

# Renewable Energy Sector: Overarching Results Framework

DECEMBER 2015

## Diesel Displacement Measures

- 4% - Maama Mai, Aug 2012
- 1.5% 0.42 MW Vava'u solar PV farm, November 2013
- 2.2% TPL system loss reduction program, 2013
- 1.7% Tonga Village Network Upgrade Project, 2013
- 0.5% Micro - solar / wind sites, 2013
  
- 2.6% Popua diesel generator No.8 fuel savings, May 2014
- 2.6% 1.0 MW Vaini solar PV plant, March 2015
  
- 10.6% 2.2MW Wind power generation, PENDING
  
- 19.6% 1.7 MW Biomass gasification generation, PENDING
  
- 3.6% Nuku'alofa CBD network upgrade, PENDING
  
- Target 50%



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# 1. Introduction/Background

The New Zealand Aid Programme, Ministry of Foreign Affairs and Trade (MFAT) has identified infrastructure investments as one of the enablers of growth. Renewable energy is one of the key underpinnings of its growth strategy for infrastructure. One of the 12 Investment Priorities of the New Zealand Aid Programme Strategic Plan 2015-2019 (MFAT 2015) is "Expand access to affordable, reliable and clean energy".

The focus areas for this priority are:

- Improve access to reliable and renewable energy through new infrastructure and technical assistance
- Identify and support greater private-sector participation in the energy sector
- Strengthen sector planning and asset management to improve service quality and efficiency

An overarching results framework for MFAT's renewable energy Activities has been developed as part of a wider evaluation of its renewable energy investment in the Pacific.

The results framework follows MFAT's format for Activity designs, but has been adapted to fit two key purposes:

1. Inform Activity concept and design, and be used as a template for renewable energy Activity design results frameworks.
2. Provide an overarching framework for monitoring and evaluation of the Renewable Energy Sector in the Pacific.

The results framework is provided in Section 3. It includes:

- Results diagram
- Results measurement table
- Monitoring and evaluation work plan.

It has been prepared in consultation with a cross section of MFAT staff from Wellington. Discussion in Section 2 documents the aspects of the framework that MFAT need to consider when using the framework.

## 2. Assumptions/Explanatory Notes

### 2.1 Scope and Scale of the Results Framework

1. The goal comes from the Strategic Plan Investment Priorities (MFAT 2015), but is slightly modified to emphasise the link between energy and economic development.
2. While renewable energy is the focus of the Strategic Plan Investment Priorities, the results framework has taken a broad approach to the energy sector and allows for investment in technical assistance (policy development, strategic planning, institutional strengthening, technical studies), maintenance or renewal of diesel assets, grid extensions and other aspects of the energy sector. This comes from the understanding that the energy sector is a complex matrix of interconnected parts. MFAT may invest in interventions in any aspect of the sector and be able to contribute to the Investment Priorities of the Strategic Plan. An outcome of the recent evaluation of energy infrastructure investments in the Pacific is that funding renewable energy infrastructure alone may not meet MFAT's strategic goals. It also recognises that sometimes new or upgraded diesel generation, while not necessarily 'clean', may contribute to other strategic goals of affordable and reliable energy.
3. The framework focusses on the entire energy sector as it relates to the generation and distribution of **electricity**. Further indicators may be added in the future to cover other energy uses (e.g. transportation).
4. The monitoring and evaluation covers main grid and mini-grid data/outcomes as well as the remote/off-grid outcomes. This captures impact on the majority (grid) and on the most vulnerable (such as remote communities who are likely to be economically and politically disadvantaged and have fewer options for affordable, clean and reliable energy) (mini-grid).
5. There is a current assumption that renewable energy generation is more affordable than fossil fuel, however this assumption depends on the price of fuel (primarily diesel) and renewable energy technology.
6. Long term outcome: Environmental and climate change impacts are minimised and managed. It is recognised that environmental impacts cannot be completely avoided, but it is appropriate to ensure they are minimised and high risk/significant harm is avoided over the long term. Two indicators are appropriate: 1) Carbon-equivalent emissions per kWh provide a benchmark across the energy sector – emissions and savings can be calculated from each technology using standard units; and 2) the protection of significant/sensitive areas is considered a key long term outcome that can be measured for each Pacific Island country and across technologies/interventions.

## 2.2 Use of the Results Framework

The results framework has been developed to achieve several outcomes:

1. To inform Activity concept and design. Using the results diagram, MFAT staff can identify where an Activity can best contribute to the sector goal and long term outcomes.
2. As a template for Activity Results Frameworks, where relevant pieces of the overarching framework can be applied to the Activity level and used in the Activity Design Document. This will help to standardise the approach to evaluation and monitoring for Activities in the sector. It is assumed that relevant outcomes and indicators will be selected for each Activity; Activities will not be required to monitor and evaluate every outcome and indicator.
3. To monitor and evaluate outcomes and impacts at the programme level. The implementation approach will be further developed by MFAT, but the results framework allows both for the collation of data from Activities to feed into a programme evaluation, or for the Evaluation and Research team to carry out case studies or evaluations on long term outcomes and impacts. It is assumed that the purpose of the evaluation will influence the selection of relevant outcomes and indicators.

## 2.3 Definitions

1. MFAT has not formalised a working definition of 'access' to energy. In the development of this framework access has been defined and addressed at two scales:
  - The number of households or businesses (consumers) connected to grid/mini-grid electricity supply.
  - Technology that provides cleaner or more reliable energy off-grid (at least one light bulb and one electrical socket is considered 'access').

It is recommended that MFAT consider the definitions and scales of access to ensure they meet the intent of the Strategic Plan Investment Priorities.

2. Affordability: The framework looks at both affordability to the country (economic) and affordability to the consumer (financial). Financial includes domestic and non-domestic consumers. Affordability for consumers is directly related to the tariff and the ability of the consumer to pay (based on income, energy needs and use). Economic affordability is the ability of the country to pay for diesel and the impact of the volatility of energy fuel costs (primarily diesel) on the economy.
3. Disaster risk reduction and climate change adaptation is covered in the medium term outcome term "resilient".
4. Targets in the results measurement table are relevant for both Activity and sector evaluation, unless otherwise noted.

## 2.4 Results Framework Structure

The framework has been simplified to show the primary, relevant, or intended links between short, medium and long term outcomes. Each short term outcome can contribute to most of the medium term outcomes and some short term outcomes can contribute to other short term outcomes. All medium term outcomes can contribute in some way to the long term outcomes. To show all links would create a very complex framework. For example, it is recognised that the stakeholder engagement and cross cutting short term outcomes will also contribute to other short term outcomes such as the prioritising of actions and resources via strategic sector plans.

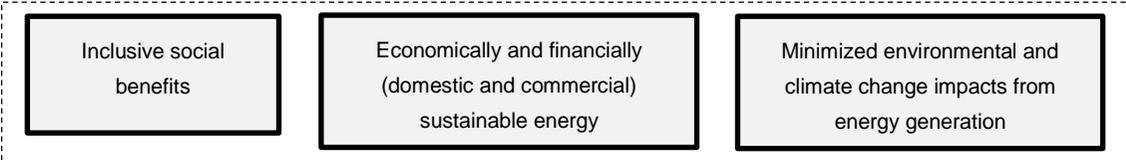
# 3. Results Framework

## Results Diagram

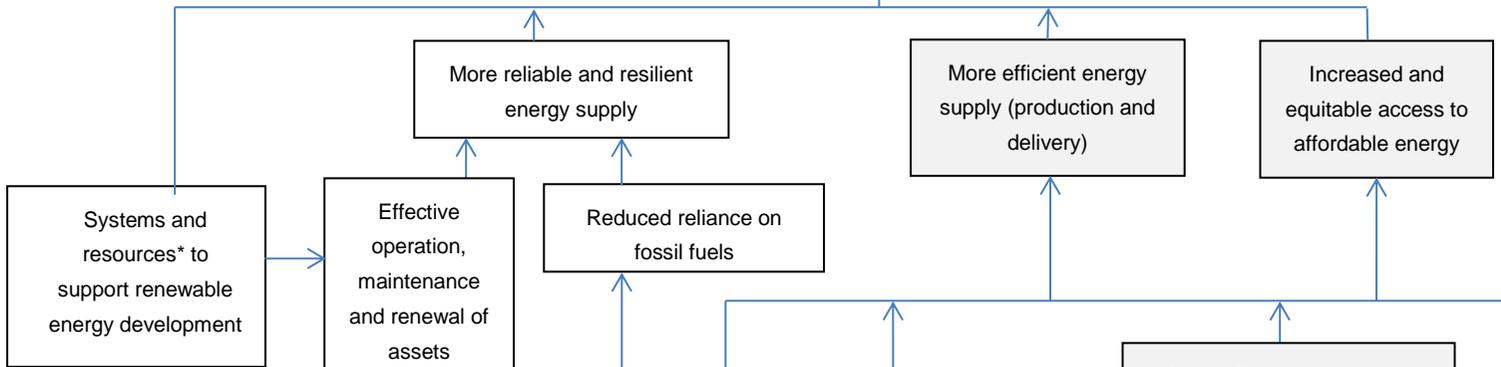
Goal

Expand access to affordable, reliable and clean energy for prosperous development in the Pacific

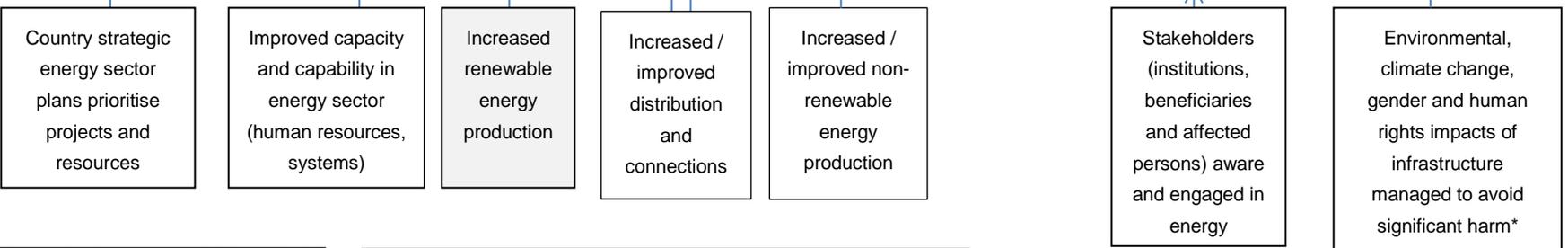
Long-term Outcomes



Medium-term Outcomes



Short-term Outcomes



\*Regulatory, financial, technical, institutional, governance systems and resources

The New Zealand Aid Programme invests in Activities that support this overarching Results Diagram



## Results Measurement Table

Long-term Outcomes	Indicator(s)	Baseline Information and Targets	Methodology/Data Sources
Inclusive social benefits	Consumer views of renewable energy including: affordability, accessibility, reliability, economic benefits (M/F/age).	Baseline: Current views of consumers about benefits of renewable energy and electricity affordability (M/F/age) Target: Increasing positive views by consumers of renewable energy benefits (M/F/age).	Mixed method approach requiring a suite of tools to analyse the changes to household daily activities (positive and negative) and to views of renewable energy.
	Energy sector has a positive impact on household daily activities (M/F youth, elderly, vulnerable): Income Connectivity Education Health Time taken to undertake household chores (non-productive work) Incidence of physical violence Gender roles Youth, elderly and vulnerable roles Contribution to community organisation	Baseline: Current energy access and current income, connectivity, education, health, time-in-motion for household chores, domestic violence, gender roles and the roles of youth, elderly and vulnerable.  Target: Improved income, connectivity, education and health.  Target: Reduced time spent on household and community chores (non-productive work).  Target: No change in physical violence.  Target: Increased or improved contribution to community organisation.  Disaggregated data by household income, highest level of education, male and female, age and vulnerability.	Monetisation of benefits using a Social Return on Investment method.  Qualitative social impact assessment on changes to household activities over time.  Collate data from focus groups and individuals from randomised samples of households and selected sample of households based on vulnerability using semi-structured interviews and / surveys.  Qualitative social impact assessment to focus on changes, over time, from improved energy access (reliable, clean, affordable), compared to other variables, on the daily activities of people within a household.  <i>Note: These outcomes will be monitored and evaluated during the medium term in order to track progress</i>
	<i>Multi-tier Measurement of Energy Access: capacity, duration/availability, reliability, quality, affordability, legality, convenience, health and safety.</i>	<i>Baseline: Current energy capacity, availability, quality, affordability, convenience and health and safety to users. Target: ability to avail energy that is adequate, available when needed, reliable, of good quality, affordable, legal, convenient, healthy and safe, for all required energy services across household, productive and community uses</i>	<i>Methodology from ESMAP (Energy Sector Management Assistance Program), World Bank. <a href="http://www.esmap.org">www.esmap.org</a>  This alternative method to the above indicator is appropriate for Country or energy sector evaluation and requires surveys at the household level to gather baseline and impact data.  <i>Note that if this indicator is used, it should also be monitored in the medium term.</i></i>

Economically and financially (domestic and commercial) sustainable energy	Unit cost of supplying electricity (total operating expenses / total electricity sold)	Baseline: Current unit cost of supply electricity. Target: Decrease in the unit cost of supplying electricity.	Electricity Utility (Also reported in the PPA/PRIF Power Benchmarking Report)  Note that donor grants are not included in the operating expenses. Donor grants will reduce the unit cost of supplying electricity without affecting the efficiency or real cost of the supply. Note that this will also be calculated in the medium term.
	Reduced percentage of National GDP spent on imported fuel.	Baseline: Percentage of National GDP spent on imported fuel. Target: Percentage of National GDP spent on imported fuel is neutral or reduced (inflation-adjusted to prices at the time of the baseline)	Government
	Energy sector has a positive impact on business growth	Baseline: Current energy contribution to business growth (barrier to growth /neutral to growth / enables growth) Target: Energy enables business growth and business sustainability	Focus groups, randomised samples of businesses, selected sample of businesses based on energy dependency or other variable. Semi-structured interviews and / or surveys.  Qualitative analysis on the ability of businesses to continue to operate as planned, ability of businesses to grow / expand, and the ability of new businesses to start up, based on the availability, affordability and reliability of energy.
Minimised environmental and climate change impacts from energy generation	Reduced tonnes of CO <sub>2</sub> e emissions per total kWh energy generated.	Baseline: Current tonnes of CO <sub>2</sub> e emissions per total kWh energy generated. Target: Reduction of tonnes CO <sub>2</sub> e per total kWh energy generated.	Total kWh energy generated data from Electricity Utility Total fuel consumption data from Electricity Utility Conversion may be required from fuel consumption to equivalent CO <sub>2</sub> e unless this is already reported by Electricity Utility.

	Avoiding impact on sensitive environmental receptors from energy generation.	<p>Baseline: Current impact on sensitive environmental receptors from energy generation. (For Activity baselines, refer to EIA)</p> <p>Target: No change in the impact on sensitive environmental receptors from energy generation.</p>	<p>Determine list of sensitive receptors for country / island / sector / province / Activity area of influence, based on criteria: National parks, protected areas (under national and international laws and conventions) and other critical habitats or ecosystems Significant landscapes or seascapes Villages, hospitals, schools and other areas vulnerable to noise/shade flicker from turbines/dust etc. Food-producing land (including pits). Groundwater lenses Physical cultural resources including places with tapu or other spiritual connections and values.</p> <p>Determine nature and scale of impact based on existing energy policy and infrastructure that can be repeated in future. The use of GIS to map sensitive receptors, energy policy and infrastructure, and impact, is proposed as a useful tool.</p>
Medium-term Outcomes	Indicator(s)	Baseline Information and Targets	Methodology/Data Sources
More reliable and resilient energy supply	Reduced total frequency of system outages per year (interruptions per customer)	<p>Baseline: Historical System Average Interruption Frequency Index (SAIFI) for grid systems (interruptions per customer). Refer PPA/PRIF Power Benchmarking Report for 2012 data.</p> <p>Sector Target: SAIFI at or below median for Pacific Sector. 2012 median is 4 interruptions.</p> <p>Activity Target: SAIFI reduced.</p>	Electricity Utility PPA/PRIF Power Benchmarking Report
		<p>Baseline: Current estimate of outage frequency (black outs, brown outs) for off grid systems (average of all surveys)</p> <p>Target: Reduced outage frequency (black outs, brown outs (average of all surveys)</p>	Based on survey questions to energy supply organisation and sample of consumers.
	Reduced total duration of system outages per year (minutes per customer)	<p>Baseline: Historical System Average Interruption Duration Index (SAIDI) for grid systems</p> <p>Sector Target: SAIDI at or below median for Pacific Sector. 2012 median is 475 minutes.</p> <p>Activity Target: SAIDI reduced</p>	Electricity Utility PPA/PRIF Power Benchmarking Report
		<p>Baseline: Current average length of outages (blackouts, brownouts) for off-grid systems (average of all surveys)</p> <p>Target: Reduced average length of outages (blackouts, brownouts) (average of all surveys)</p>	Based on survey questions to energy supply organisation and sample of consumers.

More efficient energy supply (production and delivery)	<p>Reduced losses from transmission, distribution and network as a percentage of net generation:</p> <p>Transmission losses % = <math>\frac{\text{Net generation} - \text{transmission losses}}{\text{Net generation}} * 100</math></p> <p>Distribution losses % = <math>\frac{\text{Net generation} - \text{distribution losses}}{\text{Net generation}} * 100</math></p> <p>Network losses % = <math>\frac{\text{Net generation} - \text{network losses}}{\text{Net generation}} * 100</math></p>	<p>Baseline: Current percentage of losses from net generation. Refer PPA/PRIF Benchmarking Report for 2012 baseline.</p> <p>Sector Target: . Losses at or below median for Pacific Sectors (2012 median: 12.2% distribution losses, 12.2% network delivery losses, 0.9% transmission losses).</p> <p>Activity Target: Reduced losses from transmission, distribution and / or network.</p>	<p>Electricity Utility PPA/PRIF Benchmarking Report (data for main grids only)</p> <p>Net generation = Gross generation – power station usage.</p> <p>This does not include 'financial losses' such as providing 'free' power for public services such as street lighting.</p> <p>In most electricity grids in the Pacific there is no transmission infrastructure (Fiji is an exception). In some networks the losses may not be measurable due to lack of metering.</p>
	<p>Specific Fuel Oil Consumption (kWh/l)</p> <p>Total fuel oil generation (kWh) / Total fuel consumption (l)</p>	<p>Baseline: Current specific fuel oil consumption kWh/l (Refer PPA/PRIF Benchmarking Report for 2012 baseline)</p> <p>Target: Increased kWh of electricity generated per litre of fuel</p>	<p>Electricity Utility PPA/PRIF Benchmarking Report (data for main grids only)</p> <p>Note this is measured in the short term also.</p>
Increased and equitable access to affordable energy	Commercial consumer cost for consumption of 1000kWh/month	<p>Baseline: Refer PPA / PRIF Benchmarking Report. Median for 2012 was \$US467/ month.</p> <p>Target: At or below the median.</p>	<p>Electricity Utility PPA/PRIF Power Benchmarking Report</p> <p>This is the total cost, taking into account the tariff rate, charges and fees, based on 1000kwh/month for commercial use.</p> <p>Note that tariffs in the Pacific do not reflect actual cost of energy supply.</p>
	Domestic consumer cost for consumption of 200kWh/month	<p>Baseline: Refer PPA / PRIF Benchmarking Report. Median for 2012 was \$US86.67/ month.</p> <p>Target: At or below the median.</p>	<p>Electricity Utility PPA/PRIF Power Benchmarking Report</p> <p>This is the total cost, taking into account the tariff rate, charges and fees, based on 200kwh/month for domestic use (standard measure in the PPA/PRIF report).</p> <p>Note that tariffs in the Pacific do not reflect actual cost of energy supply.</p>
	Unit cost of supplying electricity (total operating expenses / total electricity sold)	<p>Baseline: Current unit cost of supply electricity.</p> <p>Target: Decrease in the unit cost of supplying electricity.</p>	<p>Electricity Utility (Also reported in the PPA/PRIF Power Benchmarking Report)</p> <p>Note that donor grants are not included in the operating expenses. Donor grants will reduce the unit cost of supplying electricity without affecting the efficiency or real cost of the supply.</p> <p>Note that this will also be monitored in the long term</p>

	Percentage of households (M/F head of household) connected to an electricity grid (including micro and mini grids).	Baseline: Percentage of households (M/F head of household) connected to an electricity grid (including micro and mini grids) from the total number of households in the catchment (Country/Province/Island /town). Target: Increased percentage of households (M/F head of households) connected to an electricity network (including micro and mini grids) from the total number of households in the catchment (Country/Province/Island /town).	Electricity Utility customer data. Census data. where possible, data should be disaggregated by income, location and gender head of household.  Analysis would need to recognise that access through illegal connections and / or shared connections would not appear in the data. Disaggregated data allows for analysis of vulnerable households such as those with women head of household, remote households and households with low income. Increased access to grid / mini grid / micro grid assumes that the grid will provide more affordable and reliable energy, which may not always be the case.
	Percentage of off-grid households (M/F head of household) with at least 1 electric light and 1 power outlet.	Baseline: Percentage of off-grid households (M/F head of household) with at least 1 electric light and 1 power outlet from the total number of off grid households. Target: increased percentage of off-grid households (M/F head of household) with at least 1 electric light and 1 power outlet from the total number of off grid households.	Government / Electricity Utility customer data Census data  Measures the percentage of households not currently connected to a grid with a defined minimum level of access to energy to derive benefits. Benefits include ability to run devices to connect to media, community and friends and family, and basic appliances to assist with chores and income-generating activities.
<i>Alternative method for measuring access and comparing to international benchmarking:</i>			
	<i>Multi-tier Measurement of Energy Access: capacity, duration/availability, reliability, quality, affordability, legality, convenience, health and safety.</i>	<i>Baseline: Current energy capacity, availability, quality, affordability, convenience and health and safety to users. Target: ability to avail energy that is adequate, available when needed, reliable, of good quality, affordable, legal, convenient, healthy &amp; safe, for all required energy services across household, productive and community uses</i>	<i>Methodology from ESMAP (Energy Sector Management Assistance Program), World Bank. <a href="http://www.esmap.org">www.esmap.org</a>  This method is appropriate for Country or energy sector evaluation and requires surveys at the household level to gather baseline and impact data.</i>
Systems and resources* support renewable energy development  *Regulatory, financial, technical, institutional, governance systems and resources	Number of systems introduced or strengthened to support renewable energy development: Regulations Tariff structures Institutional structures	Baseline: Number of current systems in place that support renewable energy development.  Target: increased number of systems introduced or improved to support renewable energy development.	Information from Implementation Partners / Regulator / Government. 'Systems' may be: new approaches to policy, institutional structures, changes to tariff structures, new regulations, or preparation of strategic plans.

Effective operation, maintenance and renewal of assets	Compliance with agreed Asset Management Plans (for operation and maintenance of all assets)	Sector Baseline: Existing compliance with approved / agreed asset management system  Activity Baseline: No Asset Management Plan.  Target: Full compliance with approved / agreed asset management system	Electricity Utility
Reduced reliance on fossil fuels	Proportion of the grid electricity production from renewable sources (Total renewable energy (MWh) x100 / Gross Generation (MWh))	Baseline: Proportion (%) of total MWh of electricity generated by renewable energy sources (Refer PPA/PRIF Benchmarking Report for 2012 baseline)  Target: Increased % of the total MWh of electricity generated by renewable energy sources	Energy Utility PPA/PRIF Benchmarking Report (Main and all grids reported)
	Specific Fuel Oil Consumption (kWh/l)  Total fuel oil generation (kWh) / Total fuel consumption (l)	Baseline: Current specific fuel oil consumption kWh/l (Refer PPA/PRIF Benchmarking Report for 2012 baseline)  Target: Increased kWh of electricity generated per litre of fuel	Electricity Utility PPA/PRIF Benchmarking Report (Data for main grids only) Note this is measured in the medium term also.
More efficient energy use	Energy use per capita (kWh/person) Electricity sold / Total number of people (island/country/province)	Baseline: Energy use per capita (kWh/person)  Target: Reduction in energy use per capita (kWh/person).	Electricity Sold data from Electricity Utility. Electricity Sold data, for main grids is prepared by Electricity Utility for the PPA/PRIF Power Benchmarking Report, but it is not reported separately. Per capita data from Government census  Electricity sold data may not capture all electricity consumed due to illegal connections or accounting errors. It is the most accurate data for the amount of energy that reaches the end user as it does not include losses in the generation, distribution and network.  <i>This measure could be linked to GDP or economic output. GDP is not relevant where income is heavily reliant on fisheries, remittances and other activities that do not consume electricity.</i>
<b>Short-term Outcomes</b>	<b>Indicator(s)</b>	<b>Baseline Information and Targets</b>	<b>Methodology/Data Sources</b>
Country strategic energy sector plans prioritise projects and resources	Country Energy Sector Plans, policies or other strategic processes are guiding investments and interventions.	Baseline: Alignment of current energy and planned energy investments and interventions with strategic sector plans.  Target: Full alignment of current and planned energy investments and interventions with strategic sector plans.	Qualitative assessment of the implementation of Sector Plans, to determine how closely the current and planned investments and interventions compare to the sector plans.  Sector plans and list of current and planned sector activities sourced from Energy Ministry and Utility records and interviews.

Improved capacity and capability in energy sector (human resources, systems)	Percentage of staff (M/F) who have adequate skills and knowledge to undertake their job.	Baseline: Current % of staff (M/F) with adequate skills and knowledge to undertake their job. Target: Increased percentage of staff (M/F) with adequate skills and knowledge to undertake their job. Target: Increased percentage of women employed in technical positions in the sector.	Formal Workplace audit / capability assessment Outputs from HR / training plans. Gender data from PPA /PRIF Power Benchmarking Report.
	Percentage of asset management plans in place with programme and budgets for operation and capital project activities.	Sector Baseline: Percentage of asset management plans compared to the total number of relevant assets in place. Activity Baseline: No asset management plan. Target: 100% of relevant assets have asset management plans in place.	Electricity Utility.
Increased renewable energy production	MW output from renewable energy generation.	Baseline: MW output from renewable energy generation. Target: Increased output (MW) from renewable energy generation.	Electricity Utility. Total output (MW) from renewable energy generation data is prepared by the Electricity Utility for the PPA/PRIF Power Benchmarking Report, but it is not reported separately.
Increased / improved non-renewable energy production	MW output from non-renewable generation in areas not otherwise serviced by an existing grid.	Baseline: MW output from existing non-renewable energy generation in areas not serviced by an existing grid. Target: increased output (MW) from non-renewable energy generation in areas not serviced by an existing grid	Government / Electricity Utility / Activity implementing agency.
Increased / improved distribution and connections	Numbers of households connected to a grid.	Baseline: numbers of households connected to a grid. Target: increased numbers of households connected to a grid.	Government / Electricity Utility / Activity implementation agency.
Stakeholders (institutions, beneficiaries and affected persons) are aware and engaged in energy development	Number of gender-aware communications plans introduced or improved to strengthen participation and awareness of all stakeholders.	Sector Baseline: Current number of communication plans. Activity Baseline: No communication plan. Target: Gender-aware communication plans are prepared and implemented for all Activities.	Activity documentation.
	Improved or increased participation by stakeholders in energy development: Sector planning and policy Infrastructure planning, design and implementation	Baseline: Current number and type of participation in energy development by stakeholder (institution, beneficiary, affected person/group) Target: Beneficiaries and institutions represented on all energy sector committees or consultation groups, including women and under-served communities. Target: All infrastructure planning, design and implementation include opportunities for participation by beneficiaries, institutions and affected persons and their contribution documented.	Meeting records Activity documentation Government / regulator / Electricity Utility records including meeting records, committee membership, written or oral submissions,

	Number of incidences of land acquisition for energy infrastructure consistent with the MFAT ESI-OP and Human Rights Analysis Guidance.	<p>Sector Baseline: Current number of land acquisition incidences consistent with the MFAT ESI-OP and Human Rights Analysis Guidance.</p> <p>Activity Baseline: Refer EIA for baseline.</p> <p>Target: All land acquisition for energy infrastructure is consistent with the MFAT ESI-OP and Human Rights Analysis Guidance.</p>	Activity documentation.
Environmental, climate change, gender and human rights impacts of energy infrastructure managed to avoid significant harm.	Number of Impact Management Plans prepared and implemented throughout the life of the Activity / asset / programme.	<p>Sector Baseline: Current number of Impact Management Plans prepared and implemented as required by, and consistent with, the MFAT ESI-OP, Human Rights Analysis Guidance and Climate Change Operational Policy.</p> <p>Activity Baseline: No Impact Management Plan.</p> <p>Target: All Activities / assets / programmes have Impact Management Plans prepared and implemented as required by, and consistent with, the MFAT ESI-OP, Human Rights Analysis Guidance and Climate Change Operational Policy (unless not required under the policy or guidance document)..</p>	<p>Activity documentation.</p> <p><i>Note: This outcome will be monitored and evaluated during the medium term in order to track progress</i></p>
	Avoidance of significant harm from the development of energy infrastructure.	<p>Sector Baseline: Number of events and scale of significant harm as a result of the development and operation energy infrastructure.</p> <p>Activity Baseline: Refer EIA for environmental and social baseline.</p> <p>Target: No significant environmental or social harm events as a result of the development and operation of energy infrastructure.</p>	<p>Government / Ministry of Environment records.</p> <p>Activity documentation.</p> <p>'Significant harm event' as defined in MFAT ESI-OP policy definitions of significant adverse impact and in the interpretation of local environmental and conservation laws.</p>



## Monitoring and Evaluation Work Plan

i) Monitoring					
Tasks	Approach	Timeline	Roles & responsibilities	Deliverables	Indicative costs
On-going data gathering from Activities.	Partners submit activity progress and completion reports as required in contract and grant arrangements.  Activity baseline data collected during Activity Design or at the beginning of implementation.  Activity Monitoring Assessments and Activity Closure Assessments prepared by staff as required.	On-going	Activity managers	No separate deliverable. Activity documentation such as ESIA, Economic Analyses, Activity Design Document, AMA, ACA, and progress reports will contribute data.	Nil
End of financial year data gathering (for individual Activities)	Extract energy sector data from sources identified and/or hold meetings with partners	January each year	Development Manager – Infrastructure (Wellington)	Data that reports against indicator targets used to measure strategy progress	Nil
Establish baseline for Sector Evaluation	Consultancy agreement to carry out data gathering via surveys and interviews for qualitative data and any data gaps	By December 2016	Development Manager – Infrastructure (Wellington) and Evaluation Unit to oversee independent consulting firm.	Baseline data for Renewable Energy Sector Results Framework.  Refine Renewable Energy Sector Results Framework	TBC
Establish and maintain energy sector database	Develop a database for storing and retrieving data for evaluation	By December 2016	Development Manager – Infrastructure (Wellington), Evaluation Unit	Database available and able to report on indicator targets used to measure strategy progress	Nil
Five yearly monitoring data	Consultancy agreement to carry out data gathering via surveys and interviews for qualitative data and any data gaps.	By December 2021	Development Manager – Infrastructure (Wellington) and Evaluation Unit to oversee independent consulting firm	Monitoring data for evaluation	TBC
ii) Evaluation					
Tasks	Approach	Timeline	Roles & responsibilities	Deliverables	Indicative costs
Independent evaluation	Commission a joint, independent evaluation that will assess achievement and inform future direction. This may be done in conjunction with the 5 yearly monitoring data task.	By December 2021	Development Manager – Infrastructure (Wellington) and Evaluation Unit to oversee independent consulting firm	Evaluation report	TBC

