

Regulatory Indicators for Sustainable Energy (RISE) 2016 Country Data - Madagascar

Energy Access

Indicator	Score
Existence and monitoring of officially approved electrification plan	0
Scope of officially approved electrification plan	0
Framework for grid electrification	33.33
Framework for minigrids	78.33
Framework for stand-alone systems	22.22
Consumer affordability of electricity	50
Utility Transparency and Monitoring	33.33
Utility Creditworthiness	0
Total	27.15

Energy Efficiency

Indicator	Score
National energy efficiency planning	75
Energy efficiency entities	14.29
Information provided to consumers about electricity usage	37.5
EE incentives from electricity rate structures	72.22
Incentives & mandates: large consumers	0
Incentives & mandates: public sector	0
Incentives & mandates: utilities	0
Financing mechanisms for energy efficiency	0
Minimum energy efficiency performance standards	0
Energy labeling systems	0
Building energy codes	0
Carbon Pricing	0
Total	16.58

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Renewable Energy

Indicator	Score
Legal framework for renewable energy	100
Planning for renewable energy expansion	40
Incentives and regulatory support for renewable energy	50
Attributes of financial and regulatory incentives	11
Network connection and pricing	0
Counterparty risk	44
Carbon pricing and monitoring	0
Total	35

Overall Score	26.24
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Energy Access

Existence and monitoring of officially approved electrification plan	Score	0
Is there an officially approved national electrification plan?		No
If not, is there a draft electrification plan that has been prepared but not yet been approved?		No
Name of the electrification plan		0
Are the electrification plan and the updates publicly available?		No
When was the last update of the electrification plan?		0
Is there an institution responsible for tracking progress of the plan?		No
Name of the tracking institution		0

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Is there a timeframe defined in the electrification plan?	No
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Scope of officially approved electrification plan	Score	0
Does the plan target a service level (e.g., power availability, number of guaranteed hours of power supply, etc.)?		No
Details on service level target		0
Does the electrification plan include both grid and off-grid?		No
Does the plan include community facilities?		No
Does the plan include productive use?		No
Are there geospatial maps conveying the timeframe of planned grid extension?		No
Are these geospatial maps made publicly available?		No

Framework for grid electrification	Score	33.33
Does the government have a dedicated funding line or budget for electrification (e.g., funded national program, budget item, rural electrification fund to finance grid extension)?		Yes
Are there capital subsidies paid to the utilities to provide distribution systems to rural areas/villages?		Yes
Details on funding support for grid electrification		National Fund of Electricity (FNE)
Are there consumer financing mechanisms (i.e., utility loans, on bill financing, micro-loans, etc.) and/or direct subsidies available to support the payment of connection fees by consumers?		No
Details on mechanisms to support the payment of connection fees		0

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Does the government specify standards of performance on reliability along with new connections (e.g., number of guaranteed hours per day, etc.)?	No
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Framework for minigrids	Score	78.33
Are minigrids legally allowed to operate in the country?	Yes	
Name and date of the regulation for minigrids	Law #98-032 on power sector reform - 1998	
Can minigrids be owned and operated by private operators?	Yes	
Do regulations clarify what will occur when the interconnected grid reaches a mini-grid?	Yes	
To convert from a power producer to a power distributor that buys electricity from the interconnected grid and resells to its local customers	Yes	
To sell electricity to the interconnected grid operator and no longer sell electricity to retail customers	Yes	
To sell its distribution grid to the interconnected grid operator and receive compensation for the sale of the asset	No	
Other	No	
Do the regulations detail procedures for consumers to get connected to minigrids?	No	
Do the regulations differ by size of minigrids?	Yes	
Are mini-grid operators legally allowed to charge a different tariff from the national tariff?	Yes	
Is there a retail electricity tariff schedule for minigrids?	No	
Examples of minigrid tariffs	0	

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Name of the regulation on minigrid tariffs	Law 98-032 on the electricity sector reform (Title II)
Are there publicly funded mechanisms to secure viability gap funding for operators?	No
Do subsidies exist for minigrids?	Yes
Details on subsidies for minigrids	N/A
Name of the document referring to minigrid subsidies	Electricity Law 98-032
Do subsidies exist for power generators?	Yes
Do subsidies exist for energy storage systems?	Yes
Do subsidies exist for distribution systems?	No
Do subsidies exist for monitoring systems?	No
Do subsidies exist for other equipment related to minigrids?	No
Do duty exemptions exist for minigrid systems?	Yes
Details on duty exemptions for minigrids	N/A
Name of the document referring to mini-grid duty exemptions	0
Do duty exemptions exist for power generators?	Yes
Do duty exemptions exist for energy storage systems?	Yes
Do duty exemptions exist for distribution systems?	No
Do duty exemptions exist for monitoring systems?	No
Do duty exemptions exist for other equipment related to minigrids?	No

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Do subsidies exist for stand-alone systems?	No
Do subsidies exist for solar modules?	Yes
Do subsidies exist for batteries?	Yes
Do subsidies exist for charge controllers?	Yes
Do subsidies exist for power conditioning equipment?	No
Do subsidies exist for safety equipment?	No
Do subsidies exist for other equipment related to stand-alone systems?	No
Details on subsidies for stand-alone systems	0
Name of the document referring to subsidies for stand-alone systems	0
Do duty exemptions exist for stand-alone systems?	No
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Do duty exemptions exist for solar modules?	Yes
Do duty exemptions exist for batteries?	Yes
Do duty exemptions exist for charge controllers?	Yes
Do duty exemptions exist for power conditioning equipment?	No
Do duty exemptions exist for safety equipment?	No
Do duty exemptions exist for other equipment related to stand-alone systems?	No

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Are there legal restrictions that limit the prices standalone home system retailers or service providers can charge?	No
Are there specific financing facilities available to support operators/consumers to develop/purchase stand-alone home systems?	No
Are there specific market financing facilities available to support operators to develop stand-alone systems?	No
Are there specific government financing facilities available to support operators to develop stand-alone systems?	No
Are there specific market financing facilities available to support consumers to purchase stand-alone standalone systems?	No
Are there specific government financing facilities available to support consumers to purchase stand-alone standalone systems?	No
Are there technical standards detailing the requirements for minigrids to connect the grid?	Yes
Are technical standards made publicly available?	Yes
Name of the document detailing technical standards	Decree #60-294 (Decret n° 60-294 portant détermination des conditions techniques auxquelles doivent satisfaire les distributions d'énergie électrique)
Are there safety standards for minigrids?	Yes
Are these safety standards made publicly available?	Yes
Name of the document detailing safety standards	Decree #60-294 (Decret n° 60-294 portant détermination des conditions techniques auxquelles doivent satisfaire les distributions d'énergie électrique)

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Does the government implement certification programs for minigrid installers?	Yes
Does the government provide or endorse certification programs for one or more components or equipment required for minigrids?	No
Has the government adopted international quality standards for stand-alone systems?	No
Name of the document detailing quality standards	0
Has the government adopted international testing methods?	No
Does the regulation accept testing done elsewhere/in another country (vs in-country testing required)?	No
Is there a governmental certified program for solar equipment installers?	No
Are there environmental regulations on the disposal of solar devices and standalone home system products or components?	No
Name of document detailing environmental regulations	0

Framework for stand-alone systems	Score	22.22
Are there publicly funded mechanisms to secure viability gap funding for operators?	No	
Do subsidies exist for minigrids?	Yes	
Details on subsidies for minigrids	N/A	
Name of the document referring to minigrid subsidies	Electricity Law 98-032	
Do subsidies exist for power generators?	Yes	
Do subsidies exist for energy storage systems?	Yes	

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Do subsidies exist for distribution systems?	No
Do subsidies exist for monitoring systems?	No
Do subsidies exist for other equipment related to minigrids?	No
Do duty exemptions exist for minigrid systems?	Yes
Details on duty exemptions for minigrids	N/A
Name of the document referring to mini-grid duty exemptions	0
Do duty exemptions exist for power generators?	Yes
Do duty exemptions exist for energy storage systems?	Yes
Do duty exemptions exist for distribution systems?	No
Do duty exemptions exist for monitoring systems?	No
Do duty exemptions exist for other equipment related to minigrids?	No
Do subsidies exist for stand-alone systems?	No
Do subsidies exist for solar modules?	Yes
Do subsidies exist for batteries?	Yes
Do subsidies exist for charge controllers?	Yes
Do subsidies exist for power conditioning equipment?	No
Do subsidies exist for safety equipment?	No
Do subsidies exist for other equipment related to stand-alone systems?	No
Details on subsidies for stand-alone systems	0

Regulatory Indicators for Sustainable Energy (RISE)

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Details on duty exemptions for stand-alone systems	0
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Do duty exemptions exist for batteries?	Yes
Do duty exemptions exist for charge controllers?	Yes
Do duty exemptions exist for power conditioning equipment?	No
Do duty exemptions exist for safety equipment?	No
Do duty exemptions exist for other equipment related to stand-alone systems?	No
Are there legal restrictions that limit the prices standalone home system retailers or service providers can charge?	No
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Are there specific market financing facilities available to support operators to develop stand-alone systems?	No
Are there specific government financing facilities available to support operators to develop stand-alone systems?	No
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Does the government provide or endorse certification programs for one or more components or equipment required for minigrids?	No
Has the government adopted international quality standards for stand-alone systems?	No
Name of the document detailing quality standards	0
Has the government adopted international testing methods?	No
Does the regulation accept testing done elsewhere/in another country (vs in-country testing required)?	No

Regulatory Indicators for Sustainable Energy (RISE)

Is there a governmental certified program for solar equipment installers?	No
Are there environmental regulations on the disposal of solar devices and standalone home system products or components?	No
Name of document detailing environmental regulations	0
Are there national programs which aim to develop stand-alone systems or support the development of stand-alone systems?	No
Details on the national program promoting stand-alone systems	0

Consumer affordability of electricity	Score	50
What is the annual cost of subsistence consumption (30kWh/month) as a percentage of GNI per household of bottom 20 percent of population?	15.63482613785%	
Tariff schedule / tariff structure taken into account	Electricity tariff structure, Jirama, September 2015	
Is there a mechanism to support low-volume consumers such as cross-subsidization, social or lifeline tariff?	Yes	

Utility Transparency and Monitoring	Score	33.33
Are the financial statements of the largest generation company publicly available?	Yes	
Are the financial statements of the largest transmission company publicly available?	Yes	
Are the financial statements of the largest distribution company publicly available?	Yes	
Are the financial statements of the largest retail electricity sales company publicly available?	Yes	

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Are the financial statements of the largest generation company audited?	No
Are the financial statements of the largest transmission company audited?	No
Are the financial statements of the largest distribution company audited?	No
Are the financial statements of the largest retail electricity sales company audited?	No
Is the transmission loss rate published in a primary official document (by the utility, regulator or ministry and/or government)?	Yes
Is the distribution loss rate published in a primary official document (by the utility, regulator or ministry and/or government)?	Yes
Is the bill collection rate published in a primary official document (by the utility, regulator or ministry and/or government)?	Yes
Is the amount of electricity available for sale to end-users published in a primary official document (by the utility, regulator or ministry and/or government)?	Yes
Is the utility operating an incidence/outage recording system (or SCADA/EMS with such functionality)?	No
Is the utility measuring the SAIDI and SAIFI or any other measurements for service reliability?	No
Are the measurements reported to the regulatory body?	No
Are the measurements available to public?	No

Utility Creditworthiness	Score
Current ratio (working capital ratio) of selected utility	0

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EBITDA margin of selected utility	0
Debt service coverage ratio of selected utility	0
Days payable outstanding of selected utility	0

Energy Efficiency

National energy efficiency planning	Score	75
Is there legislation or a national action plan that aims to increase EE?	Yes	
Name of EE legislation or action plan	Executive Order 14 of 27 on a National Program for the Rational and Efficient Use of Energy.	
Is there an energy efficiency goal or target at the national level?	Yes	
Natonal target details	0	
Is there a target for the residential sector?	No	
Target details	0	
Does the target have a milestone or deadline?	No	
Is there a commercial servcies sector target?	No	
Target details	0	
Does the target have a milestone or deadline?	No	
Is there an industrial sector target?	No	
Target details	0	
Does the target have a milestone or deadline?	No	

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Is there a power sector target?	Yes
Target details	0
Does the target have a milestone or deadline?	No

Energy efficiency entities	Score	14.29
Are there governmental and/or independent bodies dedicated to setting EE strategy?	Yes	
Name of entity	ORE (office for Energy Regualational)	
Are there governmental and/or independent bodies dedicated to setting EE standards?	No	
Name of entity	ORE	
Are there governmental and/or independent bodies dedicated to regulating EE activities of energy suppliers?	No	
Name of entity	ORE	
Are there governmental and/or independent bodies dedicated to regulating EE activities of energy consumers?	No	
Name of entity	ORE	
Are there governmental and/or independent bodies dedicated to certifying compliance with equipment EE standards?	No	
Name of entity	ORE	
Are there governmental and/or independent bodies dedicated to certifying compliance with building EE standards?	No	
Name of entity	ORE	

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Are there governmental and/or independent bodies dedicated to selecting and/or approving third party auditors tasked with certifying EE standards?	No
Name of entity	ORE

Information provided to consumers about electricity usage	Score	37.5
Residential customers		
Is it mandatory for utilities to provide reports of their energy usage, in a bill or by other means?	No	
Commercial customers		
Is it mandatory for utilities to provide reports of their energy usage, in a bill or by other means?	No	
Industrial customers		
Is it mandatory for utilities to provide reports of their energy usage, in a bill or by other means?	No	
Residential customers		
At what intervals do customers receive these reports (times per year)?	12	
Do the reports include the price levels customers pay for energy usage?	Yes	
Commercial customers		
At what intervals do customers receive these reports (times per year)?	12	
Do the reports include the price levels customers pay for energy usage?	Yes	

Regulatory Indicators for Sustainable Energy (RISE)

Industrial customers	
At what intervals do customers receive these reports (times per year)?	12
Do the reports include the price levels customers pay for energy usage?	Yes
Does the regulator track utilities' compliance with laws for providing energy usage information to customers?	Yes
Residential customers	
Do customers receive a bill or report which compares them to other users in the same region and/or usage class?	No
Method of comparison	N/A
Commercial customers	
Do customers receive a bill or report which compares them to other users in the same region and/or usage class?	No
Method of comparison	N/A
Industrial customers	
Do customers receive a bill or report which compares them to other users in the same region and/or usage class?	No
Method of comparison	N/A
Residential customers	
Do customers receive a bill or report that shows their energy usage compared to previous bills or reports over time?	Yes
Commercial customers	
Do customers receive a bill or report that shows their energy usage compared to previous bills or reports over time?	Yes

Regulatory Indicators for Sustainable Energy (RISE)

Industrial customers	
Do customers receive a bill or report that shows their energy usage compared to previous bills or reports over time?	Yes
All customers	
Can customers access real time feedback on energy usage (for either prepaid or post-paid systems)?	No
Do customers have the ability to manage energy usage levels remotely (through apps or other technology mediums that can track real time usage)?	No

EE incentives from electricity rate structures	Score	72.22
Residential customers		
Are customers charged a flat fee (per connection)?	Yes	
Are customers charged constant block rates?	No	
Are customers charged declining block rates?	No	
Are customers charged increasing block rates?	Yes	
Commercial customers		
Are customers charged a flat fee (per connection)?	Yes	
Are customers charged constant block rates?	No	
Are customers charged declining block rates?	No	
Are customers charged increasing block rates?	Yes	
Industrial customers		

Regulatory Indicators for Sustainable Energy (RISE)

Are customers charged a flat fee (per connection)?	Yes
Are customers charged constant block rates?	Yes
Are customers charged declining block rates?	No
Are customers charged increasing block rates?	Yes
Residential customers	
Do customers pay energy charges (per kWh)?	Yes
Do customers pay demand charges (per kW)?	Yes
Do customers pay reactive power charges (per kVAR)?	No
Commercial customers	
Do customers pay energy charges (per kWh)?	Yes
Do customers pay demand charges (per kW)?	Yes
Do customers pay reactive power charges (per kVAR)?	No
Industrial customers	
Do customers pay energy charges (per kWh)?	Yes
Do customers pay demand charges (per kW)?	Yes
Do customers pay reactive power charges (per kVAR)?	Yes
Residential customers	
Are customers charged based on real-time pricing?	No
Are customers charged based on variable peak pricing?	No
Are customers charged based on critical peak pricing?	No

Regulatory Indicators for Sustainable Energy (RISE)

Are tariffs adjusted according to seasons?	No
Do customers pay according to time-of-day electricity use or receive peak-time rebates?	No
Commercial customers	
Are customers charged based on real-time pricing?	No
Are customers charged based on variable peak pricing?	No
Are customers charged based on critical peak pricing?	No
Are tariffs adjusted according to seasons?	No
Do customers pay according to time-of-day electricity use or receive peak-time rebates?	No
Industrial customers	
Are customers charged based on real-time pricing?	No
Are customers charged based on variable peak pricing?	No
Are customers charged based on critical peak pricing?	Yes
Are tariffs adjusted according to seasons?	No
Do customers pay according to time-of-day electricity use or receive peak-time rebates?	No

Incentives & mandates: large consumers	Score	0
What is the threshold for classifying large consumers?		0
Large consumer EE mandate/incentive regulations		
Is it required for the consumption and/or savings of large-scale energy users to be tracked and documented on a regular basis?		No

Regulatory Indicators for Sustainable Energy (RISE)

Are efficiency targets mandated for large consumers?	No
Details	0
Are energy audits mandated for large consumers?	No
Are energy efficiency progress reports mandated for large consumers?	No
Interval of reports	0
Are energy-management systems mandated for large consumers?	No
Details	0
Are there penalties in place for non-compliance with regulatory obligations for large consumers?	No
Is there a measurement and verification program in place?	No
Is verification done by a third party?	No
Are there financial incentives for large consumers to invest in energy efficiency?	No
Details	0
Are there tax incentives for large consumers to invest in energy efficiency?	No
Are there other incentives for large consumers to invest in energy efficiency?	No
Details	0
Is there a program to publicly recognize large-scale users that have achieved significant energy savings measures?	No
Are energy savings and/or financial savings publicized?	No

Regulatory Indicators for Sustainable Energy (RISE)

Does the program offer assistance (from a government or independent entity) to large-scale users to identify energy savings investments opportunities?	No
Primary Energy Consumption (MJ - latest GTF data from 2012)	42890

Incentives & mandates: public sector	Score	0
Are there binding energy savings obligations for public buildings?	No	
Are energy savings from efficiency activities at public buildings tracked (either in-house or by a third party)?	No	
Are there binding energy savings obligations for other public facilities (may include water supply, wastewater services, municipal solid waste, street lighting, transportation, and heat supply)?	No	
Are energy savings from efficiency activities at other public facilities tracked?	No	
Is there a specific policy or mandated guidelines for public procurement of energy-efficient products and services?	No	
Public procurement guidelines for EE		
Do public budgeting regulations and practices allow public entities to retain energy savings?	No	
Public budgeting regulations for EE		

Incentives & mandates: utilities	Score	0
Name of utility energy efficiency regulation program		
Electricity generation		

Regulatory Indicators for Sustainable Energy (RISE)

Are utilities required to carry out energy efficiency activities in this area?	No
Details	
Are energy savings or other target indicators measured to track performance in meeting EE requirements?	No
Are the requirements measured/validated by an independent third party?	No
Are there penalties in place for non-compliance with EE requirements?	No
Are there mandates or incentives for new and/or brownfield co-generation?	No
Transmission & distribution	
Are utilities required to carry out energy efficiency activities in this area?	No
Details	
Are energy savings or other target indicators measured to track performance in meeting EE requirements?	No
Are the requirements measured/validated by an independent third party?	No
Are there penalties in place for non-compliance with EE requirements?	No
Demand-side management -	
Are utilities required to carry out energy efficiency activities in this area?	No
Details	0
Are energy savings or other target indicators measured to track performance in meeting EE requirements?	No

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Are the requirements measured/validated by an independent third party?	No
Are there penalties in place for non-compliance with EE requirements?	No
Is there a demand-side management department within the selected utility?	No
Do utilities provide customers incentives for demand response, such as peak-time rebates?	No
Is there public budget funding available for utilities to recover costs associated with or revenue lost from mandated energy efficiency activities?	No
Is there compensation for revenue losses via a tracking account available for utilities to recover costs associated with or revenue lost from mandated energy efficiency activities?	No
Are these available as solely market-driven financing mechanisms without any direct government approval, subsidy, authorization or other mediation procedure?	No
Are these available as government-driven financing mechanisms?	No
Are there credit lines available for utilities to recover costs associated with or revenue lost from mandated energy efficiency activities?	No
Are these available as solely market-driven financing mechanisms without any direct government approval, subsidy, authorization or other mediation procedure?	No
Are these available as government-driven financing mechanisms?	No
Are there partial risk guarantees available for utilities to recover costs associated with or revenue lost from mandated energy efficiency activities?	No

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Are these available as solely market-driven financing mechanisms without any direct government approval, subsidy, authorization or other mediation procedure?	No
Are these available as government-driven financing mechanisms?	No
Is there program cost recovery available for utilities to recover costs associated with or revenue lost from mandated energy efficiency activities?	No
Are these available as solely market-driven financing mechanisms without any direct government approval, subsidy, authorization or other mediation procedure?	No
Are these available as government-driven financing mechanisms?	No
Is there ESCO financing available for utilities to recover costs associated with or revenue lost from mandated energy efficiency activities?	No
Are these available as solely market-driven financing mechanisms without any direct government approval, subsidy, authorization or other mediation procedure?	No
Are these available as government-driven financing mechanisms?	No
Is there on-bill financing/re-payment available for utilities to recover costs associated with or revenue lost from mandated energy efficiency activities?	No
Are these available as solely market-driven financing mechanisms without any direct government approval, subsidy, authorization or other mediation procedure?	No
Are these available as government-driven financing mechanisms?	No
Are there any other financing mechanisms available for utilities to recover costs associated with or revenue lost from mandated energy efficiency activities?	0

Regulatory Indicators for Sustainable Energy (RISE)

Are these available as solely market-driven financing mechanisms without any direct government approval, subsidy, authorization or other mediation procedure?	No
Are these available as government-driven financing mechanisms?	No

Financing mechanisms for energy efficiency	Score	0
Residential sector		
Are there tax incentives available for energy efficiency investments?	No	
Are there discounted "green" mortgages available for energy efficiency investments?	No	
Is on-bill financing/re-payment available for energy efficiency investments?	No	
Are credit lines available for energy efficiency investments?	No	
Are energy services agreements or ESCOs available for energy efficiency investments?	No	
Are green bonds available for energy efficiency investments?	No	
Is vendor credit and/or leasing available for energy efficiency investments?	No	
Are partial risk guarantees available for energy efficiency investments?	No	
Are there any other financing mechanisms available for energy efficiency investments?	No	
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Details	
Are these available as solely market-driven financing mechanisms without any direct government approval, subsidy, authorization or other mediation procedure?	No
Are these available as government-driven financing mechanisms?	No
Commercial services sector	

Regulatory Indicators for Sustainable Energy (RISE)

Are there tax incentives available for energy efficiency investments?	No
Are there discounted "green" mortgages available for energy efficiency investments?	No
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Are credit lines available for energy efficiency investments?	No
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Details	
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Industrial sector	

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Are these available as solely market-driven financing mechanisms without any direct government approval, subsidy, authorization or other mediation procedure?	No
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Are these available as solely market-driven financing mechanisms without any direct government approval, subsidy, authorization or other mediation procedure?	No
Are these available as government-driven financing mechanisms?	No
Are these available as solely market-driven financing mechanisms without any direct government approval, subsidy, authorization or other mediation procedure?	No
Are these available as government-driven financing mechanisms?	No
Details	
Are these available as solely market-driven financing mechanisms without any direct government approval, subsidy, authorization or other mediation procedure?	No
Are these available as government-driven financing mechanisms?	No

Regulatory Indicators for Sustainable Energy (RISE)

Minimum energy efficiency performance standards	Score	0
EE standards regulations		
Refrigerators		
Have minimum energy performance standards been adopted?		No
Details of standards		0
Is there a verification program in place?		No
Is it carried out by a third party?		No
Is there a penalty for non-compliance with energy efficiency standards?		No
Are the standards based on external/international standards?		No
Air conditioners		
Have minimum energy performance standards been adopted?		No
Details of standards		0
Is there a verification program in place?		No
Is it carried out by a third party?		No
Is there a penalty for non-compliance with energy efficiency standards?		No
Are the standards based on external/international standards?		No
Lighting equipment		
Have minimum energy performance standards been adopted?		No
Details of standards		0

Regulatory Indicators for Sustainable Energy (RISE)

Is there a verification program in place?	No
Is it carried out by a third party?	No
Is there a penalty for non-compliance with energy efficiency standards?	No
Are the standards based on external/international standards?	No
Industrial electric motors	
Have minimum energy performance standards been adopted?	No
Details of standards	0
Is there a verification program in place?	No
Is it carried out by a third party?	No
Is there a penalty for non-compliance with energy efficiency standards?	No
Are the standards based on external/international standards?	No
Other industrial equipment	
Have minimum energy performance standards been adopted?	No
Details of standards	0
Is there a verification program in place?	No
Is it carried out by a third party?	No
Is there a penalty for non-compliance with energy efficiency standards?	No
Are the standards based on external/international standards?	No
Light duty vehicles	

Regulatory Indicators for Sustainable Energy (RISE)

Have minimum energy performance standards been adopted?	No
Details of standards	0
Is there a verification program in place?	No
Is it carried out by a third party?	No
Is there a penalty for non-compliance with energy efficiency standards?	No
Are the standards based on external/international standards?	No
Heavy duty vehicles	
Have minimum energy performance standards been adopted?	No
Details of standards	0
Is there a verification program in place?	No
Is it carried out by a third party?	No
Is there a penalty for non-compliance with energy efficiency standards?	No
Are the standards based on external/international standards?	No

Energy labeling systems	Score	0
Refrigerators		
Have energy efficiency labeling schemes been adopted?	No	
Is the labeling scheme mandatory?	No	
Is the labeling scheme based on external/international standards?	No	

Regulatory Indicators for Sustainable Energy (RISE)

Air conditioners	
Have energy efficiency labeling schemes been adopted?	No
Is the labeling scheme mandatory?	No
Is the labeling scheme based on external/international standards?	No
Lighting equipment	
Have energy efficiency labeling schemes been adopted?	No
Is the labeling scheme mandatory?	No
Is the labeling scheme based on external/international standards?	No
Industrial electric motors	
Have energy efficiency labeling schemes been adopted?	No
Is the labeling scheme mandatory?	No
Is the labeling scheme based on external/international standards?	No
Other industrial equipment	
Have energy efficiency labeling schemes been adopted?	No
Is the labeling scheme mandatory?	No
Is the labeling scheme based on external/international standards?	No
Light duty vehicles	
Have energy efficiency labeling schemes been adopted?	No

Regulatory Indicators for Sustainable Energy (RISE)

Is the labeling scheme mandatory?	No
Is the labeling scheme based on external/international standards?	No
Heavy duty vehicles	
Have energy efficiency labeling schemes been adopted?	No
Is the labeling scheme mandatory?	No
Is the labeling scheme based on external/international standards?	No

Building energy codes	Score	0
Are there energy efficiency codes for new residential buildings?	No	
Are there energy efficiency codes for new commercial buildings?	No	
Is the energy efficiency code for new residential buildings its own stand-alone, separate code or part of the overall building code?	No	
Is the energy efficiency code for new commercial buildings its own stand-alone, separate code or part of the overall building code?	No	
Is there any provision for regular updates to the code for new residential buildings?	No	
Is there any provision for regular updates to the code for new commercial buildings?	No	
EE building code regulations		
When was the code last updated for residential buildings?	0	
When was the code last updated for commercial buildings?	0	

Regulatory Indicators for Sustainable Energy (RISE)

Is there a system to ensure compliance with building energy efficiency codes?	No
Is it carried out by a third party?	No
Are renovated residential buildings required to meet a building energy codee?	No
Are renovated commercial buildings required to meet a building energy code?	No
Is the energy efficiency code for renovated residential buildings different from the code for new buildings?	No
Is the energy efficiency code for renovated commercial buildings different from the code for new buildings?	No
Is the energy efficiency code for renovated residential buildings its own stand-alone, separate code or part of the overall building code?	No
Is the energy efficiency code for renovated commercial buildings its own stand-alone, separate code or part of the overall building code?	No
Is there any provision for regular updates to the code for renovated residential buildings?	No
Is there any provision for regular updates to the code for renovated commercial buildings?	No
Is there a mandatory standardized rating or labeling system for the energy performance of existing buildings?	No
Is the labeling scheme or rating adopted from external standards?	No
Are commercial and residential buildings required to disclose property energy usage at the point of sale or when leased?	No
Are large commercial and residential buildings required to disclose property energy usage annually?	No

Regulatory Indicators for Sustainable Energy (RISE)

Are there mandates or targets for new building stocks to achieve high quality energy efficiency certifications, such as LEED (Leadership in Energy & Environmental Design) (e.g. percentage of new building stocks that must be LEED certified)?	No
Details	0
LEED incentives	No
Local program details	0

Carbon Pricing	Score	0
Is there a carbon pricing mechanism in place?	No	
For any carbon pricing mechanism (e.g. carbon tax, emission trading system), what is the portion of national GHG emissions covered)?	0	
Is there a monitoring, reporting and verification system for greenhouse gas emissions in place?	No	

Renewable Energy

Legal framework for renewable energy	Score	100
Does a legal framework for renewable energy development exist?	Yes	
Name of the Law	LETTER OF ENERGY POLITICS	
Is private sector ownership of renewable energy generation legally authorized?	Yes	

Planning for renewable energy expansion	Score	40
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Regulatory Indicators for Sustainable Energy (RISE)

Does an official renewable energy target exist?	Yes
Overall target	
Solar target	
Wind target	
Hydro target	
Biomass target	
Geothermal target	
Does a renewable energy action plan or strategy to attain the target exist?	Yes
Name of the action plan	0
Does the plan or strategy define the amount of investment necessary to meet the RE target?	Yes
The amount of investment identified	0
Is there an institution responsible for tracking progress in renewable energy development?	No
Name of the institution	0
Does an electricity generation plan that includes renewable energy development exist?	No
Name of the generation plan	0
Is the expansion plan based on a probabilistic approach?	N/A
Does the current transmission planning consider renewable energy scale-up?	Yes
Name of the transmission plan	0

Regulatory Indicators for Sustainable Energy (RISE)

Has the country conducted a variable renewable energy integration study?	No
Name of the integration study	0
Year of the integration study	
Does the country have sufficient resource abundance to warrant a solar resource atlas?	Yes
Does the government publish or endorse a solar resource atlas or other data on the abundance and quality of the resource?	No
Solar atlas is validated by at least 5 ground-based measurements taken for a period of at least a year;	No
Solar atlas has a spatial resolution of 5km or less;	No
Solar atlas is based on modeling inputs covering at least a 10 year period;	No
Solar atlas is accompanied by an explanation of the methodology and instrumentation	No
Has the country carried out strategic planning or produced zoning guidance to inform the commercial development of solar resources?	No
Has the solar resource planning or zoning guidance been undertaken as part of a strategic environmental and social assessment or equivalent process?	No
Are the solar resource planning or zoning guidance outputs publically available?	No
Does the country have sufficient resource abundance to warrant a wind resource atlas?	Yes
Does the government publish or endorse a wind resource atlas or other data on the abundance and quality of the resource?	No

Regulatory Indicators for Sustainable Energy (RISE)

Wind atlas is validated by at least 5 ground-based measurements taken for a period of at least a year;	No
Wind atlas has a spatial resolution of 5km or less;	No
Wind atlas is based on modeling inputs covering at least a 10 year period;	No
Wind atlas is accompanied by an explanation of the methodology and instrumentation	No
Has the country carried out strategic planning or produced zoning guidance to inform the commercial development of wind resources?	No
Has the wind resource planning or zoning guidance been undertaken as part of a strategic environmental and social assessment or equivalent process?	No
Are the wind resource planning or zoning guidance outputs publically available?	No
Does the country have sufficient resource abundance to warrant a hydro resource atlas?	Yes
Does the country publish or endorse a national hydro resource map or atlas?	Yes
Hydro atlas is validated by ground-based water run-off data and/or site surveys from potential sites;	Yes
Hydro atlas is accompanied by an explanation of the methodology and instrumentation	Yes
Has the country carried out strategic planning or produced zoning guidance to inform the commercial development of hydro resources?	Yes
Has the hydro resource planning or zoning guidance been undertaken as part of a strategic environmental and social assessment or equivalent process?	Yes

Regulatory Indicators for Sustainable Energy (RISE)

Are the hydro resource planning or zoning guidance outputs publically available?	Yes
Does the country have sufficient resource abundance to warrant a biomass resource atlas?	No
Does the country publish or endorse a national biomass resource map or atlas?	No
Biomass atlas is validated by ground-based survey or officially reported data;	No
Biomass atlas is accompanied by an explanation of the methodology and instrumentation.	No
Has the biomass resource planning or zoning guidance been undertaken as part of a strategic environmental and social assessment or equivalent process?	No
Are the biomass resource planning or zoning guidance outputs publically available?	No
Does the country have sufficient resource abundance to warrant a geothermal resource atlas?	No
Does the country publish or endorse a national geothermal resource map or atlas?	No
The governmentn has collected and recorded well data at potential geothermal sites?	No
Does the government publish a national geological map?	No
The government has supported surface exploration (geological; geochemical; temp; gradient) at potential sites?	No
The government has supported test drilling at at least one site (slim bore or full well)?	No
The government has supported the creation of a reservoir model at at least one site?	No

Regulatory Indicators for Sustainable Energy (RISE)

Has the country carried out strategic geothermal resource planning or produced zoning guidance to inform the commercial development of the resource?	No
Has the geothermal resource planning or zoning guidance been undertaken as part of a strategic environmental and social assessment or equivalent process?	No
Are the geothermal resource planning or zoning guidance outputs publically available?	No

Incentives and regulatory support for renewable energy	Score	50
Is there at least one scheme to support renewable energy per unit of electricity generated? (e.g., feed-in tariff, competitive bidding/auction, mandates, generation premiums, production tax credits)?		Yes
Feed-in tariff		No
Feed-in tariff - Solar		No
Feed-in tariff - Wind		No
Feed-in tariff - Hydro		No
Feed-in tariff - Biomass		No
Feed-in tariff - Geothermal		No
Government body in charge		
Projects guaranteed off-take		No
Solar Feed-in-tariff Price (\$ cents/kWh)		
Solar Feed-in-tariff Max. capacity (single)		

Regulatory Indicators for Sustainable Energy (RISE)

Solar Feed-in-tariff Max. capacity (total)	
Solar Feed-in-tariff Closing date	
Wind Feed-in-tariff Price (\$ cents/kWh)	
Wind Feed-in-tariff Max. capacity (single)	
Wind Feed-in-tariff Max. capacity (total)	
Wind Feed-in-tariff Closing date	
Hydro Feed-in-tariff Price (\$ cents/kWh)	
Hydro Feed-in-tariff Max. capacity (single)	
Hydro Feed-in-tariff Max. capacity (total)	
Hydro Feed-in-tariff Closing date	
Biomass Feed-in-tariff Price (\$ cents/kWh)	
Biomass Feed-in-tariff Max. capacity (single)	
Biomass Feed-in-tariff Max. capacity (total)	
Biomass Feed-in-tariff Closing date	
Geothermal Feed-in-tariff Price (\$ cents/kWh)	
Geothermal Feed-in-tariff Max. capacity (single)	
Geothermal Feed-in-tariff Max. capacity (total)	
Geothermal Feed-in-tariff Closing date	
Competitive bidding	Yes
Auction 1 - Year	

Regulatory Indicators for Sustainable Energy (RISE)

Auction 1 - Technology	
Auction 1 - Project-specific tender and size (MW)	
Auction 1 - Auction for total and size (MW)	
Auction 1 - Standard PPA and Term	
Auction 1 - Price ceiling	No
Auction 1 - Winning bid (\$ cents/kWh)	
Auction 1 - Government body in charge	
Auction 2 - Year	
Auction 2 - Technology	
Auction 2 - Project-specific tender and size (MW)	
Auction 2 - Auction for total and size (MW)	
Auction 2 - Standard PPA and Term	
Auction 2 - Price ceiling	No
Auction 2 - Winning bid (\$ cents/kWh)	
Auction 2 - Government body in charge	
Winning bid guaranteed off-take	No
Mandates	No
Generation premium	No
Production tax credit	No
Does the government offer other direct fiscal incentives for renewable energy (e.g. capital subsidies, grants or rebates,	Yes

Regulatory Indicators for Sustainable Energy (RISE)

investment tax credits, tax reductions?)	
Investment tax credit	No
Accelerated depreciation	No
Reduction in import taxes	Yes
Reduction in sales tax or other taxes	No
Does the country provide prioritized access to the grid for RE?	No
Do RE projects receive priority in dispatch?	No
Are there provisions to compensate seller if offtake infrastructure is not built in time?	No
Are there mechanisms to compensate RE projects for lost generation due to certain curtailments after project commissioning?	No

Attributes of financial and regulatory incentives	Score	11
Is the market entry mechanism for private RE projects defined? (e.g. 1st come 1st served; tenders)		Yes
Details		0
Are projects subject to development timelines or milestones?		No
Are tariffs indexed (in part or in whole) to an international currency or to inflation?		No
If there is a guaranteed tariff, is there a mechanism to adjust the level of the tariff for new entrants (e.g., declination)?		N/A
If there is a guaranteed tariff, is there a mechanism to differentiate tariffs based on the size of the generation plant?		N/A

Regulatory Indicators for Sustainable Energy (RISE)

If there is competitive bidding/auctions, are there provisions to ensure full and timely project completion (e.g., bid-bonds, project milestones, eligibility requirements)	N/A
If there is a renewable energy mandate, can it be met with tradable certificates (e.g., RECs, ROCs, TECs)?	N/A
Is the price subsidy/benefit implied by a renewable energy incentive program passed through in full or in part to the final electricity consumer?	N/A

Network connection and pricing	Score	0
Are there rules defining the allocation of connection costs?	No	
What is the type of the connection cost allocation policy (i.e. shallow/deep)?	N/A	
Are there rules that allow electricity customers to purchase power directly from a third party (i.e. an entity other than the designated utility in a service area)?	No	
Do the rules define the size and allocation of costs for transmission and distribution wheeling charges? (e.g., wheeling charges, locational pricing?)	No	
Do the rules consider customer type/size in determining eligibility for purchasing electricity from a third party?	No	
connection cost document	0	
Does the country have a grid code that includes measures or standards addressing variable renewable energy?	No	
Is there more than one balancing area in the country?	No	
Are there rules for exchanging power between balancing areas that penalize variable renewable energy (e.g. through imbalance penalties)?	N/A	

Regulatory Indicators for Sustainable Energy (RISE)

Are there provisions in the power exchange rules that allow for plant forecasting?	N/A
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Counterparty risk	Score	44
Does the government offer or allow backing of utility payments (e.g. through a letter of credit, escrow account, payment guarantee, or other)?		Yes
Information disclosure		33
Are the financial statements of the largest utility publicly available?		0
Are the financial statements of the largest generation company publicly available?		Yes
Are the financial statements of the largest transmission company publicly available?		Yes
Are the financial statements of the largest distribution company publicly available?		Yes
Are the financial statements of the largest retail electricity sales company publicly available?		Yes
Are the following metrics published in a primary official document (by the utility, regulator or ministry and/or government)?		0
Is the transmission loss rate published in a primary official document (by the utility, regulator or ministry and/or government)?		Yes
Is the distribution loss rate published in a primary official document (by the utility, regulator or ministry and/or government)?		Yes
Is the bill collection rate published in a primary official document (by the utility, regulator or ministry and/or government)?		Yes

Regulatory Indicators for Sustainable Energy (RISE)

Is the amount of electricity available for sale to end-users published in a primary official document (by the utility, regulator or ministry and/or government)?	Yes
Information Auditing	0
Financial statements independently audited?	0
Are the financial statements of the largest generation company audited?	No
Are the financial statements of the largest transmission company audited?	No
Are the financial statements of the largest distribution company audited?	No
Are the financial statements of the largest retail electricity sales company audited?	No
Monitoring Reliability	0
Is the utility operating an incidence/outage recording system (or SCADA/EMS with such functionality)?	No
Is the utility measuring the SAIDI and SAIFI or any other measurements for service reliability?	No
Are the data reported to the regulatory body?	No
Are the data available to the public?	No
Name of the selected utility	JIRAMA
data - 17.1. Current ratio (working capital ratio)	0
data - 17.2 Debt Service Coverage Ratio	-8
data - 17.3 Days payable outstanding	602
data - 17.4 EBITDA margin	0

Regulatory Indicators for Sustainable Energy (RISE)

Current ratio (working capital ratio) of selected utility	0
Debt Service Coverage Ratio of selected utility	0
Days payable outstanding of selected utility	0
EBITDA margin of selected utility	0

Carbon pricing and monitoring	Score	0
Is there a carbon pricing mechanism in place?		No
For any carbon pricing mechanism (e.g. carbon tax, emission trading system), what is the portion of national GHG emissions covered)?		0%
Is there a monitoring, reporting and verification system for greenhouse gas emissions in place?		No