

## Regulatory Indicators for Sustainable Energy (RISE) 2017 Country Data - Ghana

### Clean Cooking

| Indicator                 | Score       |
|---------------------------|-------------|
| Planning                  | 100         |
| Scope of planning         | 100         |
| Standards and Labeling    | 8           |
| Incentives and attributes | 38          |
| <b>Total</b>              | <b>61.5</b> |

### Electricity Access

| Indicator  | Score       |
|--|-------------|
| Existence and monitoring of officially approved electrification plan | 94          |
| Scope of officially approved electrification plan                    | 42          |
| Framework for grid electrification                                   | 67          |
| Framework for minigrids  | 47          |
| Framework for stand-alone systems                                    | 78          |
| Consumer affordability of electricity                                | 66          |
| Utility Transparency and Monitoring                                  | 100         |
| Utility Creditworthiness   | 46          |
| <b>Total</b>   | <b>67.5</b> |

### Energy Efficiency

| Indicator   | Score |
|---|-------|
| National energy efficiency planning                       | 63    |
| Energy efficiency entities                                | 100   |
| Information provided to consumers about electricity usage | 63    |
| EE incentives from electricity rate structures            | 67    |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |              |
|--|--------------|
| Incentives & mandates: Industrial and Commercial End users | 67           |
| Incentives & mandates: public sector                       | 25           |
| Incentives & mandates: utilities                           | 29           |
| Financing mechanisms for energy efficiency                 | 0            |
| Minimum energy efficiency performance standards            | 50           |
| Energy labeling systems                                    | 75           |
| Building energy codes                                      | 0            |
| Transport  | 0            |
| Carbon Pricing and Monitoring                              | 50           |
| <b>Total</b>   | <b>45.31</b> |

## Renewable Energy

| Indicator  | Score        |
|--|--------------|
| Legal framework for renewable energy                   | 100          |
| Planning for renewable energy expansion                | 81           |
| Incentives and regulatory support for renewable energy | 70           |
| Attributes of financial and regulatory incentives      | 92           |
| Network connection and use                             | 77           |
| Counterparty risk                                      | 82           |
| Carbon Pricing and Monitoring                          | 50           |
| <b>Total</b>   | <b>78.86</b> |

|                      |              |
|----------------------|--------------|
| <b>Overall Score</b> | <b>63.29</b> |
|----------------------|--------------|

## Clean Cooking

| Planning   | Score | 100 |
|--|-------|-----|
| Does the government track household level data on cooking solutions? |       | Yes |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |      |
|--|------|
| Is the data publicly available?  | Yes  |
| Is the data gender disaggregated?  | Yes  |
| Is there a national or regional plan to scale up access to clean cooking solutions, or is access to clean cooking solutions covered as a part of any other government plan (regardless of the sector)? | Yes  |
| If not, is there a draft plan that has been prepared but not yet been approved?  |      |
| If yes, when was the latest national plan officially approved?   | 2010 |
| Has the plan gone through public consultation?   | Yes  |
| Have consultations taken the gender of participants into account?  | Yes  |
| Are there agencies dedicated to the following functions?   | -    |
| Setting clean cooking strategy/action plan   | Yes  |
| Setting, monitoring and enforcing standards for clean cooking solutions  | Yes  |
| Tracking access and adoption of clean cooking solutions  | Yes  |

| Scope of planning   | Score | 100 |
|---|-------|-----|
| Does the plan take into account geographical and demographical considerations to prioritize the most vulnerable consumers?        | Yes   |     |
| Does the plan include considerations and action items for involving women throughout the supply chain of clean cooking solutions? | Yes   |     |
| Is there a targeted awareness raising strategy to drive adoption of clean cooking solutions, such as any of the following         | -     |     |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |  |
|---|--|
| Training programs for new stove technologies  | Flyers are used to inform the public about new stove technologies.   |
| Cooking competitions with stove technologies  |  |
| Nationally-sponsored educational campaigns for new stove technologies               | Radio and flyers are used to inform the public about new stove technologies.   |
| Private sector advertising campaigns for new stove technologies                     | Advertisements through word of mouth testimonies of users about the effectiveness of the cook stove known as "Cookstove Evangelists" |
| Partnerships with CSOs and community-based organizations                            |  |
| Other   |  |
| Details of other program  |  |
| Does the awareness strategy include targeted messages to both men and women?        | Yes  |
| Is there a last mile distribution strategy <sup>3</sup> in place for cooking fuels? | Yes  |
| Is there a last mile distribution strategy in place for cooking technologies?       | Yes  |

| <b>Standards and Labeling</b>  | <b>Score</b> | <b>8</b> |
|--|--------------|----------|
| Are there standards for the following aspects of clean cooking solutions |              | -        |
| Efficiency   |              | No       |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |  |
|--|--|
| Emissions  | No   |
| Safety   | No   |
| Have the standards been adopted from external standards or developed domestically? | The draft cookstoves standards, labeling, and testing documents were developed and gazetted. |
| Is there a verification program in place for standards?                            | No   |
| Does the program work with a standards testing facility or lab?                    | Yes  |
| Does the stove testing facility or lab need to be accredited?                      | No   |
| Have the standards been verified through field testing?                            | No   |
| Have labeling schemes been adopted on clean cooking products for the following     | -  |
| Efficiency   | No   |
| Emissions  | No   |

| Incentives and attributes   | Score | 38                |
|---|-------|-------------------|
| Are there specific financing facilities available to support suppliers/consumers to develop/purchase clean cooking solutions?   | No    |                   |
| Are there specific financing or subsidy programs for clean cooking solutions targeted to low income consumers?  | Yes   |                   |
| Are there duty exemptions, tax benefits, and/or subsidies to support clean cooking solutions?   |       |                   |
| Are there programs for commercial entities to invest in efficient, low-emission stoves? (time stamping) Please indicate the year in which each program was first made available |       | It applied to LPG |

## Regulatory Indicators for Sustainable Energy (RISE)

### Electricity Access

| <b>Existence and monitoring of officially approved electrification plan</b>                                      | <b>Score</b> | <b>94</b> |
|--|--------------|-----------|
| Is there an officially approved national electrification plan?   |              | Yes       |
| Are the electrification plan and the updates publicly available?   |              | Yes       |
| Is there a requirement for periodic progress reports tracking progress towards the defined energy access target? |              | Yes       |
| Does the reporting actually take place?  |              | Yes       |
| Are there institution(s) responsible for carrying out the following functions                                    |              | -         |
| Setting electrification strategy   |              | Yes       |
| Setting electrification milestones and deadlines   |              | Yes       |
| Coordinating generation, transmission, and distribution plans and their implementation                           |              | Yes       |
| Reporting progress towards the defined energy access target/milestones with periodic reports                     |              | Yes       |
| Is the electrification plan developed based on demand assessment?  |              | Yes       |
| Were there any public consultations while developing the plan?   |              | Yes       |
| Is there a provision for the plan periodic evaluations?  |              | No        |

| <b>Scope of officially approved electrification plan</b>   | <b>Score</b> | <b>42</b> |
|--|--------------|-----------|
| Does the plan target a service level (e.g., power availability, number of guaranteed hours of power supply, etc.)? |              | No        |
| Does the electrification plan include off-grid solutions (either/or  |              | Yes       |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |     |
|--|-----|
| both minigrids and standalone systems)?  |     |
| Does the plan include productive uses (e.g. agricultural, commercial, and industrial activities)?    | Yes |
| Does the plan include community facilities (e.g. health centers, schools, administrative buildings)? | Yes |
| Does the plan include areas with informally settled people/groups?                                   | No  |
| Does the plan specifically address the electricity access of female-headed households?               | Yes |
| Does the plan set up a specific target on female-headed households' electrification?                 | No  |
| Are there geospatial maps conveying the timeframe of planned grid extension?                         | No  |
| Are these geospatial maps made publicly available?   | No  |

| <b>Framework for grid electrification</b>   | <b>Score</b> | <b>67</b> |
|---|--------------|-----------|
| 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          |           |
| 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           |           |
| Are there consumer financing mechanisms targeting specifically female headed households?  | No           |           |
| Are there consumer financing mechanisms targeting low-income households?  | No           |           |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |     |
|--|-----|
| Does the government specify standards of performance on reliability (e.g. number of guaranteed hours per day, duration of the electricity, frequency of outages, SAIDI, SAIFI etc.)? | Yes |
| Is there a periodic reporting system in place to ensure standards compliance?  | Yes |

| <b>Framework for minigrids</b>  | <b>Score</b> | <b>47</b> |
|---|--------------|-----------|
| Are there programs which aim to develop minigrid systems or support the development of minigrids systems?               | Yes          |           |
| Do the regulations clarify what will occur when the interconnected grid reaches a minigrid?.                            | No           |           |
| Are there national programs which aim to develop stand-alone systems or support the development of stand-alone systems? | Yes          |           |
| Are minigrids legally allowed to operate in the country?  | Yes          |           |
| Can minigrids be owned and operated by private operators?   | Yes          |           |
| Do the regulations detail procedures for consumers to get connected to minigrids?                                       | No           |           |
| Do the regulations differ by size of minigrids?   | No           |           |
| Are mini-grid operators legally allowed to charge a different tariff from the national tariff?                          | Yes          |           |
| Are there publicly funded mechanisms to secure viability gap funding for operators?                                     | No           |           |
| Are there duty exemptions and/or capital subsidies for minigrid systems and/or individual components?                   | No           |           |
| Are there specific financing facilities (access to credit etc.) available to support operators?                         | Yes          |           |



## Regulatory Indicators for Sustainable Energy (RISE)

|  |     |
|--|-----|
| Are there duty exemptions and/or subsidies to support standalone home systems?   | Yes |
| 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 standalone home systems? | No  |
| Are there technical standards detailing the requirements for minigrids to connect the grid?                                    | No  |
| Are technical standards made publicly available?   | No  |
| Are there safety standards for minigrids (e.g. overcurrent protection, system control etc.)?                                   | No  |
| Are these safety standards made publicly available?  | No  |
| Has the government adopted international quality standards for stand-alone systems?  | Yes |
| Has the government adopted international testing methods or does it accept testing done in another country?                    | Yes |
| Are there environmental regulations on the disposal of solar devices and standalone home system products or components?        | No  |

| <b>Framework for stand-alone systems</b>  | <b>Score</b> | <b>78</b> |
|---|--------------|-----------|
| Are there programs which aim to develop minigrid systems or support the development of minigrids systems?               | Yes          |           |
| Do the regulations clarify what will occur when the interconnected grid reaches a minigrid?.                            | No           |           |
| Are there national programs which aim to develop stand-alone systems or support the development of stand-alone systems? | Yes          |           |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |     |
|--|-----|
| Are there publicly funded mechanisms to secure viability gap funding for operators?  | No  |
| Are there duty exemptions and/or capital subsidies for minigrid systems and/or individual components?                          | No  |
| Are there specific financing facilities (access to credit etc.) available to support operators?                                | Yes |
| Are there duty exemptions and/or subsidies to support standalone home systems?   | Yes |
| 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 standalone home systems? | No  |
| Are there technical standards detailing the requirements for minigrids to connect the grid?                                    | No  |
| Are technical standards made publicly available?   | No  |
| Are there safety standards for minigrids (e.g. overcurrent protection, system control etc.)?                                   | No  |
| Are these safety standards made publicly available?  | No  |
| Has the government adopted international quality standards for stand-alone systems?  | Yes |
| Has the government adopted international testing methods or does it accept testing done in another country?                    | Yes |
| Are there environmental regulations on the disposal of solar devices and standalone home system products or components?        | No  |

**Consumer affordability of electricity**

**Score**

**66**

## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| What is the annual cost of subsistence consumption (30kWh/month) as a percentage of GNI per household of the bottom 20 percent income households of the population? |     |
| How many months does it take for the consumer to pay the connection fee based on savings of the bottom 20 percent of population?                                    |     |
| Is there a mechanism to support low-volume consumers such as social or lifeline tariff?   | Yes |

| Utility Transparency and Monitoring   | Score | 100 |
|---|-------|-----|
| Are the financial statements of the largest utility publicly available for each of the following                              |       | -   |
| Generation  |       | Yes |
| Transmission  |       | Yes |
| Distribution  |       | Yes |
| Retail sales  |       | Yes |
| If yes, are they audited by an independent auditor for each of the following  |       | -   |
| Generation  |       | Yes |
| Transmission  |       | Yes |
| Distribution  |       | Yes |
| Retail sales  |       | Yes |
| Are the following metrics published in a primary official document (by the utility, regulator or ministry and/or government)? |       | -   |
| Generation - Electricity available for sale to end-users  |       | Yes |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| Transmission - Transmission loss rate   | Yes |
| Distribution - Distribution loss rate   | Yes |
| Retail Sales - Bill collection rate   | Yes |
| Is the utility operating an incidence/outage recording system (or SCADA/EMS with such functionality)? | Yes |
| Is the utility measuring the SAIDI and SAIFI or any other measurements for service reliability?       | Yes |
| Are the measurements reported to the regulatory body?   | Yes |
| Are the measurements available to public?   | Yes |

| Utility Creditworthiness | Score | 46 |
|--------------------------|-------|----|
| No Data Found            |       |    |

## Energy Efficiency

| National energy efficiency planning                                      | Score | 63 |
|--|-------|----|
| Is there legislation or a national action plan that aims to increase EE? | Yes   |    |
| Is there an energy efficiency goal or target at the national level?      | Yes   |    |
| Are there targets defined for any of the following sectors?              | -     |    |
| Residential sector   | No    |    |
| Commercial services sector   | No    |    |
| Transport sector   | Yes   |    |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| Industrial sector   | No  |
| Power sector  | Yes |
| Are targets derived from detailed analysis that is publicly available?                                  | Yes |
| Is there a requirement for periodic progress reports tracking data related to the efficiency target(s)? | No  |

| Energy efficiency entities  | Score | 100 |
|---|-------|-----|
| Are there governmental and/or independent bodies that carry out formulation and implementation of EE strategy, policy and regulation for each of the roles listed below | -     |     |
| Setting EE strategy   | Yes   |     |
| Setting EE standards  | Yes   |     |
| Regulating EE activities of energy suppliers  | Yes   |     |
| Regulating EE activities of energy consumers  | Yes   |     |
| Certifying compliance with equipment EE standards   | Yes   |     |
| Certifying compliance with building EE standards  | Yes   |     |
| Selecting and/or approving third party auditors tasked with certifying EE standards   | Yes   |     |
| Are energy efficiency programs developed based on market analyses with plans open to public consultation and periodic evaluation?                                       | Yes   |     |
| Are there professional certification/accreditation programs mandated for any of the following energy efficiency activities  | -     |     |
| Energy auditing/energy management   | No    |     |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| Energy efficiency financing                               | No  |
| Monitoring and verification of energy consumption/savings | Yes |
| Building energy efficiency construction/design            | No  |
| Other   | No  |

| <b>Information provided to consumers about electricity usage</b>  | <b>Score</b> | <b>63</b> |
|---|--------------|-----------|
| Is it mandatory for the selected utility to provide the following customers with reports of their energy usage, in a bill or by other means for residential customers, commercial services customers, and industrial customers? |              |           |
| Residential customers   | Yes          |           |
| Commercial customers  | Yes          |           |
| Industrial customers  | Yes          |           |
| At what intervals do they receive these reports (times per year)?   |              |           |
| Residential customers   | 12           |           |
| Commercial customers  | 12           |           |
| Industrial customers  | 12           |           |
| Do the reports include the price levels customers pay for energy usage?   |              |           |
| Residential sector  | Yes          |           |
| Commercial sector   | Yes          |           |
| Industrial sector   | Yes          |           |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |     |
|--|-----|
| Does the regulator track the utility's compliance with laws for providing energy usage information to customers?   | Yes |
| Do customers receive a bill or report which compares them to other users in the same region and/or usage class?  | -   |
| Residential customers  | No  |
| Commercial customers   | No  |
| Industrial customers   | No  |
| Do customers receive a bill or report that shows their energy usage compared to previous bills or reports over time?   |     |
| Residential customers  | No  |
| Commercial customers   | No  |
| Industrial customers   | No  |
| Does the selected utility offer customers access real time feedback on energy usage (for either prepaid or post-paid systems)?   | Yes |
| Does the selected utility offer customers the ability to manage energy usage levels remotely (through apps or other technology mediums that can track real time usage) | No  |

| <b>EE incentives from electricity rate structures</b>  | <b>Score</b> | <b>67</b> |
|--|--------------|-----------|
| What types of electricity rate structure do the residential, commercial services, and industrial customers face? |              | -         |
| Residential customers  |              | -         |
| Commercial customers   |              | -         |
| Industrial customers   |              | -         |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |   |
|--|---|
| Which of the following charges do electricity customers pay in the commercial services sector and industrial sector?                             | - |
| Commercial sector  | - |
| Industrial sector  | - |
| Are any of the following time-of-use (TOU) rate structures applied to the residential sector, commercial services sector, and industrial sector? | - |
| Residential sector   | - |
| Commercial sector  | - |
| Industrial sector  | - |

| <b>Incentives &amp; mandates: Industrial and Commercial End users</b>  | <b>Score</b> | <b>67</b> |
|--|--------------|-----------|
| Are there any of the following energy-efficiency mandates for large energy users?  | -            |           |
| Targets (e.g. kWh savings or lower energy intensity or carbon dioxide reductions, etc.)  | Yes          |           |
| Mandatory audits   | Yes          |           |
| Progress/tracking reports  | No           |           |
| Energy-management system (computer technologies to optimize energy use)  | No           |           |
| Are there penalties in place for non-compliance with regulatory obligations for EE?  | Yes          |           |
| Is there a requirement for periodic reporting of energy consumption in order to enforce and/or track progress of energy efficiency in large consumers' facilities? | Yes          |           |



## Regulatory Indicators for Sustainable Energy (RISE)

|  |     |
|--|-----|
| Is there a measurement and verification program in place?  | Yes |
| Are energy efficiency incentives in place for large-scale users?   | Yes |
| Is there an energy efficiency mandate or incentive program for SMEs?   | Yes |
| Is there a program to publicly recognize end users that have achieved significant energy savings measures?                                     | No  |
| Are energy savings and/or financial savings publicized?  | No  |
| Does the program offer assistance (from a government or independent entity) to end users to identify energy savings investments opportunities? | No  |

| <b>Incentives &amp; mandates: public sector</b>   | <b>Score</b> | <b>25</b> |
|---|--------------|-----------|
| Are there binding energy savings obligations for public buildings and/or other public facilities (may include water supply, wastewater services, municipal solid waste, street lighting, transportation, and heat supply) ? | No           |           |
| Is there a reporting mechanism to track and enforce energy savings in public sector facilities (either in-house or by a third party)?   | No           |           |
| Is there a specific policy or mandated guidelines for public procurement of energy-efficient products and services?   | Yes          |           |
| Are procurement guidelines updated periodically to reflect technological advances and best practices in energy efficient products and services?   | Yes          |           |
| Do public budgeting regulations and practices allow public entities to retain energy savings at the following levels?   | No           |           |

| <b>Incentives &amp; mandates: utilities</b> | <b>Score</b> | <b>29</b> |
|---|--------------|-----------|
|---|--------------|-----------|

## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| Generation  | -   |
| Are utilities required to carry out energy efficiency activities in this area?                          | Yes |
| Are there penalties in place for non-compliance with EE requirements?                                   | Yes |
| Are energy savings or other target indicators measured to track performance in meeting EE requirements? | Yes |
| Are the requirements measured/validated by an independent third party?                                  | No  |
| Transmission and distribution networks  | -   |
| Are utilities required to carry out energy efficiency activities in this area?                          | Yes |
| Are there penalties in place for non-compliance with EE requirements?                                   | Yes |
| Are energy savings or other target indicators measured to track performance in meeting EE requirements? | Yes |
| Are the requirements measured/validated by an independent third party?                                  | No  |
| Demand-side management  | -   |
| Are utilities required to carry out energy efficiency activities in this area?                          | No  |
| Are there penalties in place for non-compliance with EE requirements?                                   | No  |
| Are energy savings or other target indicators measured to track performance in meeting EE requirements? | Yes |
| Are the requirements measured/validated by an independent third party?                                  | No  |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |    |
|---|----|
| Are any of the following mechanisms available for utilities to recover costs associated with or revenue lost from mandated energy efficiency activities in the residential, commercial, and/or industrial sectors | -  |
| Public budget financing   | No |
| Compensation for revenue losses from EE activities via a tracking account   | No |
| Revolving funds and/or credit lines for EE activities   | No |
| Partial risk guarantees   | No |
| Program cost recovery   | No |
| On-bill financing/pre-payment   | No |
| Decoupling  | No |

| Financing mechanisms for energy efficiency   | Score | 0  |
|--|-------|----|
| Are any of the following financing mechanisms for energy efficiency activities available in the (R) residential sector, (C) commercial services sector, and (I) industrial sector? |       | -  |
| Residential sector   |       | -  |
| Tax incentives   |       | No |
| Discounted "green" mortgages   |       | No |
| On-bill financing  |       | No |
| Credit lines and/or revolving funds with banks for energy efficiency activities  |       | No |
| Green or energy efficiency bonds   |       | No |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |    |
|---|----|
| Energy services agreements (pay-for-performance contracts)                      | No |
| Vendor credit and/or leasing for energy efficiency activities                   | No |
| Partial risk guarantees   | No |
| Commercial services sector  | -  |
| Tax incentives  | No |
| Discounted "green" mortgages  | No |
| On-bill financing   | No |
| Credit lines and/or revolving funds with banks for energy efficiency activities | No |
| Green or energy efficiency bonds  | No |
| Energy services agreements (pay-for-performance contracts)                      | No |
| Vendor credit and/or leasing for energy efficiency activities                   | No |
| Partial risk guarantees   | No |
| Industrial sector   | -  |
| Tax incentives  | No |
| Discounted "green" mortgages  | No |
| On-bill financing   | No |
| Credit lines and/or revolving funds with banks for energy efficiency activities | No |
| Green or energy efficiency bonds  | No |
| Energy services agreements (pay-for-performance contracts)                      | No |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |    |
|---|----|
| Vendor credit and/or leasing for energy efficiency activities   | No |
| Partial risk guarantees   | No |
| How many financial and/or non-financial institutions offer financial products for energy efficiency investments in each sector? | -  |
| Residential sector  | -  |
| Commercial sector   | -  |
| Industrial sector   | -  |

| <b>Minimum energy efficiency performance standards</b>  | <b>Score</b> | <b>50</b> |
|---|--------------|-----------|
| Have minimum energy performance standards been adopted for the following product categories?    | -            |           |
| Refrigerators   | Yes          |           |
| Heating, ventilation and/or air conditioning (HVAC)   | Yes          |           |
| Lighting equipment  | Yes          |           |
| Industrial electric motors  | No           |           |
| Other industrial equipment  | No           |           |
| Light vehicles (heavy duty transport vehicles were tracked but not included in the scoring)     | No           |           |
| Are there verification programs that include the following components for each product category | -            |           |
| Refrigerators   | -            |           |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |   |
|---|---|
| Heating, ventilation and/or air conditioning (HVAC) | - |
| Lighting equipment                                  | - |
| Industrial electric motors                          | - |
| Other industrial equipment                          | - |
| Light vehicles                                      | - |

| <b>Energy labeling systems</b>  | <b>Score</b> | <b>75</b> |
|---|--------------|-----------|
| Have energy efficiency labeling schemes been adopted for?                       | -            |           |
| Refrigerators   | Yes          |           |
| HVAC  | Yes          |           |
| Lighting equipment  | Yes          |           |
| Industrial electric motors  | No           |           |
| Other industrial equipment  | No           |           |
| Transport vehicles  | No           |           |
| Do the labeling schemes have the following components for each product category | -            |           |
| Refrigerators   | -            |           |
| HVAC  | -            |           |
| Lighting equipment  | -            |           |
| Industrial electric motors  | -            |           |
| Other industrial equipment  | -            |           |

## Regulatory Indicators for Sustainable Energy (RISE)

|                    |   |
|--------------------|---|
| Transport vehicles | - |
|--------------------|---|

| <b>Building energy codes</b>   | <b>Score</b> | <b>0</b> |
|--|--------------|----------|
| Are there energy efficiency codes for new residential buildings?   |              | No       |
| Are there energy efficiency codes for new commercial buildings?  |              | No       |
| Are the building energy efficiency standards required to be updated on a regular basis to reflect technological advances and changes in best practices for building energy efficiency in each sector |              | -        |
| Residential buildings  |              | No       |
| Commercial buildings   |              | No       |
| Is commission testing for energy efficiency required for final building acceptance documentation?  |              | No       |
| Is there a requirement for periodic reporting to verify compliance with building energy efficiency requirements?   |              | No       |
| Is verification carried out by a third party?  |              | No       |
| Are renovated buildings required to meet a building energy code, in each sector  |              | -        |
| Residential sector   |              | No       |
| Commercial sector  |              | No       |
| Are the building energy efficiency standards required to be updated on a regular basis to reflect technological advances and changes in best practices for building energy efficiency in each sector |              | -        |
| Residential sector   |              | No       |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |    |
|--|----|
| Commercial sector  | No |
| Is there a mandatory standardized rating or labeling system for the energy performance of existing buildings?  | 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 |
| 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 |

| <b>Transport</b>  | <b>Score</b> | <b>0</b> |
|---|--------------|----------|
| Is there a national database or national reporting system to periodically track and report the following transport efficiency metrics                                   | -            |          |
| Fuel per mile driven  | No           |          |
| Average distance traveled per vehicle   | No           |          |
| Distance traveled by public transit as a share of total passenger distance traveled   | No           |          |
| Vehicle miles traveled per capita   | No           |          |
| Other   | No           |          |
| Are there any mandate or incentive programs that support reduction of transport demands or shifts to more energy efficient modes of transport for personal use, such as | -            |          |
| Regularly scheduled teleworking   | No           |          |



## Regulatory Indicators for Sustainable Energy (RISE)

|   |    |
|---|----|
| Bicycle and/or other non-motorized schemes  | No |
| Car sharing   | No |
| Public transit subsidies for consumers  | No |
| Congestion charges  | No |
| Electric vehicle programs   | No |
| Other   | No |
| Is there a requirement for periodic reporting to verify compliance or progress of the program(s)?   | No |
| Are there any mandate or incentive programs that support reduction of transport demands or shifts to more energy efficient modes of transport for commercial and/or industrial use, such as | -  |
| Heavy duty vehicle fuel economy standards (data already collected in Indicator 10 can be scored here)   | No |
| Freight rail mandatory fuel economy standards or efficiency incentives  | No |
| Energy efficiency procurement standards or incentives for municipal rail and bus fleets   | No |
| Efficient fuel switching mandate or incentive programs for commercial/industrial vehicle fleets   | No |
| Other   | No |
| Is there a requirement for periodic reporting to verify compliance or progress of the program(s)?   | No |

**Carbon Pricing and Monitoring**

**Score**

**50**

No Data Found

## Regulatory Indicators for Sustainable Energy (RISE)

### Renewable Energy

| Legal framework for renewable energy  | Score | 100 |
|---|-------|-----|
| Does a legal framework for renewable energy development exist?                          |       | Yes |
| Does the legal framework allow private sector ownership of renewable energy generation? |       | Yes |

| Planning for renewable energy expansion  | Score | 81  |
|--|-------|-----|
| Does an official renewable energy target exist?  |       | Yes |
| Is the target legally binding?   |       | No  |
| Is the RE target linked to international commitments (eg. NDC or regional commitment)?   |       | No  |
| Is the target based on a transparent methodology?  |       | Yes |
| Is there a renewable energy action plan or strategy to attain the target ?   |       | Yes |
| Is there any provision for consultation with the public on the renewable plan?   |       | Yes |
| Is there an assessment of the role of renewables in electricity supply?  |       | Yes |
| Is there a target for renewables in electricity?   |       | Yes |
| Is there an assessment of the needs for heating and cooling in buildings and industry in the country and of how renewables can contribute? |       | No  |
| Is there a specific target for renewables for heating and cooling?   |       | No  |
| Is there an assessment of the potential role for renewables in transport including biofuels and electrification?                           |       | Yes |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| Is there a specific target for renewables in transport?   | Yes |
| Does the renewable plan or strategy estimate the amount of investment necessary to meet the RE target?  | Yes |
| Is there an institution responsible for tracking progress in renewable energy development?  | Yes |
| Is there any periodic reporting mechanism for renewable energy progress?  | Yes |
| Is there a mechanism for adjusting the plan based on reporting of renewable energy deployment?  | Yes |
| Is current policy environment conducive to renewable energy deployment?   | Yes |
| Is generation and transmission planning integrated?   | Yes |
| Is planning for dispatch included in the generation and transmission plan?  | Yes |
| Is the generation plan based on a probabilistic approach?   | Yes |
| Does the current transmission planning consider renewable energy scale-up?  | Yes |
| Does the government endorse and use the solar/wind resource maps and data applicable to their country that are available through the Global Solar Atlas / Global Wind Atlas, or have they published some other solar/wind resource map that conforms to best practice in the last five years? | Yes |
| Has the country carried out geospatial planning or produced zoning guidance to inform the commercial development of the RE resource?  | Yes |
| Has the geospatial planning or zoning guidance been carried out according to best practice by   | Yes |

## Regulatory Indicators for Sustainable Energy (RISE)

| Incentives and regulatory support for renewable energy   | Score | 70  |
|--|-------|-----|
| Does the country offer long term PPA's for renewable electricity production for large scale producers(e.g. via. feed-in-tariffs, PPA's awarded through auctions etc.)  |       | Yes |
| Does the country offer long term PPA's for renewable electricity production for small scale producers(e.g. via. feed-in-tariffs, PPA's awarded through auctions etc.)  |       | Yes |
| Does the government publish clear and practical guidance on what permissions are required to develop a RE electricity project?   |       | Yes |
| Does the government offer other direct fiscal incentives for renewable electricity (e.g. capital subsidies, grants or rebates, investment tax credits, tax reductions, production tax credits, FITs for large producers?)  |       | Yes |
| Does the country provide prioritized access to the grid for RE?  |       | Yes |
| Do RE projects receive priority in dispatch?   |       | Yes |
| 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  |
| Is the compensation due because of curtailment actually given out.   |       | No  |
| Is there a biofuels blending mandate or other obligation to use biofuels?  |       | Yes |
| Are there sustainability criteria which biofuels which contribute to the mandate must meet?  |       | Yes |
| If there is a plan for producing biofuels in the country, has this included an assessment of sustainability impacts (e.g. against the GBEP Sustainability indicators) including an assessment of impacts on food security. |       | Yes |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |     |
|--|-----|
| Is there at least one scheme to encourage use of electric/hybrid vehicles? (e.g. Tax benefit to consumers and manufacturers, etc.)           | No  |
| Are there any policies to encourage deployment of any renewable energy heating and cooling technologies?                                     | Yes |
| Are there specific measures (financial support or promotion) designed to encourage the use of renewables in the heating and cooling sectors? | Yes |
| Are opportunities for renewable heat promoted alongside energy efficiency measures in buildings and/or industry?                             | No  |

| Attributes of financial and regulatory incentives   | Score | 92  |
|---|-------|-----|
| Is competition used to ensure large scale RE generation (projects >10MW) is cost competitive (e.g. through auctions for PPA's)? |       | Yes |
| Is there a schedule for future bids/auctions available for investors?   |       | Yes |
| Is there a pre-qualification process to select bidders?   |       | Yes |
| Are tariffs indexed (in part or in whole) to an international currency or to inflation?   |       | Yes |
| Are there provisions to ensure full and timely project completion (e.g. bid-bonds, project milestones)                          |       | Yes |
| Are projects awarded through auctions/bids online/on track to be online on stated date?   |       | Yes |
| Have auctions/bids met stated target for installations?   |       | Yes |
| Can small producers (residential, commercial rooftop PV, etc) connect to the grid?  |       | Yes |
| Are contracts with fixed tariffs available for such producers?  |       | Yes |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| Is there a schedule or clear rules (e.g. capacity based limits) for adjusting the tariff level over time? | Yes |
| Are different tariffs available for different technologies and sizes of the generation plant?             | Yes |
| Is there a mechanism to control the capacity built under each tariff?                                     | Yes |
| Are tariffs indexed (in part or in whole) to an international currency or to inflation?                   | No  |

| <b>Network connection and use</b>  | <b>Score</b> | <b>77</b> |
|--|--------------|-----------|
| Does the country have a grid code that clearly specifies connection procedures?  | Yes          |           |
| Do the connection procedures meet international best practices?  | Yes          |           |
| Does the grid code include measures or standards addressing variable renewable energy?   | Yes          |           |
| Are there rules defining the allocation of connection costs?   | Yes          |           |
| Is the type of the connection cost allocation policy considered shallow (grid operator pays for connection costs)?   | Yes          |           |
| 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)? | Yes          |           |
| Do the rules define the size and allocation of costs for use of the transmission and distribution system (e.g. wheeling charges, locational pricing?)                | Yes          |           |
| Does the country carry out regular assessments of the flexibility of the electricity grid and the issues relating to renewables integration?                         | Yes          |           |
| Can renewable energy projects sell into balancing/ancillary services?  | Yes          |           |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |     |
|--|-----|
| Are there rules for exchanging power between balancing areas that penalize variable renewable energy, e.g. through imbalance penalties? (only scored in countries with multiple balancing areas) | Yes |
| Are there provisions in the power exchange rules that allow for plant forecasting? (only scored in countries with multiple balancing areas)  | Yes |
| Does the country integrate high quality forecasting for any variable RE resources (either through subscription service or provided by national agencies) into their dispatch operations?         | Yes |
| Are dispatch operations being carried out in real time?  | Yes |

| <b>Counterparty risk</b>   | <b>Score</b> | <b>82</b> |
|--|--------------|-----------|
| Are the following financial ratios of the counterparty deemed creditworthy?  | -            |           |
| Current ratio  | No           |           |
| EBITDA margin  | No           |           |
| Debt service coverage ratio  | Yes          |           |
| Days payable outstanding   | No           |           |
| Is the counterparty underwritten by a government guarantee or are there other mechanisms to ensure credit worthiness (e.g. through a letter of credit, escrow account, payment guarantee, or other)? | Yes          |           |
| Are standard PPAs bankable?  | Yes          |           |
| Are the financial statements of the largest utility publicly available in the following categories?  | -            |           |
| Generation   | Yes          |           |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| Transmission  | Yes |
| Distribution  | Yes |
| Retail sales  | Yes |
| If yes, are they audited by an independent auditor for the following categories of utilities?                                 | -   |
| Generation  | Yes |
| Transmission  | Yes |
| Distribution  | Yes |
| Retail sales  | Yes |
| Are the following metrics published in a primary official document (by the utility, regulator or ministry and/or government)? | -   |
| Generation - Electricity available for sale to end-users  | Yes |
| Transmission - Transmission loss rate   | Yes |
| Distribution - Distribution loss rate   | Yes |
| Retail Sales – Bill collection rate   | Yes |
| Is the utility operating an incidence/outage recording system (or SCADA/EMS with such functionality)?                         | Yes |
| Is the utility measuring the SAIDI and SAIFI or any other measurements for service reliability?                               | Yes |
| Are the measurements reported to the regulatory body?   | Yes |
| Are the measurements available to public?   | Yes |



## Regulatory Indicators for Sustainable Energy (RISE)

| Carbon Pricing and Monitoring | Score | 50 |
|-------------------------------|-------|----|
| No Data Found                 |       |    |