs implemented at state level.

Institutional risk. During the implementation of the ESMAP programme, parties may engage in fraud, corruption or misconduct under ESMAP-financed projects, with the possible consequence of Denmark being associated with a corruption case in one of the activities under the programme. This risk has been rated as 'likely', and the risk response will follow Danida policy on anti-corruption.

4. Results Framework

The MFA (Danida) will base the actual support on progress attained in the implementation of the engagement as described in the documentation. Progress will be measured through ESMAP's monitoring framework. For Danida's reporting purposes the following key outcome and output indicators have been selected from ESMAP's results framework to document progress¹⁰:

¹⁰ Please refer to annex 4 for a one-page graphic presentation of ESMAP's Results Framework for BP FY2017-20.

Project title		Energy Sector Management Assistance Program (ESMAP)	
Project objective		Contribute towards realising SDG 7, that is: i) Ensuring universal access to affordable, reliable and modern energy services; ii) Increasing substantially the share of renewable energy in the global energy mix, and iii) Doubling the global rate of improvement in energy efficiency.	
Impact Indicator ¹¹		<ul style="list-style-type: none"> • Global electrification rate in ESMAP client countries. • Access to clean fuels and technologies in ESMAP client countries. • Renewable energy in total final energy consumption in ESMAP client countries. • Compound annual growth rate of energy intensity in ESMAP client countries. 	
Baseline	Year	2017	<ul style="list-style-type: none"> • Global electrification rate of 85.3% • Access to clean fuels and technologies for cooking at 57.4% • Share of renewable energy in total final energy consumption at 18.3% • Compound annual growth rate of energy intensity at - 2.1%
Target	Year	2020	<ul style="list-style-type: none"> • ≥ 7 countries making progress to achieve 2030 targets (per 2020 Global Tracking Framework report)¹².
Outcome		<p>Development Finance Informed</p> <ul style="list-style-type: none"> • World Bank lending operations informed. • Mobilization of non-Bank resources informed. • Government expenditure informed. <p>Policy/Strategy Informed</p> <ul style="list-style-type: none"> • Government policy / strategy informed. • Development community/partner policy/strategy informed. • Bank country/sector strategy informed/influenced. <p>Client Capacity Increased</p> <ul style="list-style-type: none"> • Design capacity strengthened. • Implementation capacity strengthened. • Monitoring & evaluation capacity increased. <p>Knowledge Increased</p> <ul style="list-style-type: none"> • Facilitated exchange of best practice with clients/development partners. • Disseminated best practices. 	

¹¹ These indicators are established based on Sustainable Energy for All Global Tracking Framework 2017 data. Under the SE4All Knowledge Hub, ESMAP has been one of the main drivers in establishing the SE4All Global Tracking Framework, providing a system for regular global reporting on progress on the achievement of the three SDG7 targets.

¹² The Global Tracking Framework (GTF) establishes specific criteria/measurements to measure if countries are making progress towards achieving the three SDG7 targets. See annex 8 for additional information on the GTF.

		<i>Innovative Approaches & Solutions Generated</i> <ul style="list-style-type: none"> • New innovative approach developed. • Client is able to adopt/harness new technologies, innovative ideas, know-how. 	
Outcome indicator		Development finance informed as a proxy indicator of the above 5 outcomes ¹³ .	
Baseline	Year	2017	<ul style="list-style-type: none"> • US\$4.8 billion WB lending informed • \$4.6 billion ESMAP leverage of private and other financing
Target	Year	2020	≥ 50% increase of WB and non-WB financing
Output 1 ¹⁴ : Efficient Clean Cooking and Heating ¹⁵		<i>Country Engagement and Pipeline Development</i> <ul style="list-style-type: none"> • Initial Engagement (up to about \$0.5m/country; about 4-6/yr) based on indicative demand. • Operational support to country teams. • Gender considerations will be an integral part of country activities <i>Mobilizing Financing and Private Sector Support</i> <ul style="list-style-type: none"> • Monetize clean cooking public good co-benefits in health, climate, and gender (a) building the results chain from intervention to impact in health, climate, and livelihoods for women; (b) developing a results-based funding mechanism to use public funding to leverage private investment. • IFC-led engagements – initially focusing on consumer finance and distribution opportunities; with focus on manufacturing to follow. • Other innovative approaches to catalyze development of low emissions cooking. <i>Knowledge, Communications and Engagement Across Sectors</i> <ul style="list-style-type: none"> • Global knowledge products and knowledge exchange – cross-sectoral and cross-country learning, solutions, communications, publications, engagement in international forums. • Incorporating behavior change and gender-informed lessons to country operations. 	
Output indicator		<ul style="list-style-type: none"> • 6 cooking heating country program operations or activities developed in the lending portfolio. • 4 enterprises that are “new entrants” in a specific country or market segment. 	
Baseline	Year	2017	0/NA ¹⁶
Annual target ¹⁷	Year 1	2018	2 cooking heating country program operations or activities developed in the lending portfolio;

¹³ ESMAP outcomes contribute to leveraging, mobilising or encouraging development financing from the WB or others (public and/or private) for investment in client countries, in line with SDG7 goals.

¹⁴ All outputs in this results framework are selected activities from ESMAP’s results framework, cf. annex 4.

¹⁵ These are selected outputs based on ESMAP activities in the BP FY2017-2020.

¹⁶ Because these are incremental outputs, the baseline is presumed to be 0. This applies also to the baseline in output 2 and 3.

¹⁷ Annual targets have been established for Danida monitoring purpose only.

			1 enterprise is a “new entrant” in a specific country or market segment.
Annual target	Year 2	2019	2 cooking heating country program operations or activities developed in the lending portfolio; 1 enterprise is a “new entrant” in a specific country or market segment.
Annual target	Year 3	2020	2 cooking heating country program operations or activities developed in the lending portfolio; 2 enterprise is a “new entrant” in a specific country or market segment.
Output 2: Urban Poor Electricity Access Program		Expanding Operational Support Component <ul style="list-style-type: none"> Support World Bank electricity access projects, as well as slums upgrading, municipal service improvement projects Expand the scope of the beneficiaries (currently slums/informal settlements) to include the poor in formal urban areas and empower women participation Continue to provide south-south exchanges as part of the operational support package Scale-up Knowledge Component <ul style="list-style-type: none"> Generation of lessons learned briefs, and the development of urban poor access expansion plans Set up and deploy a roster of experts to inform the design of activities Continue the development of short “how-to” guidance notes 	
Output indicator		<ul style="list-style-type: none"> 5 new WB energy access projects supported 3 projects with expanded scope of beneficiaries 	
Baseline	Year	2017	0/NA
Annual target	Year 1	2018	2 new WB energy access projects supported; 1 projects with expanded scope of beneficiaries.
Annual target	Year 2	2019	2 new WB energy access projects supported; 1 projects with expanded scope of beneficiaries.
Annual target	Year 3	2020	1 new WB energy access projects supported; 1 projects with expanded scope of beneficiaries.
Output 3: Renewable Energy Resource Mapping		Country and Regional Projects <ul style="list-style-type: none"> New framework contracts to provide validated solar and wind maps, and on-demand access to more detailed data for clients and WBG project teams Commission gap-filling measurement program in Sub-Saharan Africa, and in other regions if funds permit Support high priority country-based biomass and small hydro mapping projects Support client-requested geospatial planning work that includes environmental, social and gender considerations Global Support and Expertise	

		<ul style="list-style-type: none"> • Provide one-stop shop for WBG project teams on solar and wind • Provide advice to client and development partners on RE mapping projects outside WBG • Improved data accessibility through open data tools, working with IRENA • Explore urban/rooftop and transmission grid mapping <p>Coordination and Outreach</p> <ul style="list-style-type: none"> • Fundraising at the global and country level to leverage ESMAP funds • Major efforts to increase visibility and reach • Outreach to in-country partners to avoid duplication. 	
Output indicator		<ul style="list-style-type: none"> • 8 projects on RE resource mapping informed/supported • At least \$25million additional funding has been leveraged 	
Baseline	Year	2017	0/NA
Annual target	Year 1	2018	3 projects on RE resource mapping informed/supported; \$5 million additional funding leveraged.
Annual target	Year 2	2019	3 projects on RE resource mapping informed/supported; \$10 million additional funding leveraged.
Annual target	Year 3	2020	2 projects on RE resource mapping informed/supported; \$10 million additional funding leveraged.
Output 4: VRE Grid Integration Support Program		<p>Country and Regional Projects</p> <ul style="list-style-type: none"> • VRE Grid integration studies and long term integrated expansion plans including impact of VRE • Operational support to utilities, operators and distribution companies. Project identification and support to procurement of VRE dispatch systems, control, communication and energy storage and other “smart-grid” technologies, including VRE metering and forecasting • Support utilities to define and implement new business models in preparation for higher levels distributed generation Regulation and procedures VRE grid codes and standards.; Alignment of VRE support mechanisms with Planning Strategies. • Electricity Market design Support to design of new markets if markets pose a barrier to VRE <p>Global Support and Expertise</p> <ul style="list-style-type: none"> • Organizing/financing short trainings and donor coordination workshops • Revision of studies, regulations and terms of reference • Performing rapid needs assessments • Local grid stability impact studies of upcoming VRE plants • Engagement with GSEP, NREL and other partners to develop new knowledge products • Technical notes/livewires –Topics to be defined as needs are identified (e.g. storage technologies applications for developing countries) <p>Coordination and Outreach</p> <ul style="list-style-type: none"> • Fundraising at the global and country level to leverage ESMAP funds • Partner coordination to avoid duplication of work 	
Output indicator		<ul style="list-style-type: none"> • 8 new WB operations • 10 country planning strategies on variable renewable energy grid 	
Baseline	Year	2017	0/NA

Annual target	Year 1	2018	3 new WB operations on variable renewable energy grid integration is informed; 3 country planning strategies on variable renewable grid integration is informed;
Annual target	Year 2	2019	3 new WB operations on variable renewable energy grid integration is informed; 3 country planning strategies on variable renewable grid integration is informed
Annual target	Year 3	2020	2 new WB operations on variable renewable energy grid integration is informed; 4 country planning strategies on variable renewable energy grid integration have been informed.
Output 5: energy efficiency		<i>Country engagement and pipeline development</i> <ul style="list-style-type: none"> • TA to support client dialogue, pipeline development, as well as just-in-time policy advice and analysis (~\$0.4 m per engagement) • Piloting innovative integrated solutions (e.g. address seismic resilience and energy efficiency in one intervention; integrating energy efficiency and renewable energy solutions) • Facilitate and support cross-sector collaboration, e.g., collaborate with IFC EDGE Green Buildings program (including EDGE tool, codes and incentives, new financial products) • Mobilize financing for WBG clients (e.g. climate finance) <i>Develop knowledge and share experience</i> <ul style="list-style-type: none"> • Development of guidance and case studies to inform/support integration of sustainable energy in urban spatial development plans and buildings policies and investments • Scoping paper on gender implications of building-related activities • Outreach and partnerships: <ul style="list-style-type: none"> - Support peer to peer knowledge exchanges 	
Output indicator		<ul style="list-style-type: none"> • 9 buildings-related WBG operations include sustainable energy components; at least 13 country buildings-related policies/plans/strategies informed. 	
Baseline	Year	2017	0/NA
Annual target	Year 1	2018	3 buildings-related WBG operations include sustainable energy components; 4 country buildings-related policies/plans/strategies informed.
Annual target	Year 2	2019	3 buildings-related WBG operations include sustainable energy components; 4 country buildings-related policies/plans/strategies informed.
Annual target	Year 3	2020	3 buildings-related WBG operations include sustainable energy components; 5 country buildings-related policies/plans/strategies informed.

5. Budget

The Danish contribution of DKK 45 million will be used across thematic and cross-cutting areas in ESMAP's BP. The budget below presents a total base budget (215 million USD) for the BP for FY2017-2020 and the budget, based on current contributions and pledges (140,2 million USD)¹⁸.

Program	Base budget 4 Year Budget: FY17 - 20	4 Year Budget: FY17 - 20	FY17	FY18	FY19	FY20
Annual Block Grants	40,00	28,00	10,21	6,50	5,65	5,65
SE4ALL Knowledge Hub	16,00	12,00	3,81	4,45	1,87	1,87
Energy Subsidy Reform	20,00	20,00	2,77	5,20	6,02	6,02
Efficient Clean Cooking & Heating	24,00	8,00	1,51	2,30	2,09	2,09
SE4ALL Technical Assistance/Electrification	12,00	7,90	0,73	2,00	2,59	2,59
Mini-Grids	10,00	8,00	3,28	2,00	1,36	1,36
Urban Poor	4,00	3,70	0,64	1,20	0,93	0,93
RE Mapping	14,00	8,00	3,55	1,90	1,28	1,28
Global Geothermal Dvlp.	6,00	2,20	0,70	0,60	0,45	0,45
VRE Grid Integration	14,00	8,00	1,62	2,00	2,19	2,19
Solar Support	11,00	4,00	0,70	1,06	1,12	1,12
Lighting Global Efficient & Sustainable Buildings	11,00	4,40	0,31	1,77	1,16	1,16
EE City Services	10,00	10,00	1,41	2,50	3,05	3,05
PM & Adm	15,00	8,00	2,22	1,91	1,94	1,94
Comm	4,00	4,00	0,39	0,50	1,56	1,56
KM	2,00	2,00	0,48	0,50	0,51	0,51
M&E	1,00	1,00	0,12	0,25	0,31	0,31
M&E	1,00	1,00	0,03	0,16	0,41	0,41
Total	215,00	140,20	34,47	36,80	34,47	34,47
of which TF Cost Recovery*	20,86	13,46	3,21	3,57	3,34	3,34

An updated overview of the financial status of ESMAP's BP for FY2017-2020 is provided in annex 10. Total cumulative payments received and pledges to-date amount to USD 91.8 million. Of this amount, USD 35.3 million was budgeted for the FY17. The remaining amount of USD 56.5 million will carry over as the starting balance for FY18 and subsequent years of the BP. The FY17-20 BP had a base budget of USD 215 million, which means that there remains a funding gap of USD 123.2 million. As mentioned in the risk summary,

¹⁸ The table includes trust fund cost recovery on actual disbursements, based on 17% indirect rate on personnel costs (staff and short-term personnel) applied to Bank-Executed TFs (estimated at about 57% of total BETF costs on average across the WB) and 5% on executed Grant Agreements for Recipient-Executed TFs.

experience with previous BPs show that the budget normally gets covered towards the end of the BP period. The MFA will pursue the issue of funding if, unexpectedly, there is an actual budget shortfall.

ESMAP prioritises budget allocations based on three main principles: 1) every programme in the BP must have a critical minimum amount of funding, 2) allocations must reflect demand in client countries, and 3) the WB's corporate priorities with main focus on delivery to IDA countries and delivering on the WBG's Climate Action Plan will have priority. Budget allocations are approved in the CG, cf. section 6. The donors have in the CG agreed to use soft earmarked funding¹⁹ to cover all parts of the BP. In case of a budget shortfall that might influence priorities.

As mentioned in section 2, a Danish secondment to ESMAP will be included as part of the Danish contribution to ESMAP. The budget for the secondment is shown in the below table.

Budget over N1 Advisor to Washington DC USA		
DKK in 2017 level		
	Year	Total, 3 years
Salary	682.063	2.046.189
Pay supplement including rental subsidies and subsidies for operating expenses	485.885	1.457.655
Moving 2 x 55.000	110.000	110.000
Flight ticket 4 x 2	40.000	40.000
Unforeseen expenses		546.156
In total	1.317.948	4.200.000

6. Management Arrangements

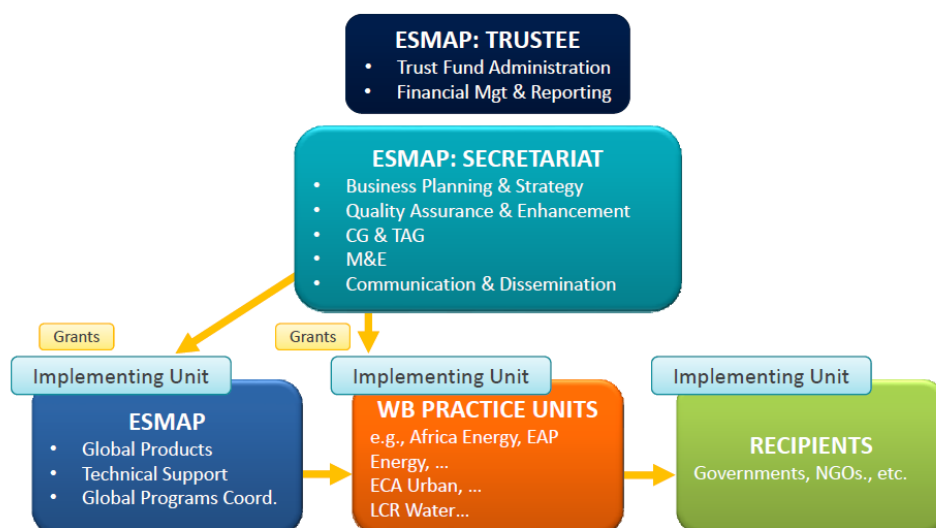
ESMAP is housed in the Energy and Extractives Global Practice (GP) of the WB. Consisting of about 30 staff in Washington DC, this central unit is responsible for administering the program, quality assurance/enhancement of grants, monitoring and evaluation, knowledge management and communications, delivering global analytical and research products, and providing technical expertise to design and implement global and cross-regional activities and lending and non-lending country engagements, in collaboration with other WB units and partner organizations. ESMAP provides technical and financial support to country and regional-level activities that are implemented by the WB's regional operations units in Washington and country offices. For Bank-executed activities, the WB's practice units manage country- and regional-level ESMAP-funded activities. For Recipient-Executed activities, country clients are responsible for implementation of ESMAP-funded activities. Staff from the ESMAP Unit are responsible for "own-managed" project activities, which are focused on the global and cross-regional levels.

¹⁹ It should be noted that, technically speaking, all support to Trust Funds is earmarked - as compared to assessed and voluntary core funding to the WBG – and that within Trust Funds WBG rules do not allow for hard earmarking, hence the term "preferencing".

ESMAP is governed by an independent Consultative Group (CG), consisting of representatives from contributing donor governments and chaired by the Senior Director of the WB's Energy and Extractives Global Practice. The CG makes decisions by consensus and meets at least once a year to provide feedback and guidance on ESMAP's strategic direction, achievements, use of resources and funding priorities. The CG also endorses the terms of reference and composition of the TAG. The MFA will during the implementation of the BP continue its active involvement in the CG and in the donor dialogue. The TAG consists of three international experts that provide informed, independent assessment and related recommendations to the CG about the strategic direction and priorities of ESMAP. The TAG also provides advice on current and emerging energy issues globally, likely to impact ESMAP's work.

The below illustration provides an overview of this management setup.

How ESMAP Works



7. Financial Management

Both parties will strive for alignment of the Danish support to the World Bank's rules and procedures. Accounting, auditing and reporting will be undertaken by the WB in accordance with the Administration Agreement between ESMAP and the WB. ESMAP will provide access to current financial information relating to the trust fund, in the holding currency of the trust fund, and an annual single audit report within six (6) months following the end of each Bank fiscal year. The audit report should comprise (i) a management assertion together with an attestation from the Bank's external auditors concerning the adequacy of internal control over cash-based financial reporting for trust funds as a whole; and (ii) a combined financial statement for all cash-based trust funds together with the Bank's external auditor's opinion thereon. The cost of the single audit shall be borne by the Bank. The Bank will make available copies of all financial statements and auditors' reports received by the Bank from Recipients pursuant to any Grant Agreements in accordance with the Bank's Access to Information Policy.

8. Monitoring and Evaluation

ESMAP has on an ongoing basis, and in dialogue with the CG, focused on refining its M&E system as well as reporting framework. As part of this work, ESMAP is in the process of updating its M&E system, including an online portal, and a new progress reporting format. The M&E portal is an activities database, linked to ESMAP's website, that enables tracking, analysis and reporting of existing activities funded by ESMAP and provide input into the design of future ESMAP activities. The new progress reporting format emphasises key activities, outcomes, and results; financial information; work plan for the following period; and annexes for each ESMAP project grant. The MFA will continue its engagement in the CG and donor discussions in relation to the further development of ESMAP's M&E and reporting system.

Besides the new M&E portal, ESMAP's quality assurance efforts include assessment of the quality of its portfolio of project activities and its development effectiveness. Key elements of these efforts include:

- Replacing the Annual Portfolio Review with the ESMAP Progress Reports and Portfolio Review Summary. It provides an overview of the portfolio's implementation status and assesses outputs, outcomes and results achieved during the fiscal year.
- Quality Assurance formulation of all baseline and target values, as well as outcomes and output indicators, of ESMAP grant funding requests, to ensure compliance with the ESMAP LogFrame and M&E standards.
- Input from the TAG.
- Periodic External Evaluation, before the end of the BP, as agreed upon with the CG.

Monitoring efforts also have a close link to the WB. More information on these efforts are provided in annex 9.

The WB will provide ESMAP Donors with annual progress reports by December 31 of each year, as already agreed upon with the CG in format and scope. Within (6) months of the End Disbursement Date (as defined in the below), the Bank shall provide to the Donors a final progress report for the Trust Fund.

The Danish Mission shall have the right to carry out any technical or financial mission that is considered necessary to monitor the implementation of the programme.

After the termination of the programme support the Danish Mission reserves the right to carry out evaluation in accordance with this article.

9. Anti-Corruption

No offer, payment, consideration or benefit of any kind, which could be regarded as an illegal or corrupt practice, shall be made, promised, sought or accepted - neither directly nor indirectly - as an inducement or reward in relation to activities funded under this agreement, incl. tendering, award, or execution of contracts. Any such practice will be grounds for the immediate cancellation of this agreement or parts of it, and for such additional action, civil and/or criminal, as may be appropriate. At the discretion of the Government of Denmark, a further consequence of any such practice can be the definite exclusion from any engagements funded by the Government of Denmark.

Annex 1: ESMAP Achievements

ENERGY ACCESS:

From Lighting Africa to Lighting Global

- The [Lighting Africa initiative](#) has enabled **20.5 million people** in Africa to meet their basic electricity needs. The initiative helped verify over 100 products, leveraged over **\$120 million IDA funding** and over **\$85 million from other financiers**. Around \$470 million is currently the pipeline (FY18 and FY19).
- ESMAP expanded support to [Lighting Global](#) that has leveraged over **\$100 million IDA /CIF** funding with an additional **\$200 million** in the pipeline.

SEforALL Technical Assistance

- Prepared investment prospectuses in Myanmar, Guinea, and Nigeria for over \$1 billion of investment. [Myanmar was a particular success](#) – ESMAP support leveraged US\$400 million IDA project, which is already providing electricity to [700,000 people](#).

Urban Poor

- Helped accelerate, under the [Urban Poor initiative](#), electrification in slum areas in Kenya from 5,000 to more than 100,000 connections per year.

Mini Grids

- Supported, under the [Global Facility on Mini Grids](#), the development and implementation of a \$102 million portfolio funded by the Scaling Up Renewable Energy Program (Climate Investment Funds) and \$50 million by the World Bank.

ENERGY EFFICIENT Cities

- Supported **23 urban energy efficiency technical assistance programs** for national and local governments in more than **50 cities in 28 countries**.
- Built the foundation for urban energy efficiency planning and investments through city-level diagnostics using [TRACE](#) in 70 cities globally.
- Informed the development of several investments in EE:
 - [Mexico \(Ministry of Energy and 32 cities\)](#) - US\$100 million World Bank loan for the Municipal EE Project to enhance street lighting, water & buildings. The project was triggered by a series of city energy diagnostics using ESMAP's TRACE that laid the groundwork for investment and it also benefited from ESMAP technical assistance
 - [Brazil \(City of Belo Horizonte\)](#) - helped put in place a large public-private-partnership to upgrade street lights. ESMAP TA and TRACE diagnostics helped to leverage \$100 million investment for replacing 178,000 lighting points with more efficient LED lights

RENEWABLE ENERGY:

Global Geothermal Development Plan

- Mobilized \$235 million through the Clean Technology Fund, and supported the development a pipeline of geothermal exploration investment projects which are expected to leverage at least \$1.5 billion in public and private capital.
- Helped triple the share of multilateral financing for early geothermal development stages from 6% of the total in 2012 to 17% of their geothermal investments in 2015.

RE Mapping

- Launched the Global Solar Atlas, which makes available high quality solar maps, poster maps and GIS layers for all developing countries - 60,000 visitors since launch
- Helped eight countries to obtain an initial assessment of their wind power resource and five for solar, resulting in improved data for planning and private sector development.
- First biomass mapping activity in Pakistan was completed, involving an extensive cross-referencing of satellite and field survey data.
- Set new standard for conducting and publishing resource assessment studies adopted by development partners and became a lead data provider for IRENA Global Atlas on RE.

VRE Integration

- Completed technical studies in the Philippines and Seychelles, which informed power sector planning strategies and key policy decisions to enable the scale-up of renewables.
- **Leveraged \$3.83 million** from Korean Green Growth Trust Fund for Bangladesh, Central America, Haiti, Peru, Sri Lanka, Vietnam and West Africa
- **A \$5.6 million SIDS-DOCK** project was prepared with support by VRE integration team in the Pacific Islands, leveraging additional funds from SREP

Utility-Scale Solar

- Supported the WB US\$200 million (\$150M IBRD, \$50M CTF) Shared Infrastructure for Solar Parks Project and \$300 million (\$280M IBRD and \$20M CTF) Transmission for Power

GENDER

- Delivered *in-country support* through regional gender and energy programs in *Africa and East Asia & Pacific* regions in over **20 World Bank projects**, resulting in improved gender analysis, piloted interventions, trainings, and increased participation of women during project design and implementation.
- Expanded support to data/M&E, women in Science, Technology, Engineering and Math (STEM), citizen engagement and youth.
- Strengthened the foundation of knowledge on gender and energy through a comprehensive *online learning course*
- Launched new research on *Getting to Gender Equality in Energy Infrastructure* to delve deeper into Generation, Transmission and Distribution projects. Early findings have already informed the preparation of new operations.

[SEforALL KNOWLEDGE HUB](#)

- Delivered series of the following flagship publications that provide critical data to inform sustainable energy goals and policies:
 - [Global Tracking Framework \(2013, 2015\)](#)
 - [Regulatory Indicators for Sustainable Energy \(2014\)](#)
 - [Multi-Tier Framework for Measuring Energy Access \(2015\) and associated surveys](#)
 - Provided technical advisory input to the UN Interagency Expert Group on the design of SDG7 and its associated indicators, and reconfigured the 2017 GTF to better fit the annual global reporting needs for the SDGs.

[GOVERNANCE, MARKETS AND PLANNING:](#)

- Allocated **\$9.8 million to 50 activities** that improved policies, and strengthened markets and energy sector performance **in 33 countries, informing \$1.2 billion WB lending**. Key highlights include:
 - **ARMENIA:** Adoption by government of a Power Sector Financial Recovery Plan
 - **INDIA** programmatic series of two \$250 million DPLs focusing on sector reforms in Rajasthan
 - **INDIA** \$470 North Eastern Region Power System Improvement Project for infrastructure improvements to improve electricity access and reliability
 - [JORDAN](#) key energy sector reforms supported by two \$250 million programmatic DPLs

[ENERGY SUBSIDY REFORM](#)

- Comprehensive support to **19 countries** including quantification of subsidies; assessment of the impact of reform on households, firms, and the economy; design of impact mitigation mechanisms; analysis of stakeholders and of public perception; and communications, **informing the preparation of Development Policy Loans** for energy pricing and sector reforms. Success stories include:
 - [EGYPT:](#) In 2014, the government announced an electricity subsidy removal trajectory for the next 5 years. The combination of price reforms and a steep decline in international oil prices brought down subsidies as a percentage of GDP from 6.6% in FY14 to a projected 3.3% in FY16, with the price reforms contributing an estimated 42% of the decline.
 - [UKRAINE:](#) The Government announced increases in gas (470%) and heating (260%) residential tariffs, simplified social assistance mechanisms, approved a Gas Sector Reform Plan including energy tariff increases and strengthening of social assistance mechanisms. Media coverage of the reform improved.

Annex 2: Annual Block Grants for Planning, Governance & Markets

At 20% of ESMAP allocations, ABG represents a relatively large portion of ESMAP activities. ABGs provide flexible, on-demand funding to regional energy teams to address any energy sector topic within the broad scope of ESMAP's mandate. Thus, the ABGs allow the WB regional energy teams to respond to client demand for assistance in power sector reform, governance, planning, markets and regional integration, as well as other areas critical to developing a viable energy sector and achieving the three SDG7 targets. ESMAP support through the ABGs include assessments and diagnostics, technical assistance as well as capacity building and knowledge exchange. Activities supported through ABGs are fully integrated into the WB's sector dialog and investment preparations, affording an effective mechanism for ESMAP support to influence and in some cases mobilize WBG and other investment.

ABG allocations are determined on a performance-based formula:

- Region's energy lending volume;
- Total disbursement of region's ESMAP funds;
- Non-lending Portfolio health indicator
- Total contribution of Bank Budget to ESMAP activities;
- World Bank lending informed by region's ESMAP activities; and
- Results measured as the proportion of a region's activities with at least one observed outcome.

Regional Top-Ups to ABGs could also be provided, subject to availability of funds. Allocations to gender are considered ABG top-ups. Regional priorities covered by global programs will be funded through global program thematic windows, i.e., the three thematic areas of energy access, renewable energy and energy efficiency. Thus, regions can combine funding from ABG & global program windows for country-specific or regional activities.

Regional priority areas for ABG funding include:

Africa

- Strengthening utilities, regulation and power system planning.
- Regional integration of electricity infrastructure and trade.
- Renewable energy scale up, particularly hydropower and solar, with associated transmission requirements.
- All aspects of increasing access to electricity (off-grid and grid-connected).
- Facilitating private sector investment.
- Continuation of current successful activities—such as Africa Clean Cooking Energy Solutions Initiative (ACCES), Gender and Energy, Lighting Africa, Africa Electrification Initiative—which have proven essential to respond to specific challenges and opportunities across countries.
- New Regional Initiative emerging: Geospatial Planning. Based on successful application as the basis for electrification access expansion planning in Rwanda and Nigeria, a “hub-and-spoke” structure is envisaged with a focused Regional Activity complemented by individual country activities.

East Asia and Pacific

- Lao PDR: Promote sustainable hydropower development and improve financial viability in sector; and reduce household air pollution and improve the health of rural population.
- Myanmar: Strengthen power sector management; introduce grid-connected renewable energy systems and improve power dispatch; strengthen planning capacity in gas and hydropower; improve access to electricity and clean household energy; and promote impact evaluation programs.
- Vietnam: promote supply and demand side energy efficiency; improve the financial viability of sector and create competitive power and gas markets; and strengthen renewable energy and diversity of energy supply.
- Philippines: Governance strengthening on corporate and management aspects of electric cooperative sector - improve in regulatory framework; support disaster risk management and expansion of solar-as-a-service to help electrification agenda; improve planning and standards; support National Electrification Administration (NEA), including development and implementation of the key performance and governance system.
- Indonesia: energy infrastructure (pumped storage, gas infrastructure); renewable energy and low carbon energy development (geothermal power, hydropower, gas for power); access to modern, reliable energy services (strengthening and expansion of distribution infrastructure, access to clean cooking solutions); cross cutting area of the other three business lines – Sector Governance, Competitiveness and Efficiency.
- China: Power and gas sector regulatory reform including pricing and tariffs to increase the efficiency of the sector and the share of renewables on the grid; institutional development and modernization within the energy sector (regulators, system operators, generators, major consumers); support on energy consumption to lower the local air pollution impact (contributions to fine and ultrafine particulates).
- Mongolia: Efficiency and clean energy production and use, including cook stoves and district heating; energy and electricity sector policy and institutional development.
- Pacific Islands: renewable energy resource mapping (solar, wind, small hydro and geothermal assessments; value of lost loads as inputs to economic analysis; support to development of legal, regulatory, policy and institutional frameworks.

Eastern Europe and Central Asia

- Improve access to reliable and efficient energy supply – optimize energy supply mix through energy sector planning (power and heating); improve supply efficiency and service quality by assessing policy measures; strengthen domestic and regional power/gas markets through policy, regulatory and institutional reforms to strengthen market liberalization and private sector participation, financial performance of energy utilities; boost regional power and gas market integration options focusing on energy-water linkages.
- Design and implement socially and financially sustainable energy tariff and subsidy reforms – cross-sector.
- diagnostic work to assess fiscal costs of subsidies and distributional impact; develop and implement energy tariff and subsidy reform programs and social protection/mitigation measures; effective

public outreach campaigns and establish social accountability measures; and increase linkages between tariff reform implementation and energy efficiencies.

- Scaling-up energy efficiency and renewable energy – develop/implement scalable energy efficiency programs through financing and delivery mechanisms; improve regulatory, institutional and financial framework; promote development and integration of renewable energy to energy; and promote sustainable cities;
- Support Ukraine on the legislative frameworks for electricity and gas sectors - implement gas, district heating and electricity subsidy reforms; design and implement mitigating measures for future tariff increases; unbundle vertically integrated and opaque electricity and gas utilities; and build capacity and establish systems for electricity and gas utilities.

Latin America and Caribbean

- Supporting countries to improve and strengthen energy policy-making environment and institutions for energy security and diversifying energy production matrices: includes policy, legal and regulatory frameworks to facilitate potential investors assessment of risks/returns; adequate information, policies, skills and incentives required to plan and implement clean and climate resilient energy systems; capitalizing on competitive solar and wind energy costs to develop more renewables.
- Addressing the last mile of energy equity and quality of access issues: use renewable energy technologies with decentralized micro-grids, focusing on quality of electricity services and providing cooking/heating solutions blending policy, technology and finance.
- Enhancing climate resilience of energy systems: includes assessing energy system vulnerabilities (sea level rise, frequent and extreme weather events) related to climate change impacts and proposing adaptation/mitigation interventions to address energy service delivery.
- Enabling financing adapted to a new energy economy: applications of new advisory and financial instruments, and deployment channels to support sound energy systems to unleash equitable value, sustainable and climate resilient framework, initiatives and projects.
- New public-private energy economy: regulated energy activities are challenged by technology advances (ICT & PV); energy systems operate under incomplete market reforms causing competitive weakness and limiting new market entrants to participate in the value creation process.

Middle East and North Africa

- Governance, Institutions and Accountability - strengthen sector regulatory and institutional framework, enhance accountability of institutions to deliver quality services, and foster private sector participation in infrastructure projects.
- Subsidy Reform and Pricing - identify pathways to reform energy subsidies and pricing policies.
- Energy Access – access to energy services to underserved population (Djibouti, Yemen, and Gaza).
- Regional Cooperation – develop regional and sub-regional electricity, solar, and gas markets.
- Renewable Energy and Energy Efficiency – contribute to develop the large untapped potential of renewable energy and energy efficiency in the region.

South Asia

- India: support in decelerating the carbon-intensive growth path including to enable the country's grid to absorb and evacuate an increased proportion of variable renewable energy, to provide transmission infrastructure for large scale grid connected solar PV, including private developer-led solar parks, and scale up the development of grid connected rooftop solar PV; hydropower including pumped storage.
- Hydropower in Nepal and Pakistan; rooftop solar in Bangladesh and Nepal; wind power development in Sri Lanka.
- Sector reform and development of conducive policies in the area of renewable energy in cooperation with other donors.
- Upstream renewable energy mapping supported by ESMAP in Nepal, Pakistan, and Maldives is expected to trigger an increased demand for identification and implementation of new small scale renewable energy projects in these countries, including private sector-led mini-hydro and mini-grid development.
- Both supply- and demand- side of energy efficiency.
- Bangladesh: industries and households; Pakistan and India: improving supply side efficiency, enhancing utility performance, and improving the efficiency of dispatch in the power system.
- Electricity access in India, Bangladesh, Nepal, Afghanistan (off-grid as well as network strengthening and expansion;
- Nepal, Bangladesh and India, clean cooking technical assistance activities have been launched, and will require support for operationalization once the pilot activities will have provided the understanding of the best mechanisms to disseminate these technologies.

ABGs - OBJECTIVES, ACTIVITIES, & RESULTS, FY2017-20

OBJECTIVES	ACTIVITIES	RESULTS - BASELINE	RESULTS - STRETCH
Increased number of countries with improved energy sector performance	<p>Conduct Diagnostic Assessments</p> <ul style="list-style-type: none"> ➤ Undertake sector assessments and advice for improving sector efficiency throughout the energy supply chain. Where possible, consider gender/social dimensions within assessments. <p>Provide Expert Advice and Technical Assistance</p> <ul style="list-style-type: none"> ➤ Provide advice to governments on appropriate governance mechanisms and performance incentives in legal and regulatory frameworks ➤ Provide TA and training to power sector entities and government bodies on effective power system planning techniques, tools and methodologies ➤ Provide advice to governments, regulators, and power sector entities on sector reform strategy, market design options, PSP models, and regional integration options ➤ Provide advice to governments, regulators, and power sector entities on regional integration options <p>Support Knowledge Exchange</p> <ul style="list-style-type: none"> ➤ Support knowledge exchange events such as workshops, seminars, etc., in the areas of energy sector governance, planning, and markets 	<ul style="list-style-type: none"> • Country clients in 10 countries confirm using the results of ESMAP-supported energy sector assessments in policy decisions • Clients in 20 countries confirm enhanced institutional capacity to improve the performance of the power sector based on ESMAP's assistance/advice in the areas of energy sector governance, planning, and markets • Preparation of 10 new investment and TA lending operations facilitated using ESMAP's input on GPM • 10 existing operations informed • Mobilization of private sector investment and other non-Bank resources facilitated in 10 countries • Guidance developed on social/gender aspects of Power Systems (Utilities, Demand Side Management, Diagnostics). • Knowledge exchange on energy sector GPM facilitated with clients and other stakeholders in 20 countries 	<ul style="list-style-type: none"> • Country clients in 12 countries confirm using the results of ESMAP-supported energy sector assessments in policy decisions • Clients in 25 countries confirm enhanced institutional capacity to improve the performance of the power sector based on ESMAP's assistance/advice in the areas of energy sector governance, planning, and markets • Preparation of 12 new investment and TA lending operations facilitated using ESMAP's input on GPM • 12 existing operations informed • Mobilization of private sector investment and other non-Bank resources facilitated in 12 countries • Guidance developed on social/gender aspects of Power Systems (Utilities, Demand Side Management, Diagnostics). • Knowledge exchange on energy sector GPM facilitated with clients and other stakeholders in 25 countries
	Budget (incl. ASTAE & AFREA residuals)	\$40 million	\$48 million
	Regional Allocations	AFR \$14-19M ; EAP \$7-9; ECA \$4; LCR \$4; MNA \$4; SAR \$7-8	

Annex 3: ESMAP Risk Framework

ESMAP Risk Framework		
Risk Description	Risk Rating	Proposed Mitigation Measures
I. Strategic Risks		
<p>1. ESMAP's work not being guided by clear strategic framework.</p> <p>2. ESMAP fails to direct resources, timely, efficiently or appropriately.</p> <p>3. The Bank's existing capital base, in particular, IBRD capital, is not adequate to meet borrower demands for loans, thus decreasing the leverage potential of ESMAP (<i>Institutional Risk</i>).</p>	<p>Low</p> <p>Moderate</p> <p>Moderate</p>	<ul style="list-style-type: none"> CG provides guidance and advice, meeting annually to review the strategic direction, achievements, use of resources and funding requirements. TAG provides informed, independent opinions to the CG about the purpose, strategic direction, and priorities, as well as provides advice and suggestions on current and emerging global energy sector issues likely to impact ESMAP's client countries. For global and regional activities, strategic alignment with the Bank's corporate objectives (approved Bank/regional/sector strategies). For country-specific activities, strategic alignment with Country Partnership Framework (CPF) or Country Engagement Note (CEN). IDA 18 replenishment of \$75 billion with a proposal to leverage IDA's equity by blending donor contributions and the Bank's internal resources with funds raised through debt markets, based on the recent triple-A rating that IDA received from credit agencies. Energy GP provides: (a) increased focus on IDA-18 delivery; (b) enhanced efforts to mobilize concessional funds (e.g., climate finance) for Middle Income Countries (MICs); and (c) commitment to the "cascade" principles to increase leverage of non-Bank, commercial

ESMAP Risk Framework		
Risk Description	Risk Rating	Proposed Mitigation Measures
		finance (see Annex 3 – Cascade Approach and ESMAP). ²⁰
4. Roles & Responsibilities are unclear, diffused or unknown roles and responsibilities lead to diminished performance or lead to potential, real or perceived conflicts of interest (<i>Institutional Risk</i>).	Low	<ul style="list-style-type: none"> ESMAP follows the Bank's Accountability and Decision-Making (ADM) framework which: (a) clarifies roles for key decisions; (b) establishes disciplined decision processes; and (c) modifies behaviors and ways of working. The Bank's Conflicts of Interest Office, within the General Counsel's office, assists staff and management in identifying and managing potential, real or perceived conflicts in the operational setting, including those arising between and among the three Bank institutions (i.e., IBRD/IDA, IFC and MIGA). The Bank's Development Finance (DFi) Vice Presidency's role and initiatives enhance transparency and facilitate strategic dialogue with donors, information sharing, prioritization and fundraising coordination.
II. Operational Risks		
5. ESMAP activities/projects: <ul style="list-style-type: none"> do not respond to client needs; are duplicating existing activities and sources of finance; suffer implementation problems or delays, including those caused by country/regional political and/or governance (<i>Contextual Risk</i>); and/or do not have adequate results 	Moderate	<ul style="list-style-type: none"> Country and regional activities are anchored in World Bank country programs and must demonstrate client commitment Aid coordination strengthened by ESMAP's participation in and organization of events, including annual meetings, dialogue roundtables, joint study tours Country-level activities are implemented through World Bank operational units, which participate in country/project-specific coordination structures and

²⁰ The "cascade" approach is a hierarchical approach to development investment decision making by promoting judicious use of scarce public and concessional resources to crowd-in commercial capital and minimize the public debt burden of the Bank's clients, while delivering sustainable and affordable infrastructure services.

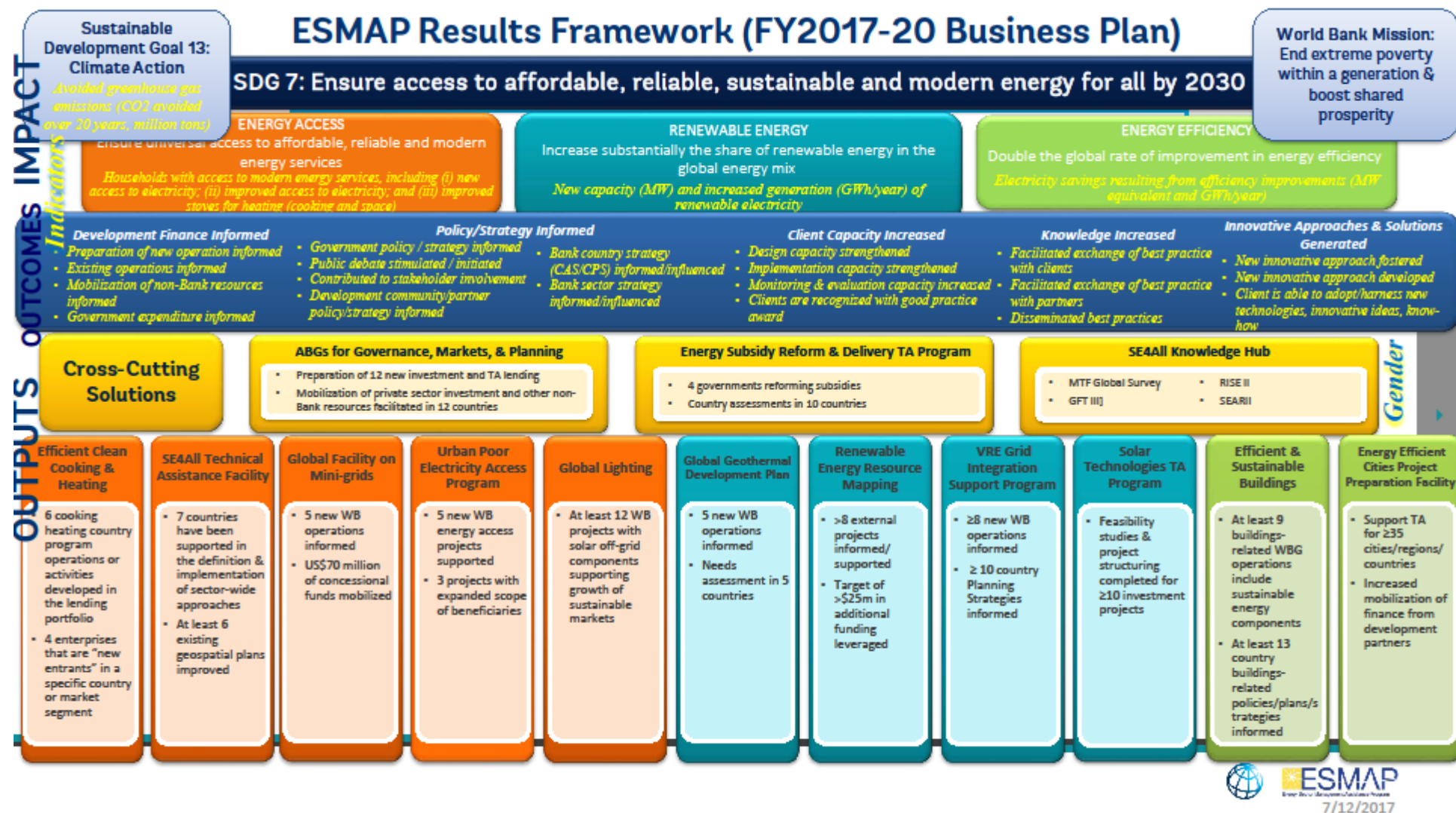
ESMAP Risk Framework		
Risk Description	Risk Rating	Proposed Mitigation Measures
<p>measurement and dissemination of results.</p> <ul style="list-style-type: none"> fail to co-ordinate and promote coherence with the relevant programs of contributing donor partners. the benefits of ESMAP support not reaching vulnerable population, including girls and women, especially in fragile environments. 		<p>processes.</p> <ul style="list-style-type: none"> Close monitoring of on-the ground country environment, building on the lessons from other Bank programs implemented at the state level. ESMAP activities are subject to standard World Bank portfolio monitoring and implementation status reporting systems. ESMAP M&E system will have an upgraded online feature for improved transparency and timeliness of information. ESMAP is developing a Knowledge Management system for strengthening organization and dissemination of knowledge. Annual Portfolio Review to strengthen focus on results and outcomes. Approved ESMAP activities include plans for TTLs to coordinate and include consultations with donors in the field or in donor capitals, as appropriate. Approved ESMAP proposals include identifying the expected benefits and the risks to extending them to the most vulnerable population, in particular, females and those residing in fragile, conflict and violence afflicted countries.
6. ESMAP Staff Turnover.	Low	<ul style="list-style-type: none"> Teams have critical mass that allows for assigned back-ups and are also complemented by external specialists.

ESMAP Risk Framework		
Risk Description	Risk Rating	Proposed Mitigation Measures
III. Financial Risks		
7. Donor commitment to contribute qualified (e.g., donor contributions subject to parliament approval, availability of budget/funds, etc.).	Moderate	<ul style="list-style-type: none"> • Maintain strong communication channels with existing donors to track pledges. • ESMAP outreach to new donors. • Basis of commitment is based on cash received from donors.
8. Bank unable to contribute to ESMAP (Bank Budget and IDA) (<i>Institutional Risk</i>).	Low	<ul style="list-style-type: none"> • Integration of BETFs with the Bank's planning & budget processes makes transparent the tradeoffs associated with reducing the Bank's contributions to ESMAP.
8. Parties external to the Bank may engage in fraud, corruption or misconduct ²¹ under ESMAP-financed projects. (<i>Contextual risk</i>)	Moderate	<ul style="list-style-type: none"> • Bank-executed Trust Funds (BETFs) are subject to the same controls as Bank budget expenditures. • Recipient-executed Trust Funds (RETFs) are subject to the same review and appraisal process as equivalent Bank lending activities. • Trust fund grants are subject to the Bank's Anti-Corruption Guidelines, Procurement and Consultant guidelines, as well as Standard Conditions for TF Grants, which provide for suspension and/or cancellation of disbursements. In addition, the Anti-Corruption, Procurement and Consultant guidelines provide that the Bank may sanction firms and individuals found to have engaged in corrupt, fraudulent, coercive, collusive or obstructive practices in connection with the use of TF grant proceeds, including (but not limited to) in the course of procurement or the

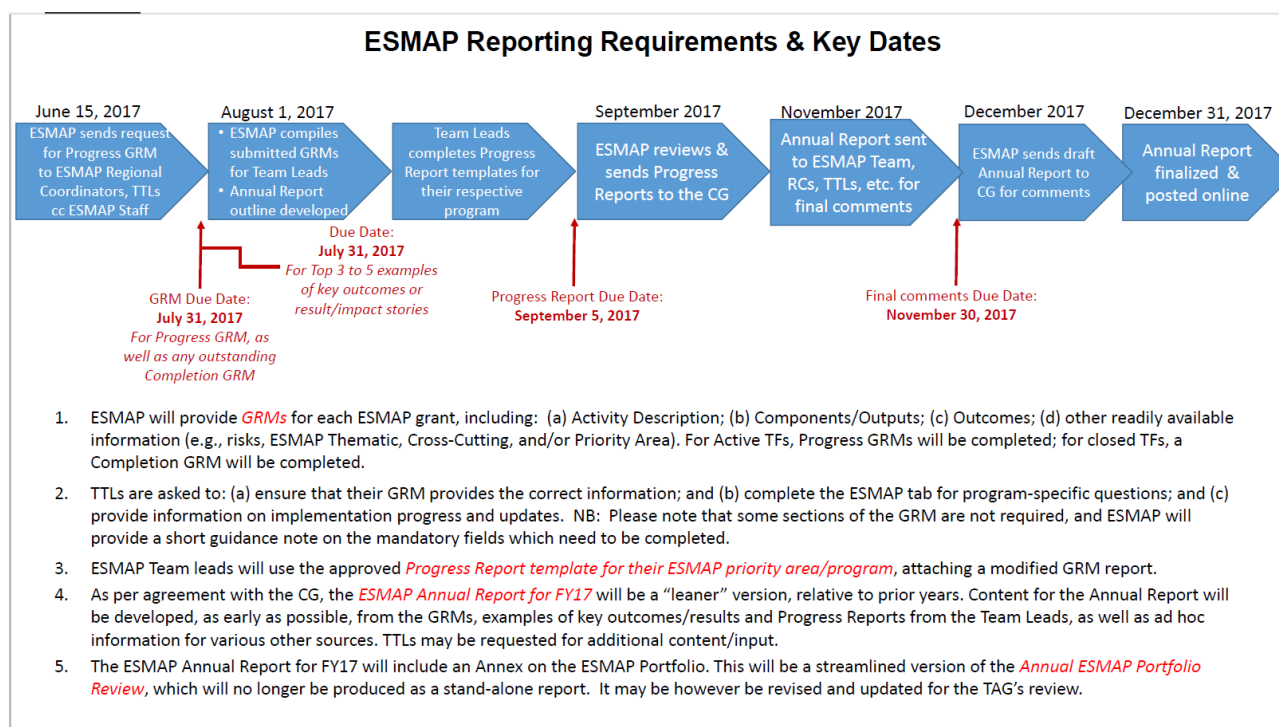
²¹ Misconduct would include the risks arising from acts that are inconsistent with Bank values that might harm staff, other stakeholders or the Bank's reputation and finances, e.g., financial mismanagement / fraud / corruption; abuse of position (for any reason including personal financial gain); breaches of confidentiality; personal conflict-of-interest issues; staff not respecting personal legal obligations; and/or ethical breaches.

ESMAP Risk Framework		
Risk Description	Risk Rating	Proposed Mitigation Measures
		<p>selection of consultants, or in the execution of contracts financed by the TF grant. Sanctions include indefinite or temporary debarment, debarment with conditional release, conditional non-debarment, restitution and reprimand. The Anti-Corruption Guidelines also provide for certain actions to be taken by grant recipients to prevent and combat fraud and corruption in connection with the use of grant proceeds.</p>

Annex 4: Results Framework



Annex 5: ESMAP Reporting & Key Dates



Progress reporting format:

ESMAP Progress Report for	[Thematic / Cross-cutting Area]
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1. Highlights of Activities, Outcomes and Results

- Provide an updated narrative on key activities implemented, outputs produced, and outcomes achieved.
- Describe changes in program design made during the period, if any, with explanation of the causes and how design changes may affect the achievement of the trust fund’s development objectives.
- Provide results and lessons learned to date.

2. Financial information

- Report on annual budget execution for the year just completed

Sample budget table:

Project Name	ESMAP Grant Amt	Disbursed	Committed	Remaining Balance

<i>Program management and administration costs</i>				

-


3. *Work plan for the following period*

Annex: Project Grant Reporting and Monitoring (GRM) Reports – Progress & Completion

In addition to the above, the attached reports for each ESMAP project grant is attached, providing the following:

1. Overview: Activity description, implementation rating and risks, key issues and pending actions
2. Outcome with baseline and targets
3. Component/Outputs: Activities planned and actual outputs
4. ESMAP-specific information requested:
 - Leverage: World Bank operations informed;
 - Development partner/organization coordination, outreach and collaboration;
 - Cross-cutting issues, e.g., gender; and
 - Output documents and visibility
5. Completion: Lessons learned

Annex 6: Draft Terms of Reference for Danish secondment to ESMAP

 THE WORLD BANK	Global Secondment Program
	Title: Power engineer
	Grade: UC
	Division/VPU: Energy Sector Management Assistance Program, ESMAP
	Duty Location: Washington, DC
	Appointment Type: 2 years with possibility of maximum 2 years extension

BACKGROUND

The Energy Sector Management Assistance Program (ESMAP) is a multi-donor technical assistance trust fund program administered by the World Bank and located in the Bank's Energy and Extractives Global Practice. 12 bilateral donors and the World Bank are currently contributors to ESMAP. The program has a planned budget of approximately \$200m covering a four-year Business Plan from FY2017-2020. ESMAP's mission is to assist client countries to increase their know-how and institutional capacity to achieve environmentally sustainable energy solutions for poverty reduction and economic growth. ESMAP's products have included specific energy sector strategies, advisory and analytical work, pilot projects, training, publications and conferences. ESMAP's work is structured across three major focus areas: **energy access, renewable energy, and energy efficiency**; complemented by cross-cutting work on energy sector governance, planning and markets; energy subsidy reforms, and the Sustainable Energy for All Knowledge Hub. For more information on ESMAP, please visit www.esmap.org.

As part of the renewable energy work program, Grid integration of Variable Renewable Energy (VRE), in particular large-scale solar and wind, has emerged as an area of significant client interest and has been identified as a priority area in the ESMAP Business plan covering the next 4 years.

ESMAP's **VRE Grid Integration Support Program** aims to increase the capacity of countries to develop policies and improve investment planning as well as encourage the adoption of best practices for VRE integration. The program offers technical assistance for system operation and long-term grid planning, strengthening of electricity dispatch, generation and transmission infrastructure, as well as for the development of the legal and regulatory framework for VRE integration. This program ties in closely with an existing initiative on Renewable Energy Resource Mapping, which ESMAP launched in October 2012, as well as the Bank's work on assisting clients on power systems planning.

The initiative has several components or lines of action where ESMAP will provide technical and financial resources to Bank operational teams as part of their country policy dialogue and investment programs: Just-in time advisory services by a network of international experts to solve immediate concerns on VRE system integration (mostly consultations and short capacity building events).

Operational support with a focus on management tools for power systems with large shares of VRE. This includes, among other things, the design of advanced forecasting systems and control technologies, the upgrading of dispatching centers and the elaboration of adjusted operating procedures to optimize the use of existing flexible generation and storage.

Grid integration studies and planning strategies to support a realistic and affordable plan for scaling up VRE with a focus on the whole system, maintaining system security and reliability.

Support for new regulatory frameworks, in particular grid codes, VRE procurement strategies and market designs that explicitly value flexibility and capacity.

Evaluation of the financial impact of VRE deployment on utilities and operators.

The program is supporting engagements in several countries, including Bangladesh, Cabo Verde, Costa Rica, Guatemala, Haiti, Honduras, India, Mexico, Morocco, Pacific Islands, Philippines, Senegal, Seychelles, Sri Lanka, Turkey and Vietnam, in addition to capacity building for other countries such as Kazakhstan, Ukraine or Turkey. In addition, there is sustained demand for support in small island developing states, where the team has been active in the last years. The World Bank Group's support for scaling up solar power in Africa will also likely generate significant country engagements for the ESMAP program.

DUTIES AND RESPONSIBILITIES

The secondee will be part of the ESMAP Renewable Energy team (as well as part of the Bank Clean Energy Global Solutions Group). He/she will support the implementation of the VRE grid integration program, including some potential overlap with other ESMAP initiatives such as the Minigrid Program or the ESMAP Solar Support Program.

The work will involve close collaboration with operational staff in other units of the World Bank and direct interaction with World Bank clients. The scope of the Bank's country engagements will cover issues such as grid planning for higher share of VRE, VRE impact on grid operations, modelling and evaluation of flexibility options, and "smart-grid" technologies for transmission and distribution.

Specific tasks are likely to include:

- Specification and reviews of Grid Integration Studies, Grid expansion planning studies and Grid code amendments to be carried out by consultancy firms or research institutions. In addition, the seconded staff will participate in the presentation of the results to the Bank clients and identification of needs for additional technical assistance and investments.
- Assessment of the needs for grid upgrades and improvements in dispatch and control systems, protections, forecasting tools and any other smart-grid technology relevant to the client. Contribution to the specification of such systems in collaboration with other experts.
- Design and participation in capacity building events or knowledge exchange forums.
- Gathering available information and analysis in the area of VRE integration as an input to the scoping and design of VRE generation investment projects;
- Contribute to the implementation of the initiative by building a pipeline of country projects via interaction with regional energy teams and their country clients, procurement support, and guidance and training materials.

- Explore synergies with those countries that have renewable energy resource mapping projects underway, potentially including additional support for follow-on work where there is client demand.

SELECTION CRITERIA

Minimum academic qualification: Master's Degree in power engineering with at least seven years of experience in power sector planning or operations (scheduling, dispatching or trading).

Good knowledge of the regulation of the power sector.

Experience in design, specification and integration of forecasting systems for wind or solar energy.

Experience in power sector modelling, including VRE generation would be an advantage.

Knowledge of "Smart-grid" technologies for transmission and distribution will be an advantage: power control systems, energy management systems, substation automation system, SCADA, power monitoring systems, automatic fault detection, flexible alternating current transmission systems, energy storage in transmission or distribution systems, advanced metering infrastructure and demand response, power quality monitoring systems, power equipment diagnosis and preventive Systems.

Field experience in developing countries will be a plus.

Communication skills:

- Excellent oral and written communication skills in English, including experience of liaising with senior professionals in a work environment;
- Knowledge of Spanish and/or French will be a plus;
- Strong organizational, research, and oral presentation skills;
- Proven ability to work in a team and intercultural environment, with minimal supervision;

Approach and Competencies:

- Good Team player;
- Hands-on and action-oriented approach;
- Enthusiasm for development work;
- Willing to travel to a range of World Bank client countries
- Competencies:
- Energy Financing;
- Energy Policy, Strategy and Institutions;
- Integrative Skills;
- Policy Dialogue Skills;
- Renewable Energy (biomass, small hydro, solar, wind).

Annex 7: ESMAP Knowledge Management and Communication Strategy

ESMAP's communications strategy is aligned with the BP for FY17-20. It supports all ESMAP thematic and cross-cutting areas with the two-fold objective of *strengthening outreach for ESMAP's knowledge products to external and internal audiences* as well as *increasing awareness about ESMAP's success in improving the performance of the energy sector*. ESMAP's communication strategy is driven by the following key principles:

- 1) *Communicate results* - illustrate impact by focusing more on results and ESMAP's transformational impact in terms of influencing policy and leveraging investment.
- 2) *Reach the right audiences with timely, meaningful information* - such as country government representatives, global and local organizations, non-governmental organizations, the private sector, think tanks, academia etc.
- 3) *Simplify content* - make information digestible for audiences, curate content, and solidify the ESMAP narrative with clear messages.
- 4) *Brand and position* - maintain ESMAP branding and position the program as an influencer in the sector and a catalyst of change within the World Bank.
- 5) *Innovate and modernize* - a new, cutting-edge program website was launched in FY17 to better serve audience information needs. ESMAP is also strengthening use of social media to expand reach and it is producing more innovative communications products (infographics, multimedia, video, interactive annual report).
- 6) *Align and collaborate* - seize opportunities for integration with WB's Energy & Extractives Global Practice to leverage impact and strength collaboration with Knowledge Management teams to build efficiencies and streamline processes.

The communications function within ESMAP includes production and dissemination of the rich knowledge generated under the program. Content is disseminated through various channels such as web platforms, social media, e-newsletters, IMPACT Stories, events and the ESMAP Annual Report, among others. Additionally, ESMAP facilitation of **knowledge exchange events and ESMAP presence at various conferences and energy events** have always been at the core of ESMAP's dissemination and outreach efforts. As of FY2017, ESMAP produces five main types of knowledge products: **Technical Reports**, **Knowledge Series**, including guidance notes, case studies and briefing notes, **Policy Notes** that summarizes policy recommendations, **Planning Tools** that are intended to support decision-making for experts, planners and policymakers and **Toolkits** sets of linked resources intended to help in planning initiatives and programs, and are often targeted at World Bank team leaders and associated experts. Based on scope, content and audience, each ESMAP knowledge product and publication enjoys from a customized communications and dissemination approach.

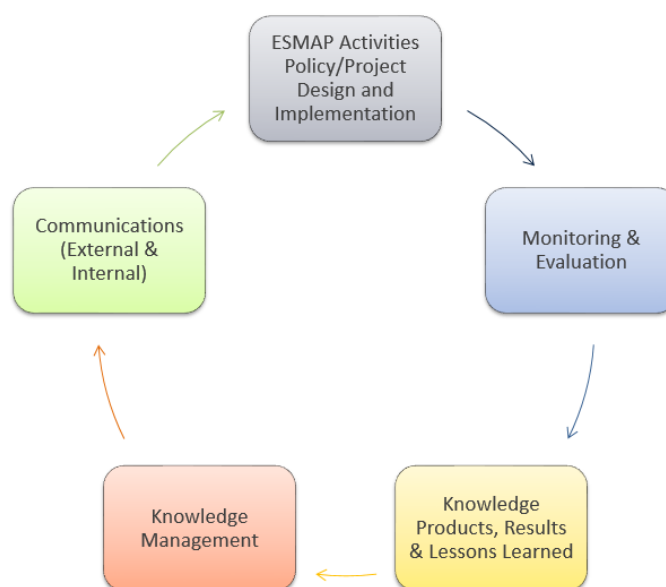
As part of this dissemination strategy, ESMAP identifies key energy conferences where ESMAP can share knowledge with partners and clients, including multilateral and bilateral agencies. ESMAP also seeks to distribute high-profile publications and information about core initiatives at energy events and conferences. Major ESMAP initiatives and knowledge products are supported by media outreach, often leveraging WB channels to maximize reach. The ESMAP Annual Report represents a succinct summary of the program's progress and results in a single fiscal year. It is posted on the ESMAP site, uploaded on the WB's external document repository and disseminated through various channels to key stakeholders. It is also

shared at various knowledge events and other relevant conferences. ESMAP's impact stories illustrate ESMAP's impact through results achieved in World Bank projects. They are posted on the ESMAP site, and uploaded on the Bank's external document repository. They are disseminated through various channels such as the e-bulletin, email announcements, and targeted outreach to relevant regions or sectors.

A knowledge management assessment was completed in FY17 along with an initial knowledge management work plan that aligns the knowledge management roles between ESMAP and Energy Global Practice. The strategy will be implemented in FY18. The goal of the strategy is to ensure proper and meaningful flow of knowledge generated by ESMAP and positioning ESMAP as a key knowledge producer and facilitator within the WB and externally.

Communications and knowledge management in ESMAP are strongly linked. They are both driving forces behind the flow of ideas and the adoption of innovation, and a process of engagement and dialogue. ESMAP activities produce an array of technical reports, best practices, results and lessons learned, case studies, operational and technical assistance engagements, presentations, tools, databases and other material. The role of knowledge management in ESMAP is to develop this knowledge, capture it, share it and eventually help to apply it and evaluate its impact. The communications function in ESMAP strengthens the impact of the program's work through knowledge sharing via external channels. Knowledge management in ESMAP informs 'smarter' communication because it curates the best knowledge for dissemination. This helps communications to go beyond its corporate, message-based, dissemination-focused function to become a vehicle of learning. Similarly, knowledge management benefits from the expertise of communications to approach different internal and external groups more effectively, offline and online. The ESMAP model allows for smarter knowledge management that connects strong information management (having information well organized, available, and accessible) with strong communication, to ensure that communication and knowledge sharing are based on existing and pertinent information.

Knowledge Cycle in World Bank and ESMAP



Annex 8: Activities under the SE4All Knowledge Hub

Global Tracking Framework (GTF). The WB/ESMAP and the International Energy Agency led a consortium of 23 international agencies to establish the SE4All Global Tracking Framework (GTF), which provides a system for regular global reporting on progress on the achievement of the three SDG7 targets. The third edition was released in May 2017. The GTF is expected to be modified and adopted as the monitoring mechanism for SDG7. The new business plan will support any modifications needed and reporting updates annually for SDG7.

Multi-tier Framework for Measuring Energy Access (MTF). A new approach for measuring access to modern energy services, in partnership with the Climate Investment Funds. The MTF defines energy access as the ability to access energy that is adequate, available when needed, reliable, good quality, affordable, legal, convenient, healthy, and safe across household, productive, and community uses. The spectrum of energy access is measured from Tier 0 (no access) to Tier 5 (the highest level of access). Implementation of the MTF energy survey, is underway in 15 high access deficit countries, to be completed by the end of 2017. The results of the survey will be summarized in Country Diagnostic Report and one Global MTF Report, which will focus on cross-country findings and comparisons. The second phase will include additional 5-10 countries to be implemented between 2017 and 2020. To ensure sustainability and regularity of data collection, a short energy access module is now being introduced in the regular national household surveys carried out by national statistical offices. In addition, WB/ESMAP is testing technology innovations to reduce collection costs, such as use of remote monitoring devices and mobile phones.

Regulatory Indicators in Sustainable Energy (RISE). Assesses the legal and regulatory framework for investment in sustainable energy necessary to achieve the objectives established in the SE4All initiative. RISE benchmarks national policies governing energy access, renewable energy, and energy efficiency with a series of comparable, objective indicators based on up to 350 data points per country, and highlights good practices relevant to attract investments. The first global report covers 112 countries, and all source data is available online. The report was launched in early 2017. The new business plan will support data gathering and analysis for annual updates of the RISE report.

State of the Energy Access Report (SEAR). Global State of Energy Access Report (SEAR) is a publication focusing on critical knowledge needed for achieving universal access. SEAR complements the quantitative progress reports, such as GTF and MTF, with the qualitative analysis of key energy access trends, best practices, presentation of new evidence on what works and lessons from past efforts. SEAR focuses on diverse elements of energy access, including status and trends, linkages with poverty reduction and growth, drivers for transformation, innovative delivery models, financing challenges and impacts. The ambition is for SEAR to become the authoritative report on energy access and an important ongoing resource for the post-2015 development agenda, including the SDGs. SEAR will be published periodically—every two years.

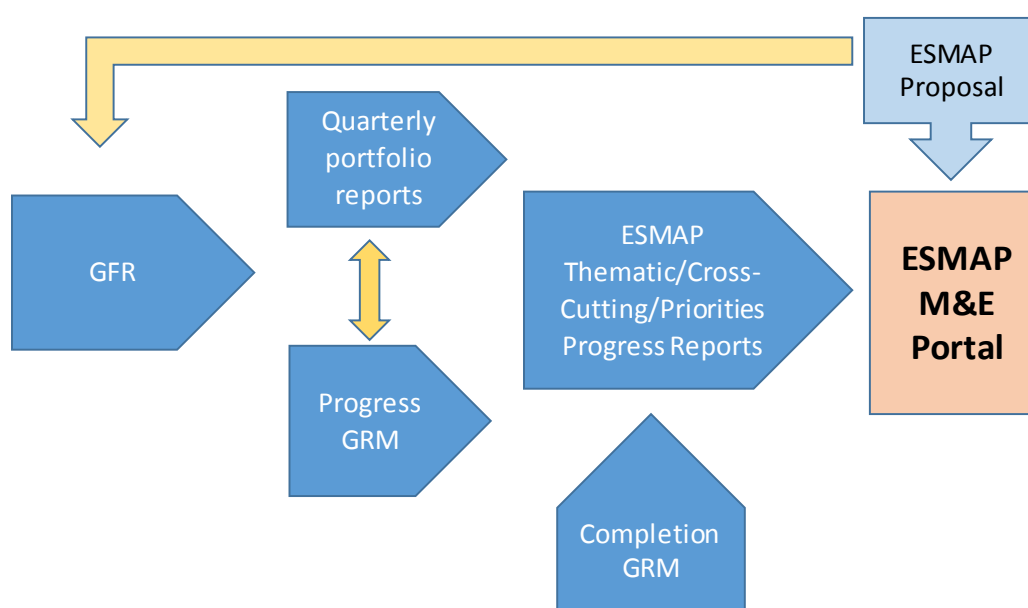
Annex 9: ESMAP's Monitoring and Work Process

ESMAP-funded activities takes place at different levels of supervisory authorities of the WB, and ESMAP has established a monitoring process of its portfolio projects, supported by the WB's web-based systems, tools and reports to assess and improve the efficiency and effectiveness of its development intervention and its compliance with the WB or international development standards. These are:

- a) Grant Financing Request (GFR) - quality assurance prior to financing or creating trust fund accounts, based on approved ESMAP proposals (Proposal Summary Form);
- b) Progress Grant Reporting & Monitoring (GRM) - monitoring of project progress, including assigning ratings for implementation progress and risks and progress reporting on ESMAP outcome indicators; and
- c) Completion GRM - evaluation of completed activities, lessons learned, client & Bank performances and outputs and achieved outcomes.

The graphic presentation below provides a schematic flow of these reports.

Graphic Presentation of ESMAP Monitoring Reports



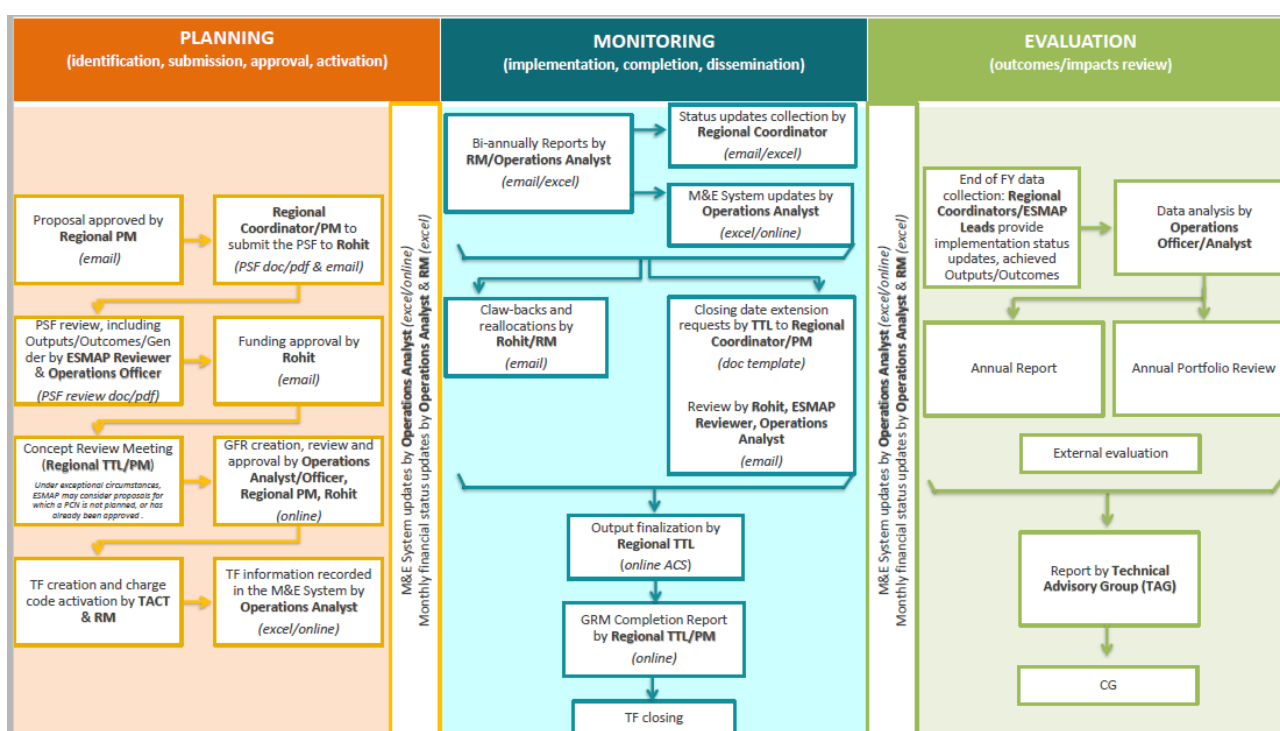
The above-mentioned GRM includes planned outputs, implementation schedules, and expected outcomes. Periodical reviews of each project for these indicators help identify what follow-up may be required, as well as portfolio actions (e.g., extension of delivery or closing dates). In addition, ratings for implementation progress and risks for each project also help identify follow-up/portfolio actions which may be necessary for projects to achieve its goals, outcomes and/or results.

ESMAP project Task Team Leaders (TTLs) TTL are accountable for ensuring that the Bank's fiduciary responsibilities are met with respect to ESMAP and all other WB trust funds under his/her management.

ESMAP Workflow

The flowchart below represents the three steps of ESMAP's workflow, namely²²:

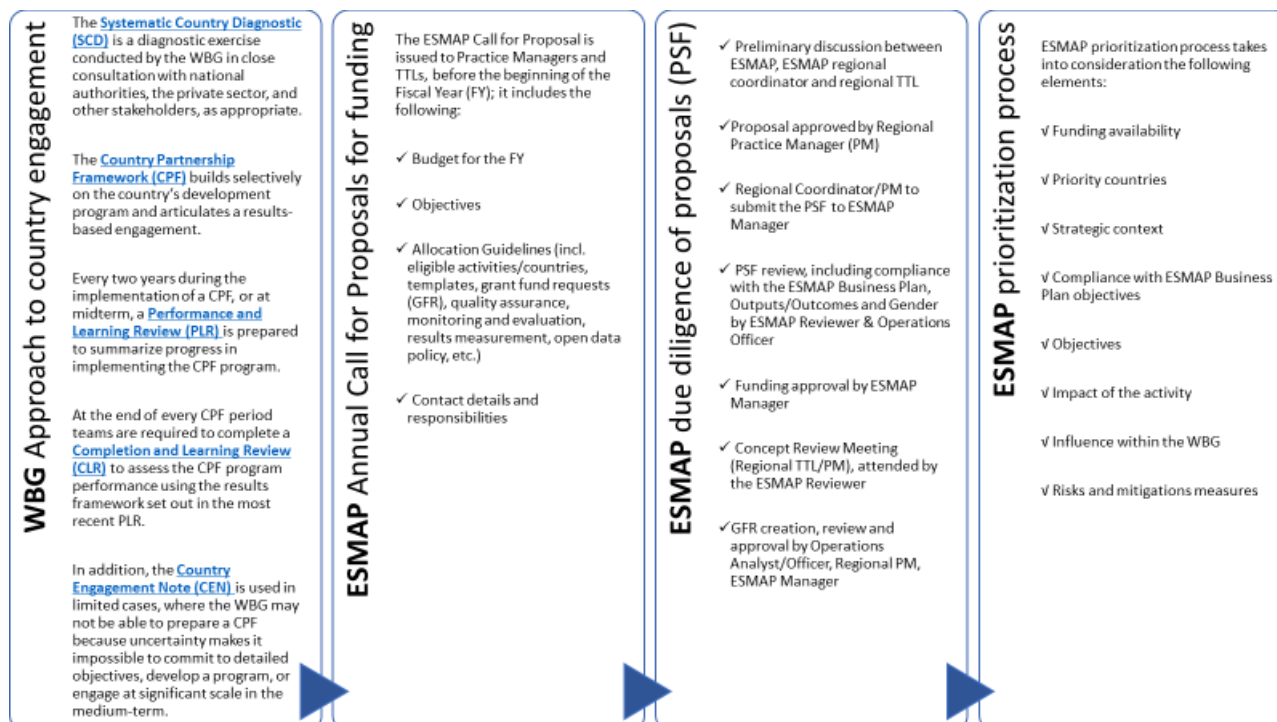
- Planning (identification of the activity by Task Team Leader/Practice Manager in coordination with ESMAP, as part of the Bank's country engagements, submission of proposals to ESMAP, activity approval by ESMAP Manager and activation through the Grant Fund Request – online tool).
- Monitoring (activity implementation, which includes various monitoring activities from ESMAP, e.g. restructuring actions, extensions, reallocations and claw-backs, based on demand, performance and implementation status; monitoring includes completion and dissemination phases)
- Evaluation (collection and review of results generated from the activity, including outcomes and outputs, to produce data for the Annual Report and Portfolio Review, as well as External Evaluation and Technical Advisory Group)



The flowchart below provides additional details to the “ESMAP Workflow” chart above, in particular for what concerns phases that precedes the creation of an ESMAP grant activity. TTLs and Practice Managers ensure that ESMAP activities are linked to country engagement instruments, namely the Systematic Country Diagnostic, the Country Partnership Framework, the Performance/Completions and Learning Review, and the Country Engagement Note, as needed. The flowchart also provides a snapshot of the Call

²² It is expected that the above ESMAP Workflow and ESMAP's Operations Manual will be reviewed after the 2018 CG. And after the WB's revision of its monitoring systems.

For Proposals process as well as prioritizations based on the funding availability, priority countries, strategic context discussed with donors and clients, BP objectives, overall impact of the activity, and risks.



Annex 10: Financial status of ESMAP's FY17-20 Business Plan (as of September 5, 2017)

Donor	Paid-In Contribution, since July 1, 2016 (millions)	Pledges with signed contributions (millions)	New pledges (in contribution currency and USD, millions)	Total in USD, millions	
Denmark ²³	DKK 34.923 (core contribution) + DKK 33.5 (energy access/mini-grids + energy subsidy reform + Renewable Energy/Resource Mapping) USD 5.0 + USD 4.9	DKK 31.856 (European Commission) + DKK 3.0 USD 5.1 + USD 0.5	DKK 45 USD 6.8	22.3	Includes contributions from the European Commission DKK 6 million preference for Energy Subsidy Reform DKK 11.5 + 5 million preference for Renewable Energy/Resource Mapping DKK 14 million preference for Energy Access/Mini-Grids
Finland	EUR 0.1 USD 0.1			0.1	One-time contribution, November 2016 Preference for Energy Efficient Cities
Germany BMUB	EUR 7.0 USD 7.3			7.3	Annual contributions, December 2016 BMUB - EUR 7 million preference for Energy Subsidy Reform
Germany BMZ	EUR 0.4 USD 0.4	EUR 0.5 + EUR 0.3 USD 0.6 + USD 0.35		1.35	Annual contributions, 2015-2016
Iceland	USD 1.4	USD 0.9		2.3	Four year contribution, 2017-2020 Preference for

²³

					Renewable Energy/Geothermal
Luxembourg	EUR 1.0 USD 1.1			1.1	One-time contribution, April 2017 Preference for Efficient and Clean Cooking and Heating
Netherlands	USD 10.9	USD 24.6		35.5	Four-year contribution, 2016-2019
Norway	NOK 30 USD 3.6		NOK 35 USD 4.2	7.8	Annual contributions, 2016-2017 NKK 20 million preference for Energy Subsidy Reform NKK 10 million preference for SE4ALL Knowledge Hub/RISE, Renewable Energy/Resource Mapping, and Energy Access/Lighting Africa
Rockefeller Foundation	USD 0.25			0.25	One-time contribution, December 2016 Preference for SE4ALL Knowledge Hub/Multi-Tier Framework for Measuring Access
Sweden	SKK 30.0 USD 3.4	SEK 90.0 USD 11.3		14.7	Three-year contribution, 2017-2019
Switzerland			USD 8.0	8.0	Three-year contribution, 2017-2019 Core plus preference for

					Energy Subsidy Reform (USD 1 million)), Energy Efficient Cities (USD 2 million), Annual Block Grants (Hydropower – USD 1 million); and ESMAP Knowledge Exchange Forum (USD 50,000)
United Kingdom	GBP 1.25 USD 1.6	GBP 1.975 + GBP 12.5 USD 2.6 + USD 16.2		20.4	Four year contribution, 2017-2020, plus supplemental contributions GBP 3 million preference for countries in Cities and Infrastructure for Growth program, particularly Myanmar, Uganda and Zambia.
TOTAL	USD 39.95	USD 62.15	USD 19.1	127.2	
Opening Balance on July 1, 2016				18.5	
World Bank				0.6	Annual contributions, FY17
GRAND TOTAL for FY17-20				140.2	
Italy		EUR 0.1 USD 0.1	EUR 5.0 USD 6.0	6.1	One time contribution, September 2017 Preference for SE4All Knowledge Hub Preference for Annual Block Grants (Tunisia)

Annex 1: Summary of Appraisal Recommendations

Title of Programme	Energy Sector Management Assistance Program (ESMAP) BP FY2017-2020
File number/F2 reference	2017-31490
Appraisal report date	17 August 2017
Council for Development Policy meeting date	26 October 2017
Summary of possible recommendations not followed N/A	
Overall conclusions of the appraisal The appraisal is positive. The focus and approach of ESMAP is highly relevant to the Danish priorities expressed in strategy World 2030, as well as to the international commitments towards the Sustainable Development Goals (SDGs) and the Paris Climate Agreement on Climate Change. On these grounds, the AT recommends proceeding with the preparation for approval of the Danish contribution to the ESMAP 2017-2020 Business Plan, provided that relevant and adequate follow-up is done by MKL with ESMAP on the AT's recommendations.	
Recommendations by the appraisal team	Follow up by the responsible unit
Programme Level:	
N/A	
Thematic Programme Level:	
N/A	
Engagement Level:	

<p>Recommendation 1: Considering the relatively large share of the activity budget going to the ABGs the relevance of their purpose and content, their responsiveness to client country demand, their results and contributions to ESMAP's Theory of Change, and their role as compared to the thematic windows should be explained better in the DED.</p>	<p>Agree, the Annual Block Grants will be better reflected in the Development Engagement Document</p>
<p>Recommendation 2: The DED results matrix should be filled in with indicators from selected from ESMAP's results framework, including programme level (thematic/cross-cutting area) outcome and key output indicators including target and baseline values.</p>	<p>Agree, the updated Development Engagement Document result matrix is as far as possible building upon the ESMAP result framework</p>
<p>Recommendation 3: The DED should further explain ESMAP's communication strategy and its new knowledge management strategy, including its approach to effective communication of knowledge products and tools, impact stories, policy briefs, etc.</p>	<p>Agree, an outline of the communication and knowledge management activities will be included in the updated document</p>
<p>Recommendation 4: The justification of the proposal for a Danish secondment of a senior expert within the area of Variable Renewable Energy Grid integration profile was substantiated during the appraisal, and it is recommended to proceed with the preparation of the position. The DED should include a budget for the secondment and a description of the proposed profile, explaining how it matches key ESMAP needs and skills mix, including secondments financed by other donors.</p>	<p>Agree, the secondment will be presented in the Development Engagement Document with a suitable level of details</p>
<p>Recommendation 5: In order to get the full benefits of supporting ESMAP, it is recommended that Denmark continue to be active in the Consultative Group and donor dialogue.</p>	<p>Agree, Denmark will as far as possible continue its active engagement in CG</p>
<p>Recommendation 6: The draft DED should better reflect the ongoing developments in ESMAP's M&E systems and reporting procedures, and Denmark should in the CG continue its emphasis on ESMAP's work towards improving documentation and communication of results.</p>	<p>Agree</p>
<p>Recommendation 7: Core support to the ESMAP trust fund is, in principle, recommended as the preferred modality for the Danish contribution to ensure adequate implementation of the agreed Business Plan. To substantiate a final decision to this end, however, the DED should be able to demonstrate that conditions are in place to ensure adequate use of the Danish funds across the entire Business Plan, among others, explaining the composition of donor contributions, against what principles budget prioritisation is undertaken, and how the annual block grant modality</p>	<p>Agree, a rationale for core support will be included in the updated document</p>

I hereby confirm that the above-mentioned issues have been addressed properly as part of the appraisal and that the appraisal team has provided the recommendations stated above.

Signed in...Copenhagen..... on the 17/8.....
Silke Mason Westphal,
Appraisal Team leader/TQS representative

I hereby confirm that the responsible unit has undertaken the follow-up activities stated above. In cases where recommendations have not been accepted, reasons for this are given either in the table or in the notes enclosed.

Signed in...Copenhagen.....on the.....13/9.....
Henriette Ellermann-Kingombe
Head of MKL