

ENERGY SECTOR MANAGEMENT
ASSISTANCE PROGRAM

ANNUAL REPORT 2021

ANNEXES



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ANNEX A**RESULTS AND TARGETS ACHIEVED FOR BUSINESS PLAN FY2021-24**

Detailed progress descriptions are provided at: <https://esmap.org/activities?type=businessPlanFramework>

Acronyms

| | |
|-------------|---------------------------------|
| ASA | Advisory Services and Analytics |
| EAPP | East African Power Pool |
| GHG | greenhouse gases |
| MTF | Multi-Tier Framework |
| PV | Photovoltaics (solar) |
| RE | renewable energy |
| RBF | results-based financing |
| SAPP | South African Power Pool |
| WAPP | West African Power Pool |

Regions

| | |
|------------|---------------------------------|
| AFR | Africa |
| EAP | East Asia and Pacific |
| ECA | Europe and Central Asia |
| LCR | Latin America and the Caribbean |
| MNA | Middle East and North Africa |
| SAR | South Asia Region |

ENERGY DATA AND ANALYTICS

| OUTCOME 1: Government Counterparts Use the Generated Evidence in Policy Decisions | | TARGET FY224 | PROGRESS FY2021 |
|--|--|---------------------|------------------------|
| Outcome Indicator 1.1 | World Bank energy lending operations informed by using the Energy Data & Analytics datasets, applications, and knowledge reports (incl. using energy data to close gender gap in energy services) | 100% | 41% |
| Outcome Indicator 1.2 | New World Bank ASA projects supported by ESMAP confirm and illustrate the use of Energy Data & Analytics datasets, applications, and knowledge reports | 100% | 100% |
| Outcome Indicator 1.3 | Evidence of uses of Energy Data & Analytics outputs in well-established global initiatives (publications, indexes, research series, white papers from global institution incl. World Economic Forum, UN, IRENA, IEA) | 10 | 5 |
| OUTPUTS: | | TARGET FY224 | PROGRESS FY2021 |
| Output 1 | Publication of the Tracking SDG7 Report | 4 | 1 |
| Output 2 | Publication of RISE analytical platform website | 2 | 1 |
| Output 3 | Publication of MTF Country Report (focus on gender gaps in each report) | 20 | Not yet due (ongoing) |

| | | | |
|-----------|---|-------|-----------------------|
| Output 4 | Publication of MTF insight on gender and impact evaluation | 2 | Not yet due (ongoing) |
| Output 5 | Refugees Data Report Publication | 1 | Not yet due (ongoing) |
| Output 6 | Knowledge products (incl. RBF data platform) on clean cooking | 10 | 2 |
| Output 7 | Regulatory benchmarking index portal | 2 | 1 |
| Output 8 | Launching of Global Electrification Platform 2.0 (incl. 64 countries) | 1 | Not yet due (ongoing) |
| Output 9 | Capacity building workshop for GEP | 4 | Not yet due (ongoing) |
| Output 10 | Residential customer demand estimation report including algorithm and input data by country | 20 | Not yet due (ongoing) |
| Output 11 | Agriculture energy demand estimation report, including algorithm and input data by country | 20 | 1 |
| Output 12 | Dissemination of demand assessment toolkit (survey instrument and open-source algorithm) | 1 | 1 |
| Output 13 | Adding new institutional partners on EnergyData platform that would publish at least 1 dataset each | 12-15 | 4 |
| Output 14 | Publish analytical pieces on EnergyData platform | 15-20 | 6 |
| Output 15 | Present Energy Data and Analytics Hub work at World Bank Group/partner/international events and conferences | 3-5 | 1 |
| Output 16 | Launch of updates to other existing applications (Global Solar Atlas, Global Wind Atlas, etc.) | 3 | 2 |

FOUNDATIONS FOR ENERGY TRANSITION

| OUTCOME 1: Improved Affordability of Power | | TARGET FY2024 | PROGRESS FY2021 |
|---|---|--|--|
| Outcome Indicator 1.1 | Reduction in average cost of power supplied | 70% of ESMAP supported countries | Not yet due (ongoing) |
| OUTCOME 2: Improved Financial Viability of Power Sector | | TARGET FY2024 | PROGRESS FY2021 |
| Outcome Indicator 2.1 | RISE score on utility creditworthiness reaches the green threshold in all ESMAP supported countries | 100% ¹ | 28% |
| OUTCOME 3: Electricity Sector Carbon Intensity Reduced | | TARGET FY2024 | PROGRESS FY2021 |
| Outcome Indicator 3.1 | Carbon per unit of power generated | 700 tCO ₂ /kWh | IEA reports emissions data every two years but with a 3-year lag. The IFI database for 2021 includes 2018 data and it is expected that data for 2023 will be available in the database revision of 2025. ESMAP will report on the latest data available each year and at the end of its business plan. |
| OUTCOME 4: Fiscal Burden of Power Sector Reduced | | TARGET FY2024 | PROGRESS FY2021 |
| Outcome Indicator 4.1 | Reduction in fiscal transfers to the power sector in the countries receiving ESMAP support during business plan | Reduced by \$2 billion | Not yet due (ongoing) |
| OUTCOME 5: Improved Quality of Electricity Service | | TARGET FY2024 | PROGRESS FY2021 |
| Outcome Indicator 5.1 | Improvement in Doing Business score on Reliability of Supply and transparency of tariff [index 0-8] | 1 point improvement against baseline 2.3 in 2020 (doubling the 0.5 point improvement over FY2018-20) | Not applicable |
| OUTCOME 6: Increased Share of Female Employees, Leaders, Entrepreneurs and Consumers in the Energy Sector | | TARGET FY2024 | PROGRESS FY2021 |

¹ The target was updated to the percentage rather than the score for the green threshold, for consistency with the description of the indicator "RISE score on utility creditworthiness reaches the green threshold in all ESMAP supported countries."

| | | | |
|--|--|---|------------------------|
| Outcome Indicator 6.1 | Increased share of female employees in energy sector World Bank projects | 5 percentage points improvement over baseline for each supported project | Not yet due (ongoing) |
| Outcome Indicator 6.2 | Increased share of women entrepreneurs in energy sector World Bank projects | 10 percentage points improvement over baseline for each supported project | 10 percentage points |
| Outcome Indicator 6.3 | Increased productivity of female farmers and business owners supported by World Bank energy projects | 10 percentage points improvement over baseline for each supported project | Not yet due (ongoing) |
| INTERMEDIATE OUTCOME 1. Power system has capacity, flexibility, financial strength to deliver energy transition | | | |
| | | TARGET FY2024 | PROGRESS FY2021 |
| Intermediate Outcome Indicator 1.1 | Volume of World Bank lending that contributes to the achievement of the Outcomes through identified aspects | \$50 billion | \$4 billion |
| Intermediate Outcome Indicator 1.2 | Number of utilities that have implemented process changes consistent with new business models and technologies | 30 | Not yet due (ongoing) |
| Intermediate Outcome Indicator 1.3 | Number of regulators that take account of technology disruptions in regulations issued | 30 | Not yet due (ongoing) |
| Intermediate Outcome Indicator 1.4 | Number of countries with implementation roadmaps developed for Just Transition | 2 | Not yet due (ongoing) |
| Intermediate Outcome Indicator 1.5 | Percentage of ESMAP-supported countries adopting improved policy and regulation for sustainable energy | 100% | 20% |
| Intermediate Outcome Indicator 1.6 | Increased power trade (between countries) | 168 TWh (EAPP, SAR, WAPP, CASA, Pan-Arab) | Not yet due (ongoing) |
| Intermediate Outcome Indicator 1.7 | Number of countries with new markets for energy services | 10 | 1 |

| | | | |
|-------------------------------------|--|--|-----------------------|
| Intermediate Outcome Indicator 1.8 | Countries inter-connected and trading | 54 (SAPP, EAPP, SAR, WAPP, CASA, Pan-Arab) | Not yet due (ongoing) |
| Intermediate Outcome Indicator 1.9 | Number of countries with official plans to reform energy subsidies (incl. reforming social protection, incorporating energy efficiency measures, and implementing communication campaigns as part of subsidy reform efforts) | 20 | 7 |
| Intermediate Outcome Indicator 1.10 | Number of countries that have strengthened their social protection systems to ensure the poor are not worse off due to energy subsidy reforms | 10 | 3 |
| Intermediate Outcome Indicator 1.11 | Coal capacity reduced through coal plant retirement/repurposing | 5 GW | Not yet due (ongoing) |
| Intermediate Outcome Indicator 1.12 | Private co-financing mobilized | \$5 billion | \$47 million |

INTERMEDIATE OUTCOME 2: World Bank has expanded support to promoting gender equality in the energy sector

| | | TARGET FY2024 | PROGRESS FY2021 |
|------------------------------------|--|---------------|-----------------|
| Intermediate Outcome Indicator 2.1 | % of World Bank projects supported by ESMAP to meet Gender Tag to close gaps between women and men (in access, entrepreneurship, and employment) | 70% | 91% |

INTERMEDIATE OUTCOME 3: Countries have supported employment opportunities for women in the energy sector

| | | TARGET FY2024 | PROGRESS FY2021 |
|------------------------------------|--|---------------|-----------------|
| Intermediate Outcome Indicator 3.1 | Number of additional countries that have adopted policies or plans to enhance women's employment at the utility level [across recruitment, retention and promotion with a focus on equal pay, training, childcare, etc.] | 15 | 1 |
| Intermediate Outcome Indicator 3.2 | Number of additional countries supported by World Bank Development Policy Financing that integrate a focus on closing gender gaps in their energy strategies/policies | 7 | 1 |

| | | | |
|--|---|----------------------|------------------------|
| Intermediate Outcome Indicator 3.3 | ESMAP-supported decarbonization projects that include a significant women's leadership and employment component/pilot | 8 | 3 |
| Intermediate Outcome Indicator 3.4 | Number of countries where there is a World Bank Group engagement in supporting development of roadmaps including maximizing socioeconomic benefits derived from GHG development with a focus on women's employment and skills development | 20 | 6 |
| INTERMEDIATE OUTCOME 4: Countries have supported women's entrepreneurship in the energy sector and productive uses of energy | | | |
| | | TARGET FY2024 | PROGRESS FY2021 |
| Intermediate Outcome Indicator 4.1 | Percentage of IDA off-grid electrification operations tackling women's entrepreneurship, and access to finance gaps (Electricity Access program) | 100% | 100% |
| Intermediate Outcome Indicator 4.2 | Strategies adopted at the country level on closing productivity gaps between male and female farmers and business owners (Electricity Access program) | 10 | Not yet due (ongoing) |
| Intermediate Outcome Indicator 4.3 | Percentage of Clean Cooking Fund supported projects that have proactive actions to promote female employment/entrepreneurship and gender co-benefits | 100% | 100% |
| Intermediate Outcome Indicator 4.4 | Number of new decarbonization projects with enhanced focus on productivity gaps and livelihoods for women | 8 | 4 |
| INTERMEDIATE OUTCOME 5: Countries have adopted strategies to support women in host and marginalized communities as consumers in the energy sector | | | |
| | | TARGET FY2024 | PROGRESS FY2021 |
| Intermediate Outcome Indicator 5.1 | Countries supported by ESMAP that have integrated electrification of displaced people, host, and marginalized communities in electrification programs, with a focus on the needs of women and girls | 15 | In progress |

| OUTPUTS: Utilities for Energy Transition | | TARGET FY2024 | PROGRESS FY2021 |
|---|--|---------------|-----------------------|
| Output 1 | Flagship report(s): Energy Transition: business and regulatory models in developing countries | 1 | Not yet due (ongoing) |
| Output 2 | Training/Events: Digital Academy, to identify and transfer emerging global knowledge, best practice, and deliver training in 5 key areas | 1 | Not yet due (ongoing) |
| Output 3 | Tools: Standard documentation for procurement of new technologies (including DER, digital solutions) | 1 | Not yet due (ongoing) |
| Output 4 | Country/Regional Grants: Policy/regulatory studies, advice, and capacity building; technical studies, advice, and capacity building; stakeholder engagement; innovative project development and budget support design. | 15 | 1 |
| OUTPUTS: Markets, Connectivity, and Trade | | TARGET FY2024 | PROGRESS FY2021 |
| Output 1 | Flagship report(s): (1) Design of next generation commercial agreements and market tools; (2) Increasing system flexibility via efficient ancillary service markets | 2 | 0 |
| Output 2 | Analyses: Analytical studies on regional power trade | 2 | 1 |
| Output 3 | Tools: Best practices on wholesale markets, technical and regulatory harmonization for regional power pools | 2 | 1 |
| Output 4 | Training/Events: Knowledge exchange, workshops, trainings on Market deployment, and Power System Planning | 2 | 1 |
| Output 5 | Country/Regional Grants: Assessments/studies/technical reports; Strategy analyses and investment plans; Surveys/datasets; Workshops/conferences | 30 | 12 |

| OUTPUTS: Energy Subsidy Reform | | TARGET FY2024 | PROGRESS FY2021 |
|--|---|---------------|---|
| Output 1 | Flagship report(s): Reforming energy subsidies: Achievements, Setbacks, Lessons Learned, and Way Forward | 1 | Under way. 6 background papers completed and under review |
| Output 2 | Training/Events: Internal and external knowledge exchange fora every year | 4 | 1 internal knowledge forum and 9 Brown Bag Lunches (BBLs) organized, 12 Newsletters published, and 2 briefs published |
| Output 3 | Country/Regional Grants: Subsidies assessments, energy reform design, energy reform implementation, stakeholder engagement | 165 | 55 |
| OUTPUTS: Closing Gender Gaps | | TARGET FY2024 | PROGRESS FY2021 |
| Output 1 | Flagship report(s): (1) Gender and Hydropower; (2) Environmental and social (incl. Gender) considerations in offshore floating solar development | 2 | |
| Output 2 | Analyses: (1) 20 MTF country reports (covering gender gaps); (2) 2 MTF Insight reports: gender & impact evaluation; (3) 4 Annual Gender and Access reports | 3 | |
| Output 3 | Training/Events: (1) Women's leadership in Decarbonization of Public Sector and End Uses in developing countries; (2) Innovative technology, business, and financing approaches in Clean Cooking: Women's and Men's Preferences and Needs | 2 | |
| Output 4 | Country/Regional Grants: Regional gender and energy programs, operational support | 15 | 6 |
| OUTPUTS: Support to Coal Regions in Transition | | TARGET FY2024 | PROGRESS FY2021 |
| Output 1 | Platforms: Regional Collaboration Platforms for Coal Regions in Transition (2-3) | 2 | 1 |
| Output 2 | Training/Events: Coal Regions in Transition Learning Academy (2 deliveries annually) | 8 | 0 |

| | | | |
|---|---|----------------------|------------------------|
| Output 3 | Analyses: Coal plant decommissioning/repurposing studies for 15-20 plants | 2 | 1 |
| Output 4 | Country/Regional Grants: Upstream technical studies, strategies, and roadmaps | 8 | 2 |
| OUTPUT: Deliverables funded with Annual Block Grants | | TARGET FY2024 | PROGRESS FY2021 |
| Output 1 | Technical Reports, Studies, Assessments | 300 | 79 |

ACCELERATING DECARBONIZATION

| OUTCOME 1: Governments Adopt Policies and Plans to Accelerate Decarbonization | | TARGET FY2024 | PROGRESS FY2021 |
|--|--|----------------------|------------------------|
| Outcome Indicator 1.1 | Estimated GHG emissions reduced or avoided under government policies and plans up to 2030 (lifetime MtCO _{2e}) | 1,100 | Not yet due (ongoing) |
| OUTCOME 2: Stimulation of Public and Private Investment to Accelerate Decarbonization | | TARGET FY2024 | PROGRESS FY2021 |
| Outcome Indicator 2.1 | Expected GHG emissions reductions under World Bank Group financed projects (lifetime MtCO _{2e}) | 360 | 34 |
| Outcome Indicator 2.2 | Number of World Bank Group financed projects that reduce or avoid GHG emissions, of which: | 60 | Not yet due (ongoing) |
| | 2.2.1: Number of projects financed that target decarbonization in the public sector | 22 | 4 |
| | 2.2.2: Number of projects financed that include use of innovative technologies in industry | 10 | 2 |
| | 2.2.3: Number of projects financed that are "cooling informed" | 20 | 8 |
| | 2.2.4: Number of projects financed that include green hydrogen | 4 | Not yet due (ongoing) |
| | 2.2.5: Number of projects financed that include geothermal direct use | 4 | Not yet due (ongoing) |
| Outcome Indicator 2.3 | Volume of financing mobilized for projects that support accelerated decarbonization, of which: | \$3.6 billion | |

| | | | |
|--|--|----------------------|------------------------|
| | 2.3.1: World Bank Group financing mobilized | \$2.5 billion | \$2.5 billion |
| | 2.3.2: Climate finance mobilized | \$300 million | \$25 million |
| | 2.3.3: Private financing mobilized | \$800 million | Not yet due (ongoing) |
| INTERMEDIATE OUTCOME 1: World Bank Group has expanded its support to a wide range of client countries to achieve Zero Carbon Public Sector | | | |
| | | TARGET FY2024 | PROGRESS FY2021 |
| Intermediate Outcome Indicator 1.1 | Number of countries with World Bank Group engagement on decarbonizing the public sector | 20 | 20 |
| INTERMEDIATE OUTCOME 2: World Bank Group has expanded its support to a wide range of client countries on access and scale up efficient, clean cooling | | | |
| | | TARGET FY2024 | PROGRESS FY2021 |
| Intermediate Outcome Indicator 2.1 | Number of countries where there is active World Bank Group engagement on sustainable cooling | 18 | 13 |
| INTERMEDIATE OUTCOME 3: World Bank Group has expanded its support on technological innovation in industrial decarbonization | | | |
| | | TARGET FY2024 | PROGRESS FY2021 |
| Intermediate Outcome Indicator 3.1 | Number of innovative technologies that are part of active World Bank Group engagements on industrial decarbonization | 5 | Not yet due (ongoing) |
| INTERMEDIATE OUTCOME 4: World Bank Group has expanded its support on Green Hydrogen and/or fuel cell technologies | | | |
| | | TARGET FY2024 | PROGRESS FY2021 |
| Intermediate Outcome Indicator 4.1 | Number of countries, including green hydrogen and/or fuel cell technologies in their decarbonization strategies | 8 | Not yet due (ongoing) |
| INTERMEDIATE OUTCOME 5: World Bank Group has expanded its support to develop Geothermal Direct Use | | | |
| | | TARGET FY2024 | PROGRESS FY2021 |
| Intermediate Outcome Indicator 5.1 | World Bank Group is supporting wide range of client countries to develop Geothermal Direct Use | 6 | 4 |

| INTERMEDIATE OUTCOME 6: Countries have supported women's entrepreneurship in the energy sector and productive uses of energy | | TARGET FY2024 | PROGRESS FY2021 |
|---|---|----------------------|------------------------|
| Intermediate Outcome Indicator 6.1 | ESMAP-funded decarbonization projects that include a significant women's leadership and employment component/pilot | 8 | 6 |
| Intermediate Outcome Indicator 6.2 | Number of projects with enhanced focus on productivity gaps and livelihoods for women | 8 | 4 |
| OUTPUT: Zero Carbon Public Sector | | TARGET FY2024 | PROGRESS FY2021 |
| Output 1 | Flagship Report: Opportunities for achieving decarbonization in the public sector | 1 | Not yet due (ongoing) |
| Output 2 | Flagship Report: The economics of electric mobility | 1 | Not yet due (ongoing) |
| Output 3 | Country/Regional Grants: upstream sector analysis; policy, regulation, plans and strategies; technical, economic, and financial analyses; capacity building | 64 | 31 |
| OUTPUT: Industrial Decarbonization | | TARGET FY2024 | PROGRESS FY2021 |
| Output 4 | Flagship Report: Technology innovations for industrial decarbonization in developing countries | 1 | Ongoing |
| Output 5 | Training/Events: Two dissemination workshops on results of global studies | 2 | Not yet due (ongoing) |
| Output 6 | Country/Regional Grants: technical studies and advice; implementation models; pilot projects on innovative technologies | 25 | 4 |
| OUTPUT: Efficient and Clean Cooling | | TARGET FY2024 | PROGRESS FY2021 |
| Output 7 | Report: Access to energy and cooling (sustainable cold chains) | 1 | Ongoing |
| Output 8 | Report: Brief(s) on innovative sustainable cooling technologies and systems | 1 | 4 |
| Output 9 | Training/Events: Workshops/exchanges on efficient, clean cooling in developing countries | 2 | 6 |

| | | | |
|--------------------------------------|---|----------------------|------------------------|
| Output 10 | Country/Regional Grants: upstream sector analysis and engagements; policy and regulatory frameworks; identification and design of technical options, implementation, and financing models; economic and financial analyses; capacity building | 20 | 2 |
| OUTPUT: Geothermal Direct Use | | TARGET FY2024 | PROGRESS FY2021 |
| Output 11 | Report: Global market analysis for direct use | 1 | |
| Output 12 | Development Plans: Two regional plans | 2 | |
| Output 13 | Training/Events: Two regional workshops | 2 | |
| Output 14 | Country/Regional Grants: country workshops, direct use roadmaps, capacity building | 6 | 0 |
| OUTPUT: Green Hydrogen | | TARGET FY2024 | PROGRESS FY2021 |
| Output 15 | Report: Green hydrogen for multi-sectoral deep decarbonization of developing countries (co-led between industrial decarbonization and green hydrogen programs) | 1 | Ongoing |
| Output 16 | Report: Technical safety and project design framework | 1 | Ongoing |
| Output 17 | Training/Events: Technology-focused workshops and regional exchange events | 2 | 2 |
| Output 18 | Country/Regional Grants: country strategies and roadmaps; policies, regulations, and standards; capacity building; pre-feasibility studies | 12 | 1 |
| OUTPUT: All | | TARGET FY2024 | PROGRESS FY2021 |
| Output 19 | Workshop on women's leadership in decarbonization of public sector and end uses in developing countries | 1 | Not yet due (ongoing) |

CLEAN COOKING

| OUTCOME 1: Improved Access to Clean Cooking in Client Countries | | | |
|--|---|----------------------|------------------------|
| | | TARGET FY2024 | PROGRESS FY2021 |
| Outcome Indicator 1.1 | Number of people who gained access to clean cooking resulting from policies, programs, and strategies | 200 million | 40 million |
| Outcome Indicator 1.2 | Number of people who gained access to clean cooking resulting from financed projects | 100 million | 2.15 million |
| Outcome Indicator 1.3 | Amount of investments mobilized (incl. both public and private financing) | \$2 Billion | \$30 million |
| INTERMEDIATE OUTCOME 1: Governments adopt policies and regulations to support public and private sector investment in clean cooking | | | |
| | | TARGET FY2024 | PROGRESS FY2021 |
| Intermediate Outcome Indicator 1.1 | Number of policies and regulations adopted by governments to support clean cooking market development | 30 | 1 |
| Intermediate Outcome Indicator 1.2 | Number of World Bank Group/MDBs investment projects catalyzed by the CCF | 30 | 1 |
| Intermediate Outcome Indicator 1.3 | Percentage of CCF-supported projects that have proactive actions to promote female employment/entrepreneurship and gender co-benefits | 100% | 100% |
| OUTPUTS | | | |
| | | TARGET FY2024 | PROGRESS FY2021 |
| Output 1 | Strategies, policies, regulations to support clean cooking | 40 | 8 |
| Output 2 | Joint activities by partners for global outreach or country-level program coordination | 30 | 20 |
| Output 3 | Innovative technology, business, and financing approaches, incorporating both women's and men's preferences and needs | 20 | Not yet due (ongoing) |
| Output 4 | Own-managed knowledge products (incl. RBF data platform) on clean cooking with one global flagship report every other year | 10 | 9 |

ELECTRICITY ACCESS

| OUTCOME 1: People, Farmers, Businesses, and Public Institutions with Electricity Access | | TARGET FY2024 | PROGRESS FY2021 |
|---|---|--|--|
| Outcome Indicator 1.1 | Population with new electricity access resulting from universal access strategies, programs, and plans, with specific electricity access targets by 2030, implementation schedules and financing plans | 500 million people, of which mini grid/off-grid: 300 million | 91 million people; of which, 51 million mini grid/off-grid |
| Outcome Indicator 1.2 | 30 million households and/or micro and small enterprises and small-holder farmers with new electricity access through projects/programs funded through the World Bank, Governments, development partners and associated private sector investments (measured as targets in operations approved during the business plan period) | 150 million people, of which mini grid/off-grid: 90 million | 19.7 million people of which 14.4 mini grid/off-grid |
| Outcome Indicator 1.3 | Schools, health clinics, and other community facilities electrified through projects/programs funded through the World Bank, governments, development partners, and associated private sector investments (measured as targets in operations approved during the business plan period) | 1 million public institutions | 34,999 public institutions |

| | | | |
|-----------------------|---|---|---|
| Outcome Indicator 1.4 | Electricity access financing mobilized (through IDA, IBRD, climate finance, and associated government, development partner programs and private sector investments) | \$ 30 billion, of which \$10 billion private sector | \$4.7 billion, of which \$ 2.5 billion World Bank financing, \$ 739 million private co-financing at the time of the Board approval of operations, \$ 261 million private investments expected to be mobilized during project implementation as part of project results framework; \$ 498.4 private investments raised during project implementation of previously informed projects; \$ 637.7 million other co-financing (MDBs, DFIs, governments) at the time of the operation approval; \$ 87.3 million other co-financing (MDBs, DFIs, governments) raised during project implementation, is part of parallel financing or expected to be mobilized as part of the project's results framework |
|-----------------------|---|---|---|

INTERMEDIATE OUTCOME 1. Countries with supportive enabling environment for an inclusive and impactful electrification

| | | TARGET FY2024 | PROGRESS FY2021 |
|------------------------------------|---|---------------|-----------------|
| Intermediate Outcome Indicator 1.1 | Number of countries supported by ESMAP (technical assistance and operational support for pipeline development and implementation) with electricity access deficit, which officially adopted integrated electrification strategies/least cost plans, combining grid, mini grid, and off-grid technologies, with universal access targets, implementation schedule and modalities and financing plans | 50 | 5 |

| | | | |
|------------------------------------|---|----------------------|------------------------|
| Intermediate Outcome Indicator 1.2 | Countries that have integrated productive use interventions in electrification projects/programs and/or built synergies across energy access and agriculture interventions to support small-holder farmers | 20 | 3 |
| Intermediate Outcome Indicator 1.3 | Countries that have adopted and launched implementation of a scalable and sustainable model for electrification of public institutions, supported by ESMAP | 20 | 12 |
| Intermediate Outcome Indicator 1.4 | Countries that have adopted integrating electrification of displaced people, host, and other marginalized communities in electrification programs, with a focus on the needs of women and girls | 15 | Not yet due (ongoing) |
| Intermediate Outcome Indicator 1.5 | Countries that have adopted pro-poor energy access subsidy and delivery model approaches | 20 | 2 |
| Intermediate Outcome Indicator 1.6 | Percentage of IDA off-grid operations tackling women's entrepreneurship, and access to finance gaps | 100 | 100 |
| Intermediate Outcome Indicator 1.7 | Strategies adopted at the country level on closing productivity gaps between male and female farmers and business owners | 10 | Not yet due (ongoing) |
| OUTPUTS | | TARGET FY2024 | PROGRESS FY2021 |
| Output 1 | National electrification strategies and plans, based on geospatial least-cost modeling, integrating grid, mini grid and off-grid technologies developed with ESMAP support, and using technical resources and support provided by ESMAP's geospatial electrification team | 30 | 19 |
| Output 2 | Country-specific policy and regulatory frameworks, business models and/or financing instruments developed with ESMAP support for scaling up mini grid and off-grid electrification | 25 | 5 |

| | | | |
|----------|--|---|-----------------------|
| Output 3 | Designed and piloted distinct financing innovations aiming to mobilize commercial debt, crowd in private sector finance, and/or sustainably provide demand side subsidies/consumer financing | 6 | Not yet due (ongoing) |
| Output 4 | Business models developed and piloted for sustainable electrification of displaced population and host communities | 3 | Not yet due (ongoing) |
| Output 5 | Sustainable business model for electrification of public institutions, leveraging private sector, developed, piloted and results documented | 3 | Not yet due (ongoing) |
| Output 6 | Approaches for stimulating demand and productive use developed, piloted and results documented | 3 | Not yet due (ongoing) |
| Output 7 | At least 6 global knowledge reports covering mini grids, off-grid solar, productive use, public institution electrification, subsidies, and other pertinent topics | 6 | 1 |
| Output 8 | At least 6 global knowledge events covering mini grids, off-grid solar, productive use, public institution electrification, subsidies, and other pertinent topics | 6 | 2 |
| Output 9 | Delivery of one knowledge product or event related to gender by access program per year (duration of business plan) | 4 | Not yet due (ongoing) |

RENEWABLE ENERGY

| OUTCOME 1: Governments Adopt Policies and Plans to Support a Major Scale-Up of RE | | TARGET FY2024 | PROGRESS FY2021 |
|--|---|----------------------|------------------------|
| Outcome Indicator 1.1 | RE capacity additions under government policies and plans up to 2030, of which: | 60 GW | 24.2 GW |
| | 1.1.1: Offshore wind in government policies and plans to 2030 | 20 GW | 0 GW |

OUTCOME 2: Stimulation of Public and Private Investment in RE and Ancillary Infrastructure

| | | TARGET FY2024 | PROGRESS FY2021 |
|-----------------------|---|---------------|-----------------|
| Outcome Indicator 2.1 | RE capacity commitments (direct and enabled through ancillary infrastructure and grid improvements) under World Bank Group financed projects, of which: | 32.5 GW | 3.12 GW |
| | 2.1.1: Capacity commitments under EnRen-supported financed projects | 20 GW | 1.96GW |
| | 2.1.2: Innovative solar capacity commitments under financed projects | 3 GW | 36MW |
| | 2.1.3: Hydropower capacity commitments under financed projects | 4.5 GW | 80MW |
| | 2.1.4: Offshore wind capacity commitments under financed projects | 5 GW | 0 GW |
| Outcome Indicator 2.2 | Volume of financing mobilized for projects that increase RE capacity, of which: | \$25 billion | |
| | 2.2.1: World Bank financing mobilized | \$3 billion | \$2.6 billion |
| | 2.2.2: Private financing mobilized (includes co-financing from MDBs and DFIs) | \$22 billion | \$3 billion |
| Outcome Indicator 2.3 | Battery storage capacity commitments under financed projects | 15 GWh | 2131.3 MWh |

INTERMEDIATE OUTCOME 1: World Bank is supporting RE scale-up in a wide range of countries following the EnRen approach

| | | TARGET FY2024 | PROGRESS FY2021 |
|------------------------------------|--|---------------|-----------------------|
| Intermediate Outcome Indicator 1.1 | Number of countries where there is a World Bank engagement in increasing the penetration of RE in generation mix | 30 | 19 |
| Intermediate Outcome Indicator 1.2 | Number of countries where active World Bank engagement on geothermal power is newly established | 3 | Not yet due (ongoing) |

INTERMEDIATE OUTCOME 2: Countries have included innovative technologies in their policies and plans

| | | TARGET FY2024 | PROGRESS FY2021 |
|------------------------------------|---|---------------|-----------------|
| Intermediate Outcome Indicator 2.1 | Number of countries where there is World Bank Group engagement on battery storage | 40 | 14 |

| | | | |
|---|--|----------------------|------------------------|
| Intermediate Outcome Indicator 2.2 | Number of countries where there is World Bank Group engagement on innovative solar technologies | 12 | 5 |
| Intermediate Outcome Indicator 2.3 | Number of countries where there is World Bank Group engagement on offshore wind | 10 | 7 |
| INTERMEDIATE OUTCOME 3: Countries are developing the next generation of hydropower projects | | TARGET FY2024 | PROGRESS FY2021 |
| Intermediate Outcome Indicator 3.1 | Number of countries where there is World Bank engagement under the Hydropower Development Facility | 10 | 6 |
| INTERMEDIATE OUTCOME 4: RE scale-up helps countries support socioeconomic development and action on gender | | TARGET FY2024 | PROGRESS FY2021 |
| Intermediate Outcome Indicator 4.1 | Number of countries where there is World Bank Group engagement in supporting development of roadmaps including maximizing socioeconomic benefits derived from RE development with a focus on women's employment and skills development | 20 | 5 |
| OUTPUTS: Energizing Renewables | | TARGET FY2024 | PROGRESS FY2021 |
| Output 1 | Report: Sustainable deployment of solar (grid and off-grid) and wind projects (EnRen guidelines) | 1 | 0 |
| Output 2 | Events: Workshops to disseminate the EnRen integrated approach and promote the related support | 2 | 1 |
| Output 3 | Report: Lessons learnt from the Noor Ouarzazate complex in Morocco (lessons for EnRen approach) | 1 | 0 |
| Output 4 | Tool: Diagnostic tool to identify standardized solutions consistent with the EnRen methodology | 1 | 1 |
| Output 5 | Tool: E-tendering platform for standardized competitive procurement of RE projects | 1 | 0 |
| Output 6 | Report: Assessment of geothermal drilling costs | 1 | 0 |

| | | | |
|----------------------------------|---|----------------------|------------------------|
| Output 7 | Training/Event: Gender in geothermal workshops | 1 | 0 |
| Output 8 | Report: Lesson learnt from cumulative environmental and social impacts from geothermal development in Turkey | 1 | 0 |
| Output 9 | Country/Regional Grants: off-grid and grid-connected planning studies, deployment strategies, socioeconomic studies, technical studies, capacity building | 50 | 20 |
| OUTPUTS: Energy Storage | | TARGET FY2024 | PROGRESS FY2021 |
| Output 10 | Flagship Report: lessons learned from World Bank projects and pilot projects | 1 | 0 |
| Output 11 | Reports: Outputs developed under the Energy Storage Partnership | 1 | 3 |
| Output 12 | Report: Social development framework and sustainable manufacturing practices for batteries | 1 | 0 |
| Output 13 | Events: Convene exchanges under the Clean Energy Ministerial campaign on energy storage | 1 | 0 |
| Output 14 | Training/Events: Technology-focused workshops and regional exchange events | 4 | 12 |
| OUTPUTS: Innovative Solar | | TARGET FY2024 | PROGRESS FY2021 |
| Output 16 | Report: Distributed solar PV in developing countries | 1 | 0 |
| Output 17 | Report: Benefits of hybridization of hydropower with solar PV | 1 | 0 |
| Output 18 | Report: Environmental and social considerations for offshore floating PV development (social considerations to include gender aspects) | 1 | 0 |
| Output 19 | Training/Events: Global knowledge sharing on innovative solar (as a part of EnRen workshops/consultations) | 1 | 0 |

| | | | |
|---|--|----------------------|------------------------|
| Output 20 | Databases: Floating solar potential on existing hydropower reservoirs (geospatial database) and nearshore floating solar potential (geospatial database) | 2 | 1 |
| Output 21 | Country/Regional Grants: country workshops, mapping and geospatial studies, technical studies, policy/ structuring studies | 20 | 3 |
| OUTPUTS: Offshore Wind | | TARGET FY2024 | PROGRESS FY2021 |
| Output 22 | Flagship Report: Key factors for successful development of offshore wind in emerging markets | 1 | 1 |
| Output 23 | Report: Environmental & Social framework for development of offshore wind | 1 | 0 |
| Output 24 | Maps and Data: Global technical potential mapping and analysis | 1 | 1 |
| Output 25 | Training/Event: Global seminar and knowledge sharing on offshore wind development | 1 | 1 |
| Output 26 | Country/Regional Grants: country workshops, offshore wind roadmaps, deployment strategies, downstream technical studies, capacity building | 16 | 2 |
| OUTPUTS: Hydropower Development Facility | | TARGET FY2024 | PROGRESS FY2021 |
| Output 27 | Report: Risk management relating to hydrology/construction | 1 | 0 |
| Output 28 | Report: Private Sector Financing | 1 | 0 |
| Output 29 | Report: Gender & Hydropower | 1 | 0 |
| Output 30 | Training/Events: Global conferences and seminars | 2 | 1 |
| Output 31 | Database: Global compendium of hydropower dams | 1 | 0 |
| Output 32 | Report: Sustainability protocol | 1 | 0 |
| Output 33 | Country/Regional Grants: country workshops, roadmaps, project implementation strategies, pre-feasibility studies | 25 | 12 |

ANNEX B

ESMAP NEW, ONGOING, AND CLOSED ACTIVITIES, FY2021

Acronyms

| | |
|-------------|---------------------------------|
| ASA | Advisory Services and Analytics |
| BETF | Bank-Executed Trust Fund |
| DPF | Development Policy Financing |
| PV | Photovoltaics (solar) |
| RETF | Recipient-Executed Trust Fund |

Associated Trust Funds

| | |
|------------------|--|
| AREP | Advancing Regional Energy Projects (in Africa) |
| CCUS | Carbon Capture, Utilization, and Storage |
| ROGEP | Support to Regional Off-Grid Electrification Project |
| SIDS DOCK | Support for Small Island Developing States |

Regions

| | |
|------------|---------------------------------|
| AFR | Africa |
| EAP | East Asia and Pacific |
| ECA | Europe and Central Asia |
| LCR | Latin America and the Caribbean |
| MNA | Middle East and North Africa |
| SAR | South Asia Region |

New ESMAP Activities, FY2021

| COUNTRY/ SUB REGION | PROJECT # | TRUST FUND # | PROJECT NAME | ESMAP THEMATIC AND CROSS- CUTTING AREA | ESMAP PRIORITY |
|---------------------------|--------------|-----------------|---|--|--|
| AFRICA | | | | | |
| Africa | P176468 | TF0B5851 | Utility Performance and Behavior in Africa Today (UPBEAT): Maintaining and Updating Continental Utility Data Platform to Support Improvements in Utilities' Performance | 1) Foundations for Energy Transition, 2) Annual Block Grants | 1.1) Utilities for the Energy Transition, 1.2) Energy Markets, Connectivity and Trade, 1.3) Energy Subsidy Reform Facility |

| COUNTRY/ SUB REGION | PROJECT # | TRUST FUND # | PROJECT NAME | ESMAP THEMATIC AND CROSS- CUTTING AREA | ESMAP PRIORITY |
|-------------------------------|--------------|-----------------|--|--|--|
| AFRICA EAST | | | | | |
| Burundi | P133610 | TF0B5426 | Legal, Technical, and Safeguard Review Support for Ruzizi III Hydropower Project Preparation | 1) Renewable Energy | 1.1) Hydropower Development Facility |
| Comoros | P162783 | TF0B3588 | Comoros Solar PV & Battery Energy Storage Systems | 1) Small Island Developing States (SIDS) | |
| Comoros | P175840 | TF0B6129 | Comoros: Sustainable Power for Health Facilities (BETF) | 1) Accelerating Decarbonization | 1.1) Efficient and Clean Cooling |
| Comoros | P175840 | TF0B6191 | Comoros: Sustainable Power for Health Facilities (SIDS – RETF) | 1) Small Island Developing States (SIDS) | |
| Comoros | P175840 | TF0B6192 | Comoros: Sustainable Power for Health Facilities (RETF) | 1) Accelerating Decarbonization | 1.1) Efficient and Clean Cooling |
| Congo, Democratic Republic of | P173506 | TF0B6006 | Programmatic Support to the Power Sector in the Democratic Republic of Congo | 1) Electricity Access, 2) Renewable Energy, 3) Foundations for Energy Transition, 4) Annual Block Grants | 1.1) Global Mini Grids Facility, 1.2) Improve Livelihoods and Human Capital, 2.1) Energizing Renewables, 3.1) Utilities for the Energy Transition, 3.2) Energy Markets, Connectivity and Trade |
| Eastern Africa | P174175 | TF0B4111 | Horn of Africa Initiative Rapid Support for Regional Integration | 1) Electricity Access, 2) Clean Cooking Fund, 3) Annual Block Grants | 1.1) Global Mini Grids Facility, 1.2) Leave No One Behind |

| COUNTRY/ SUB REGION | PROJECT # | TRUST FUND # | PROJECT NAME | ESMAP THEMATIC AND CROSS- CUTTING AREA | ESMAP PRIORITY |
|---------------------------|--------------|-----------------|--|---|---|
| Kenya | P173040 | TF0B5094 | Options Analysis for Promoting Productive Use of Electricity and Demand Stimulation in Kenya | 1) Electricity Access, 2) Foundations for Energy Transition | 1.1) Improve Livelihoods and Human Capital, 1.2) Financial Innovation for Energy Access, 2.1) Utilities for the Energy Transition |
| Malawi | P168577 | TF0B3629 | Clean and Energy Efficient Cooling Interventions for Micro, Small and Medium Enterprises in Malawi | 1) Accelerating Decarbonization | 1.1) Efficient and Clean Cooling |
| Rwanda | P164520 | TF0B3655 | Rwanda: Energy Efficient Cold Storage for Agriculture | 1) Accelerating Decarbonization | 1.1) Efficient and Clean Cooling |
| Rwanda | P171671 | TF0B3333 | Rwanda: Inclusive and Electric Last Mile Connectivity (ESMAP) | 1) Accelerating Decarbonization | 1.1) Zero Carbon Public Sector |
| Rwanda | P172594 | TF0B3589 | Energy Access and Quality Improvement Project | 1) Clean Cooking Fund | |
| Rwanda | P172594 | TF0B4625 | Implementation Support for Rwanda EAQIP Project | 1) Clean Cooking Fund | |
| South Sudan | P175227 | TF0B4320 | Pathways to Electricity Access Expansion in South Sudan | 1) Electricity Access, 2) Annual Block Grants | 1.1) Integrated Electrification Strategies and Planning, 1.2) Global Mini Grids Facility, 1.3) Off-Grid Solar, 1.4) Improve Livelihoods and Human Capital |
| Southern Africa | P126661 | TF0B5574 | Renewable Energy for Building Energy Livelihoods | 1) Renewable Energy, 2) Accelerating Decarbonization | 1.1) Energizing Renewables, 2.1) Green Hydrogen |
| Sudan | P174352 | TF0B5920 | Climate Friendly Cold Chain in Sudan | 1) Accelerating Decarbonization | 1.1) Efficient and Clean Cooling |

| COUNTRY/ SUB REGION | PROJECT # | TRUST FUND # | PROJECT NAME | ESMAP THEMATIC AND CROSS- CUTTING AREA | ESMAP PRIORITY |
|---------------------------|--------------|-----------------|---|---|---|
| Uganda | P166685 | TF0B5204 | Uganda Electricity Access Scale-up Project (EASP) | 1) Clean Cooking Fund | |
| AFRICA WEST | | | | | |
| Benin | P173749 | TF0B5839 | MTF Energy Access Diagnostic Study for Benin | 1) Annual Block Grants | |
| Cabo Verde | P170236 | TF0B5152 | Assessment of Battery Storage Potential in Cabo Verde | 1) Renewable Energy | 1.1) Energy Storage |
| Cameroon | P174960 | TF0B5787 | Institutions and Capacity Strengthening for Regional Power Trade | 1) Foundations for Energy Transition, 2) Annual Block Grants | 1.1) Energy Markets, Connectivity and Trade |
| Chad | P174985 | TF0B4457 | Supporting Reform and Investment to Expand Access to Affordable and Financially Viable Energy | 1) Electricity Access, 2) Foundations for Energy Transition, 3) Annual Block Grants | 1.1) Global Mini Grids Facility, 1.2) Off-Grid Solar, 2.1) Energy Subsidy Reform Facility |
| Gambia, The | P163568 | TF0B3700 | Energy Efficiency Strategy for The Gambia (ESMAP / PPIAF) | 1) Accelerating Decarbonization | 1.1) Zero Carbon Public Sector, 1.2) Efficient and Clean Cooling |
| Guinea | P164225 | TF0B5946 | Methodology for the Calculation of Revenue Requirement for Electricité de Guinée (EDG/National Electricity Utility) | 1) Annual Block Grants | |
| Liberia | P173416 | TF0B5145 | Electrification of Health and Vaccine Storage Facilities in Liberia | 1) Electricity Access | 1.1) Improve Livelihoods and Human Capital |

| COUNTRY/ SUB REGION | PROJECT # | TRUST FUND # | PROJECT NAME | ESMAP THEMATIC AND CROSS- CUTTING AREA | ESMAP PRIORITY |
|---------------------------|--------------|-----------------|--|---|---|
| Niger | P174034 | TF0B5095 | Niger Energy Sector Support for Accelerating Electricity Access | 1) Electricity Access, 2) Foundations for Energy Transition, 3) Annual Block Grants | 1.1) Integrated Electrification Strategies and Planning, 1.2) Global Mini Grids Facility, 1.3) Off-Grid Solar, 1.4) Improve Livelihoods and Human Capital, 1.5) Financial Innovation for Energy Access, 2.1) Utilities for the Energy Transition, 2.2) Energy Subsidy Reform Facility |
| Nigeria | P172891 | TF0B3332 | Electricity Market Transition Assessment and Distribution Company (DISCO) Strengthening and Capacity Building in Nigeria | 1) Annual Block Grants | |
| Nigeria | P174760 | TF0B5042 | Nigeria: Programmatic Advisory Services and Analytics (ASA) for Energy | 1) Renewable Energy, 2) Foundations for Energy Transition, 3) Annual Block Grants | 1.1) Innovative Solar, 2.1) Utilities for the Energy Transition, 2.2) Energy Subsidy Reform Facility |
| Nigeria | P176130 | TF0B5363 | Nigeria: Sustainable Green e-Mobility Solutions (ESMAP) | 1) Accelerating Decarbonization, 2) Electricity Access | 1.1) Zero Carbon Public Sector, 2.1) Global Mini Grids Facility |
| Sierra Leone | P171059 | TF0B4850 | Promote Efficient and Clean Cooking in Sierra Leone | 1) Clean Cooking Fund | |

| COUNTRY/ SUB REGION | PROJECT # | TRUST FUND # | PROJECT NAME | ESMAP THEMATIC AND CROSS- CUTTING AREA | ESMAP PRIORITY |
|--------------------------------|--------------|-----------------|--|---|---|
| EAST ASIA & PACIFIC | | | | | |
| China | P173461 | TF0B6030 | Energy Efficiency and Persistent Organic Pollutants Mitigation in Iron and Steel Industry in China | 1) Accelerating Decarbonization | 1.1) Industrial Decarbonization |
| East Asia and Pacific | P151262 | TF0B4267 | Increasing Access to Clean Cooking and Establishing Power Sector Strategy and Engagement | 1) Annual Block Grants | |
| East Asia and Pacific | P170589 | TF0B4219 | Energy and Extractives Programmatic Advisory Services and Analytics in Papua New Guinea | 1) Electricity Access, 2) Clean Cooking Fund, 3) Renewable Energy, 4) Annual Block Grants | 1.1) Integrated Electrification Strategies and Planning, 1.2) Global Mini Grids Facility, 1.3) Off-Grid Solar, 3.1) Hydropower Development Facility |
| Indonesia | P169259 | TF0B3923 | Indonesia Sustainable Least-cost Electrification (ISLE) Scale-Up (RETF) | 1) Renewable Energy | 1.1) Energizing Renewables, 1.2) Energy Storage |
| Indonesia | P169548 | TF0B3387 | Electric Mobility Adoption Strategies for the Indonesian Mass Transit Program | 1) Accelerating Decarbonization | 1.1) Zero Carbon Public Sector |
| Indonesia | P173293 | TF0B4182 | Addressing projected impact of COVID-19 crisis on Perusahaan Listrik Negara's (PLN) cash flow | 1) Annual Block Grants | |
| Indonesia | P173293 | TF0B4220 | Indonesia Energy Transition and Sustainable Access to Modern Energy for All (Energy Subsidy Reform Facility, ESRF) | 1) Foundations for Energy Transition | 1.1) Energy Subsidy Reform Facility |

| COUNTRY/ SUB REGION | PROJECT # | TRUST FUND # | PROJECT NAME | ESMAP THEMATIC AND CROSS- CUTTING AREA | ESMAP PRIORITY |
|----------------------------------|--------------|-----------------|--|--|--|
| Indonesia | P173293 | TF0B4426 | Development of a Financial Early Warning System from Perusahaan Listrik Negara (PLN) | 1) Annual Block Grants | |
| Indonesia | P173293 | TF0B4639 | Indonesia Energy Transition and Sustainable Access to Modern Energy for All (Energy Subsidy Reform Facility, ESRF) | 1) Renewable Energy | 1.1) Energizing Renewables |
| Lao People's Democratic Republic | P175881 | TF0B5379 | Energy Sector Financial Recovery Program in Lao People's Democratic Republic | 1) Annual Block Grants | |
| Philippines | P173728 | TF0B5761 | Climate Risk Assessment in Preparation for of Agus-Pulangi Hydropower Complex Rehabilitation (APHC) | 1) Renewable Energy | 1.1) Hydropower Development Facility |
| Philippines | P175004 | TF0B5114 | Philippines Energy Transition: Securing a Clean and Affordable Energy Future | 1) Renewable Energy, 2) Accelerating Decarbonization | 1.1) Energizing Renewables, 1.2) Offshore Wind, 2.1) Zero Carbon Public Sector |
| Vietnam | P175981 | TF0B5801 | Retrofits and Cooling Systems for Urban Public Assets in Vietnam | 1) Accelerating Decarbonization | 1.1) Zero Carbon Public Sector |
| EUROPE & CENTRAL ASIA | | | | | |
| Azerbaijan | P175716 | TF0B4434 | Support to Azerbaijan Energy Sector Market Reforms and Offshore Wind Development | 1) Renewable Energy, 2) Annual Block Grants | 1.1) Offshore Wind |

| COUNTRY/ SUB REGION | PROJECT # | TRUST FUND # | PROJECT NAME | ESMAP THEMATIC AND CROSS- CUTTING AREA | ESMAP PRIORITY |
|---------------------------|--------------|-----------------|--|---|---|
| Kazakhstan | P130013 | TF0B6012 | Kazakhstan Industrial Energy Transition Initiative | 1) Accelerating Decarbonization | 1.1) Industrial Decarbonization |
| Kyrgyz Republic | P157079 | TF0B2457 | Energy Efficiency Improvements in Public Buildings in the Kyrgyz Republic (RETF) | 1) Accelerating Decarbonization | 1.1) Zero Carbon Public Sector |
| Kyrgyz Republic | P174466 | TF0B3586 | Supporting Energy Sector Reform to Improve Financial Viability | 1) Foundations for Energy Transition, 2) Accelerating Decarbonization | 1.1) Energy Subsidy Reform Facility, 2.1) Zero Carbon Public Sector |
| Tajikistan | P170132 | TF0B4810 | Preliminary Techno-Economic Assessment of Floating Solar PV | 1) Renewable Energy | 1.1) Innovative Solar, 1.2) Hydropower Development Facility |
| Turkey | P171645 | TF0B3338 | Turkey: Promoting Low-Carbon Technologies and Circular Economy in Organized Industrial Zones | 1) Accelerating Decarbonization | 1.1) Industrial Decarbonization |
| Turkey | P177079 | TF0B6268 | Turkey E-mobility Program | 1) Accelerating Decarbonization | 1.1) Zero Carbon Public Sector |
| Uzbekistan | P168487 | TF0B4268 | Fostering Industrial Decarbonization in Uzbekistan through Innovative Technologies | 1) Accelerating Decarbonization | 1.1) Industrial Decarbonization |
| Uzbekistan | P168487 | TF0B4974 | Uzbekistan Renewable Energy Scale-up Support | 1) Renewable Energy, 2) Foundations for Energy Transition | 1.1) Energizing Renewables, 1.2) Energy Storage, 2.1) Utilities for the Energy Transition |
| Uzbekistan | P176060 | TF0B6094 | Decarbonization of Heating and Cooling Systems in Buildings in Uzbekistan | 1) Accelerating Decarbonization | 1.1) Zero Carbon Public Sector |

| COUNTRY/ SUB REGION | PROJECT # | TRUST FUND # | PROJECT NAME | ESMAP THEMATIC AND CROSS- CUTTING AREA | ESMAP PRIORITY |
|---------------------------|--------------|-----------------|--|--|--|
| Western Balkans | P169389 | TF0B6178 | Western Balkans Energy Subsidy Reform Advisory Services and Analytics (ASA) | 1) Foundations for Energy Transition | 1.1) Energy Subsidy Reform Facility |
| GLOBAL | | | | | |
| Global | P165586 | TF0B5680 | Scaling up De- carbonization in Water Utilities: Financing and Implementation of Energy Efficiency, Renewable Energy, and New Technologies | 1) Accelerating Decarbonization | 1.1) Zero Carbon Public Sector |
| Global | P171194 | TF0B3997 | Coal Transition Program, FY2021-24 (Own-managed) | 1) Foundations for Energy Transition | 1.1) Supporting Coal Regions in Transition |
| Global | P172275 | TF0B3587 | Fiscal Costs and Risks from Infrastructure in an Era of High Debt Vulnerabilities | 1) Foundations for Energy Transition | 1.1) Energy Subsidy Reform Facility |
| Global | P173658 | TF0B4422 | Technical Assistance to Selected Countries to Realign Agricultural and Energy Policies and Support for Sustainable Food Systems | 1) Renewable Energy, 2) Foundations for Energy Transition | 1.1) Innovative Solar, 2.1) Energy Subsidy Reform Facility |
| Global | P173908 | TF0B3762 | Hydropower Development Facility, FY2021-24 (Own- managed) | 1) Renewable Energy | 1.1) Hydropower Development Facility |
| Global | P173931 | TF0B3328 | Integrated Electrification Strategies and Planning, FY2021-24 (Own-managed) | 1) Energy Data & Analytics | 1.1) Energy Data Hub |

| COUNTRY/ SUB REGION | PROJECT # | TRUST FUND # | PROJECT NAME | ESMAP THEMATIC AND CROSS- CUTTING AREA | ESMAP PRIORITY |
|---------------------------|--------------|-----------------|--|--|---|
| Global | P174081 | TF0B3327 | Utilities for the Energy Transition Program | 1) Foundations for Energy Transition | 1.1) Utilities for the Energy Transition |
| Global | P174320 | TF0B3941 | Electricity Demand Estimation | 1) Energy Data & Analytics | 1.1) Demand Estimation |
| Global | P174326 | TF0B3810 | Energy Subsidy Reform Technical Assistance Facility | 1) Foundations for Energy Transition | 1.1) Energy Subsidy Reform Facility |
| Global | P174364 | TF0B3188 | Geothermal Program, FY2021-24 (own-managed) | 1) Accelerating Decarbonization | 1.1) Geothermal Direct Use |
| Global | P174518 | TF0B3880 | Electricity Markets, Connectivity and Trade (MARCOT) Program | 1) Foundations for Energy Transition | 1.1) Energy Markets, Connectivity and Trade |
| Global | P174659 | TF0B3546 | Zero Carbon Public Sector, FY2021-24 (Own-managed) | 1) Accelerating Decarbonization | 1.1) Zero Carbon Public Sector |
| Global | P174660 | TF0B3569 | Efficient Clean Cooling program, FY2021-24 (Own-managed) | 1) Accelerating Decarbonization | 1.1) Efficient and Clean Cooling |
| Global | P174661 | TF0B3542 | Accelerating Decarbonization, FY2021-24 (Own-managed) | 1) Accelerating Decarbonization | 1.1) Industrial Decarbonization |
| Global | P175149 | TF0B4030 | Leaving No One Behind, FY2021-24 (Own-managed) | 1) Electricity Access | 1.1) Leave No One Behind |
| Global | P175150 | TF0B3993 | Off-Grid Solar Scale-Up, FY2021-24 (Own-managed) | 1) Electricity Access | 1.1) Off-Grid Solar |
| Global | P175151 | TF0B4088 | Mini Grid Facility, FY2021-24 (Own-managed) | 1) Electricity Access | 1.1) Global Mini Grids Facility |

| COUNTRY/ SUB REGION | PROJECT # | TRUST FUND # | PROJECT NAME | ESMAP THEMATIC AND CROSS- CUTTING AREA | ESMAP PRIORITY |
|---------------------------|--------------|-----------------|---|--|--|
| Global | P175152 | TF0B3965 | Improving Livelihoods through Productive Use of Electricity | 1) Electricity Access | 1.1) Improve Livelihoods and Human Capital |
| Global | P175152 | TF0B3966 | Improving Livelihoods and Human Capital, FY2021-24 (Own-managed) | 1) Electricity Access | 1.1) Improve Livelihoods and Human Capital |
| Global | P175153 | TF0B4069 | Integrated Electrification Strategies & Planning, FY2021-24 (Own-managed) | 1) Electricity Access | 1.1) Integrated Electrification Strategies and Planning |
| Global | P175154 | TF0B4003 | Financial Innovation for Energy Access, FY2021-24 (Own-managed) | 1) Electricity Access | 1.1) Financial Innovation for Energy Access |
| Global | P175305 | TF0B4458 | Commercial, Public and Industrial Buildings Energy Efficiency and Cooling | 1) Accelerating Decarbonization | 1.1) Zero Carbon Public Sector, 1.2) Efficient and Clean Cooling |
| Global | P175482 | TF0B5359 | Gender and Energy Global Program, FY2021-24 (Own-managed) | 1) Foundations for Energy Transition | 1.1) Closing Gender Gaps in Energy |
| Global | P175657 | TF0B6059 | Supervision of COVID-19 Energy Access Relief Fund | 1) Electricity Access | 1.1) Off-Grid Solar |
| Global | P176438 | TF0B5505 | Jobs, FY2021-24 (Own-managed; BETF) | 1) Other | |

LATIN AMERICA & CARIBBEAN

| COUNTRY/ SUB REGION | PROJECT # | TRUST FUND # | PROJECT NAME | ESMAP THEMATIC AND CROSS- CUTTING AREA | ESMAP PRIORITY |
|---------------------------|--------------|-----------------|---|--|---|
| Argentina | P175855 | TF0B5640 | Promoting Sustainable and Energy Efficient Social Housing in the Province of Buenos Aires | 1) Accelerating Decarbonization | 1.1) Zero Carbon Public Sector, 1.2) Efficient and Clean Cooling |
| Caribbean | P159107 | TF0B5506 | Accelerating Green Energy Transition in Grenada | 1) Annual Block Grants | |
| Caribbean | P159107 | TF0B6221 | Implementation Mechanisms and Time-bound Action Plan for Accelerating Energy Efficiency and Distributed Renewable Energy in Residential, Commercial, Public and Industrial Buildings in Grenada | 1) Renewable Energy, 2) Accelerating Decarbonization | 1.1) Innovative Solar, 2.1) Zero Carbon Public Sector |
| Central America | P169052 | TF0B4245 | Mobilizing Private Finance to Accelerate the Deployment of Clean and Efficient Cooling Solutions in Panama | 1) Accelerating Decarbonization, 2) Annual Block Grants | 1.1) Efficient and Clean Cooling |
| Central America | P169052 | TF0B4368 | Costa Rica Smart Grids and Green Hydrogen National Strategy Support | 1) Accelerating Decarbonization, 2) Foundations for Energy Transition, 3) Renewable Energy | 1.1) Green Hydrogen, 2.1) Utilities for the Energy Transition, 3.1) Energizing Renewables |
| Central America | P169052 | TF0B5708 | Enabling Environment for an Energy Efficiency Fund in El Salvador and Costa Rica | 1) Annual Block Grants, 2) Accelerating Decarbonization | 2.1) Zero Carbon Public Sector, 2.2) Efficient and Clean Cooling |
| Colombia | P172319 | TF0B5061 | Offshore Wind Roadmap for Colombia | 1) Renewable Energy | 1.1) Offshore Wind |

| COUNTRY/ SUB REGION | PROJECT # | TRUST FUND # | PROJECT NAME | ESMAP THEMATIC AND CROSS-CUTTING AREA | ESMAP PRIORITY |
|---------------------------------------|-----------|--------------|--|---|--|
| Dominican Republic | P175874 | TF0B5807 | Supporting Electricity Sector Reforms in the Dominican Republic | 1) Foundations for Energy Transition | 1.1) Energy Subsidy Reform Facility |
| Haiti | P156719 | TF0B3842 | Solar Hybrid Electricity Systems for Prioritized Healthcare and Water Facilities in Haiti in the Context of COVID-19 | 1) Electricity Access | 1.1) Improve Livelihoods and Human Capital |
| Haiti | P156719 | TF0B3955 | Solar Hybrid Electricity Systems for Prioritized Healthcare and Water Facilities in Haiti in The context of COVID-19 | 1) Electricity Access | 1.1) Improve Livelihoods and Human Capital |
| Haiti | P174334 | TF0B3668 | Haiti Petroleum Product Subsidy Reform | 1) Foundations for Energy Transition | 1.1) Energy Subsidy Reform Facility |
| Latin America | P175621 | TF0B4424 | Implications of Enhanced Regional Electricity Trade on Power Sector Reforms in LCR | 1) Foundations for Energy Transition | 1.1) Energy Markets, Connectivity and Trade |
| Peru | P171140 | TF0B6106 | Technical Support to Develop Distributed Energy Resources in Peru | 1) Renewable Energy, 2) Foundations for Energy Transition | 1.1) Innovative Solar, 2.1) Utilities for the Energy Transition |
| MIDDLE EAST & NORTH AFRICA | | | | | |
| Middle East and North Africa | P170546 | TF0B3749 | Unlocking E-Mobility Development Potential in MNA (ESMAP) | 1) Accelerating Decarbonization | 1.1) Zero Carbon Public Sector, 1.2) Efficient and Clean Cooling |
| Middle East and North Africa | P174504 | TF0B5841 | Pan-Arab Regional Energy Trade Investment Support | 1) Carbon Capture & Storage (CCUS) | |

| COUNTRY/ SUB REGION | PROJECT # | TRUST FUND # | PROJECT NAME | ESMAP THEMATIC AND CROSS- CUTTING AREA | ESMAP PRIORITY |
|---------------------------------------|--------------|-----------------|---|--|---|
| Middle East and North Africa | P174504 | TF0B5900 | Pan-Arab Regional Energy Trade Investment Support Energy Connectivity | 1) Foundations for Energy Transition | 1.1) Energy Markets, Connectivity and Trade |
| SOUTH ASIA | | | | | |
| Afghanistan | P173775 | TF0B5205 | Solarization of Vaccine Storage Facilities in Afghanistan | 1) Electricity Access | 1.1) Improve Livelihoods and Human Capital |
| Afghanistan | P173775 | TF0B6034 | Solarization of Vaccine Storage Facilities in Afghanistan (Bank- executed) | 1) Electricity Access | 1.1) Improve Livelihoods and Human Capital |
| Bangladesh | P174650 | TF0B5508 | Bangladesh Electricity Distribution Network Transformation | 1) Renewable Energy, 2) Foundations for Energy Transition, 3) Annual Block Grants | 1.1) Innovative Solar, 2.1) Utilities for the Energy Transition |
| India | P155038 | TF0B6193 | Supporting Automation in Electricity Distribution for Increasing the Capability for Integrating Distributed Energy Resource | 1) Foundations for Energy Transition | 1.1) Utilities for the Energy Transition |
| India | P170602 | TF0B4027 | COVID-19 Impact Assessment of Commercial Risk of Indian Electricity Distribution Segment | 1) Annual Block Grants | |
| India | P170602 | TF0B4637 | India: Supporting Himachal Pradesh in Tapping its Renewable Energy Potential | 1) Renewable Energy | 1.1) Energizing Renewables |

| COUNTRY/ SUB REGION | PROJECT # | TRUST FUND # | PROJECT NAME | ESMAP THEMATIC AND CROSS- CUTTING AREA | ESMAP PRIORITY |
|---------------------------|--------------|-----------------|---|---|--|
| India | P170602 | TF0B4638 | Addressing Development Challenges in India's Hydropower Sector | 1) Annual Block Grants | |
| India | P170602 | TF0B5384 | India: Supporting Structural Reforms in electricity Distribution Sector | 1) Annual Block Grants | |
| India | P170602 | TF0B5531 | Developing a Compressed Bio-Gas roadmap in India | 1) Accelerating Decarbonization | 1.1) Zero Carbon Public Sector |
| India | P170602 | TF0B5641 | Green Hydrogen Opportunities and Roadmap for India | 1) Accelerating Decarbonization | 1.1) Industrial Decarbonization, 1.2) Green Hydrogen |
| Maldives | P145482 | TF0B5106 | Maldives: Supporting Energy Transition and Integrated Resource Planning in an Island-grid Context | 1) Small Island Developing States (SIDS) | |
| Maldives | P172788 | TF0B3331 | Maldives: Supporting the Development of Electric Mobility in the Maldives | 1) Accelerating Decarbonization | 1.1) Zero Carbon Public Sector |
| Pakistan | P169313 | TF0B4266 | Pakistan Energy Access Technical Assistance | 1) Electricity Access, 2) Energy Data & Analytics | 1.1) Integrated Electrification Strategies and Planning, 1.2) Global Mini Grids Facility, 1.3) Off-Grid Solar, 2.1) Multi-tier Energy Access Tracking Framework (MTF; incl. data on clean cooking and displaced communities) |

| COUNTRY/ SUB REGION | PROJECT # | TRUST FUND # | PROJECT NAME | ESMAP THEMATIC AND CROSS- CUTTING AREA | ESMAP PRIORITY |
|---------------------------|--------------|-----------------|--|---|---|
| South Asia | P167971 | TF0B5507 | Accelerate South Asia Power Market (ASAP): Development of Regional Wholesale Market Design Options for Cross Border Electricity Trade among Bangladesh, Bhutan, India, Nepal and Sri Lanka | 1) Renewable Energy, 2) Foundations for Energy Transition, 3) Annual Block Grants | 1.1) Hydropower Development Facility, 2.1) Energy Markets, Connectivity and Trade |
| Sri Lanka | P166865 | TF0B5911 | Floating Solar PV Development Option Study | 1) Renewable Energy | 1.1) Innovative Solar |
| Sri Lanka | P175305 | TF0B4044 | Sri Lanka: Offshore Wind Development Roadmap and Demonstration Project Study | 1) Renewable Energy | 1.1) Offshore Wind |

ANNEX C

ESMAP PUBLICATIONS, FY2021

Regions

| | |
|------------|---------------------------------|
| AFR | Africa |
| EAP | East Asia and Pacific |
| ECA | Europe and Central Asia |
| LCR | Latin America and the Caribbean |
| MNA | Middle East and North Africa |
| SAR | South Asia Region |

ESMAP Publications, FY2021

| ISBN, PUB NO., OR PROJECT NO. | COUNTRY/ REGION | TITLE | AUTHOR/TTL |
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| P162805 | Bangladesh | Solar and Wind Measurements in Bangladesh: Site Measurement Report, Twenty-Four Months | Henning Dorff, André Petersen, Marko Schwandt, and Simon Weber |
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| P167912 | Democratic Republic of Congo | Étude de Priorisation et de Cartographie des Sites Hydroélectriques et Solaires Photovoltaïques en République Démocratique du Congo (Vol. 2): Priorisation des Sites Hydroélectriques et Solaires (Tâche 2): Rapport d'Analyse (French) | Alain Ouedraogo |

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