

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

### Energy Efficiency

| Indicator   | Score        |
|---|--------------|
| National energy efficiency planning                       | 91.67        |
| Energy efficiency entities                                | 57.14        |
| Information provided to consumers about electricity usage | 54.17        |
| EE incentives from electricity rate structures            | 74.07        |
| Incentives & mandates: large consumers                    | 16.67        |
| Incentives & mandates: public sector                      | 0            |
| Incentives & mandates: utilities                          | 41.67        |
| Financing mechanisms for energy efficiency                | 83.33        |
| Minimum energy efficiency performance standards           | 11.11        |
| Energy labeling systems                                   | 50           |
| Building energy codes                                     | 26.67        |
| Carbon Pricing  | 0            |
| <b>Total</b>  | <b>42.21</b> |

### Renewable Energy

| Indicator  | Score        |
|--|--------------|
| Legal framework for renewable energy                   | 100          |
| Planning for renewable energy expansion                | 73           |
| Incentives and regulatory support for renewable energy | 100          |
| Attributes of financial and regulatory incentives      | 67           |
| Network connection and pricing                         | 50           |
| Counterparty risk                                      | 62           |
| Carbon pricing and monitoring                          | 0            |
| <b>Total</b>   | <b>64.57</b> |

## Regulatory Indicators for Sustainable Energy (RISE)

**Overall Score**

35.59

### Energy Efficiency

| National energy efficiency planning                                      | Score | 91.67   |
|--|-------|---|
| Is there legislation or a national action plan that aims to increase EE? |       | Yes   |
| Name of EE legislation or action plan                                    |       | Law No. 47-9 related to energy efficiency             |
| Is there an energy efficiency goal or target at the national level?      |       | Yes   |
| National target details  |       | Saving 12% of energy consumption in 2020              |
| Is there a target for the residential sector?                            |       | Yes   |
| Target details   |       | Energy saved: 602 Mtoe in 2020 & 957 Mtoe in 2030     |
| Does the target have a milestone or deadline?                            |       | Yes   |
| Is there a commercial services sector target?                            |       | No  |
| Target details   |       | 0   |
| Does the target have a milestone or deadline?                            |       | No  |
| Is there an industrial sector target?                                    |       | Yes   |
| Target details   |       | Energy saved: 360000 toe in 2020 & 450466 toe in 2030 |
| Does the target have a milestone or deadline?                            |       | Yes   |
| Is there a power sector target?  |       | Yes   |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| Target details                                | 0   |
| Does the target have a milestone or deadline? | Yes |

| Energy efficiency entities   | Score                    | 57.14 |
|--|--------------------------|-------|
| Are there governmental and/or independent bodies dedicated to setting EE strategy?   | Yes                      |       |
| Name of entity   | MEMEE & ADEREE           |       |
| Are there governmental and/or independent bodies dedicated to setting EE standards?  | Yes                      |       |
| Name of entity   | ADEREE                   |       |
| Are there governmental and/or independent bodies dedicated to regulating EE activities of energy suppliers?  | Yes                      |       |
| Name of entity   | MEMEE & ADEREE with ONEE |       |
| Are there governmental and/or independent bodies dedicated to regulating EE activities of energy consumers?  | Yes                      |       |
| Name of entity   | MEMEE & ADEREE           |       |
| Are there governmental and/or independent bodies dedicated to certifying compliance with equipment EE standards?                                   | No                       |       |
| Name of entity   | 0                        |       |
| Are there governmental and/or independent bodies dedicated to certifying compliance with building EE standards?                                    | No                       |       |
| Name of entity   | 0                        |       |
| Are there governmental and/or independent bodies dedicated to selecting and/or approving third party auditors tasked with certifying EE standards? | No                       |       |

## Regulatory Indicators for Sustainable Energy (RISE)

|                |   |
|----------------|---|
| Name of entity | 0 |
|----------------|---|

| Information provided to consumers about electricity usage  | Score | 54.17 |
|--|-------|-------|
| Residential customers  |       |       |
| Is it mandatory for utilities to provide reports of their energy usage, in a bill or by other means? | Yes   |       |
| Commercial customers   |       |       |
| Is it mandatory for utilities to provide reports of their energy usage, in a bill or by other means? | Yes   |       |
| Industrial customers   |       |       |
| Is it mandatory for utilities to provide reports of their energy usage, in a bill or by other means? | Yes   |       |
| 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   |       |
| Industrial customers   |       |       |
| At what intervals do customers receive these reports (times per year)?                               | 12    |       |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |     |
|--|-----|
| 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?        | No  |
| 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 |
| Industrial 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)

|   |    |
|---|----|
| 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 |

| <b>EE incentives from electricity rate structures</b> | <b>Score</b> | <b>74.07</b> |
|---|--------------|--------------|
| Residential customers                                 |              |              |
| Are customers charged a flat fee (per connection)?    | No           |              |
| Are customers charged constant block rates?           | Yes          |              |
| Are customers charged declining block rates?          | No           |              |
| Are customers charged increasing block rates?         | Yes          |              |
| Commercial customers                                  |              |              |
| Are customers charged a flat fee (per connection)?    | No           |              |
| Are customers charged constant block rates?           | Yes          |              |
| Are customers charged declining block rates?          | Yes          |              |
| Are customers charged increasing block rates?         | Yes          |              |
| Industrial customers                                  |              |              |
| Are customers charged a flat fee (per connection)?    | No           |              |
| Are customers charged constant block rates?           | Yes          |              |
| Are customers charged declining block rates?          | Yes          |              |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| Are customers charged increasing block rates?   | No  |
| Residential customers   |     |
| Do customers pay energy charges (per kWh)?  | Yes |
| Do customers pay demand charges (per kW)?   | No  |
| 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)?   | No  |
| 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)?   | No  |
| Do customers pay reactive power charges (per kVAR)?                                     | No  |
| 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  |
| Are tariffs adjusted according to seasons?  | Yes |
| Do customers pay according to time-of-day electricity use or receive peak-time rebates? | No  |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| 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?  | Yes |
| 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?                                   | No  |
| Are tariffs adjusted according to seasons?  | Yes |
| Do customers pay according to time-of-day electricity use or receive peak-time rebates? | No  |

| Incentives & mandates: large consumers   | Score | 16.67                                     |
|--|-------|---|
| What is the threshold for classifying large consumers?   |       | different threshold for each sector       |
| Large consumer EE mandate/incentive regulations  |       | Law No. 47-9 related to energy efficiency |
| Is it required for the consumption and/or savings of large-scale energy users to be tracked and documented on a regular basis? |       | Yes                                       |
| Are efficiency targets mandated for large consumers?   |       | No  |



## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| Details   | 0   |
| Are energy audits mandated for large consumers?   | Yes |
| 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  |
| Does the program offer assistance (from a government or independent entity) to large-scale users to identify energy savings | No  |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |             |
|---|-------------|
| investments opportunities?                                  |             |
| Primary Energy Consumption (MJ - latest GTF data from 2012) | 29025.84083 |

| 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 | 41.67                                     |
|--|-------|---|
| Name of utility energy efficiency regulation program                           |       | Law No. 47-9 related to energy efficiency |
| Electricity generation   |       |   |
| Are utilities required to carry out energy efficiency activities in this area? |       | Yes                                       |

## Regulatory Indicators for Sustainable Energy (RISE)

| Details   | Energy intensity |
|---|------------------|
| 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               |
| 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   | N/A              |
| 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?                          | Yes              |
| Details   | KWh              |
| 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 there penalties in place for non-compliance with EE requirements?  | No  |
| Is there a demand-side management department within the selected utility?  | Yes |
| Do utilities provide customers incentives for demand response, such as peak-time rebates?  | Yes |
| 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?  | Yes |
| Are these available as solely market-driven financing mechanisms without any direct government approval, subsidy, authorization or other mediation procedure?                        | Yes |
| 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  |
| Are these available as solely market-driven financing mechanisms without any direct government approval, subsidy, authorization or other mediation procedure?                        | No  |

## Regulatory Indicators for Sustainable Energy (RISE)

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

## Regulatory Indicators for Sustainable Energy (RISE)

|  |    |
|--|----|
| Are these available as government-driven financing mechanisms? | No |
|--|----|

| <b>Financing mechanisms for energy efficiency</b>   | <b>Score</b> | <b>83.33</b> |
|---|--------------|--------------|
| Residential sector  |              |              |
| Are there tax incentives available for energy efficiency investments?   | Yes          |              |
| 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?   | Yes          |              |
| Are energy services agreements or ESCOs available for energy efficiency investments?  | No           |              |
| Are green bonds available for energy efficiency investments?  | Yes          |              |
| Is vendor credit and/or leasing available for energy efficiency investments?  | Yes          |              |
| Are partial risk guarantees available for energy efficiency investments?  | No           |              |
| Are there any other financing mechanisms available for energy efficiency investments?   | 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           |              |

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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  |     |
| Are there tax incentives available for energy efficiency investments?   | Yes |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| 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?   | Yes |
| Are energy services agreements or ESCOs available for energy efficiency investments?  | Yes |
| 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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## Regulatory Indicators for Sustainable Energy (RISE)

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| 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  |
| Industrial sector   |     |
| Are there tax incentives available for energy efficiency investments?   | No  |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| 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?   | Yes |
| 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  |
| 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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## Regulatory Indicators for Sustainable Energy (RISE)

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|---|----|
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| 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 |

**Minimum energy efficiency performance standards**

**Score**

**11.11**

EE standards regulations

Law No. 47-9 related to

## Regulatory Indicators for Sustainable Energy (RISE)

|   | energy efficiency                     |
|---|---------------------------------------|
| Refrigerators   |                                       |
| Have minimum energy performance standards been adopted?                 | No                                    |
| Details of standards  | N/A                                   |
| 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?                 | Yes                                   |
| Details of standards  | 20 C for heating and 26 C for cooling |
| 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? | Yes                                   |
| Are the standards based on external/international standards?            | No                                    |
| Lighting equipment  |                                       |
| Have minimum energy performance standards been adopted?                 | No                                    |
| Details of standards  | N/A                                   |
| Is there a verification program in place?                               | No                                    |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |    |
|---|----|
| 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   |    |
| Have minimum energy performance standards been adopted?                 | No |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |    |
|---|----|
| 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 |

| <b>Energy labeling systems</b>                                    | <b>Score</b> | <b>50</b> |
|---|--------------|-----------|
| Refrigerators   |              |           |
| Have energy efficiency labeling schemes been adopted?             | Yes          |           |
| Is the labeling scheme mandatory?                                 | Yes          |           |
| Is the labeling scheme based on external/international standards? | No           |           |
| Air conditioners  |              |           |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| Have energy efficiency labeling schemes been adopted?             | Yes |
| Is the labeling scheme mandatory?                                 | Yes |
| Is the labeling scheme based on external/international standards? | No  |
| Lighting equipment  |     |
| Have energy efficiency labeling schemes been adopted?             | Yes |
| Is the labeling scheme mandatory?                                 | Yes |
| 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  |
| Is the labeling scheme mandatory?                                 | No  |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |    |
|---|----|
| 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 |

| <b>Building energy codes</b>   | <b>Score</b>                              | <b>26.67</b> |
|--|---|--------------|
| Are there energy efficiency codes for new residential buildings?   | Yes                                       |              |
| Are there energy efficiency codes for new commercial buildings?  | Yes                                       |              |
| Is the energy efficiency code for new residential buildings its own stand-alone, separate code or part of the overall building code? | Yes                                       |              |
| Is the energy efficiency code for new commercial buildings its own stand-alone, separate code or part of the overall building code?  | Yes                                       |              |
| Is there any provision for regular updates to the code for new residential buildings?  | Yes                                       |              |
| Is there any provision for regular updates to the code for new commercial buildings?   | Yes                                       |              |
| EE building code regulations   | Law No. 47-9 related to energy efficiency |              |
| When was the code last updated for residential buildings?  | 2014                                      |              |
| When was the code last updated for commercial buildings?   | 2014                                      |              |
| Is there a system to ensure compliance with building energy efficiency codes?  | No  |              |



## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| 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?   | Yes |
| 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  |
| 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 | No  |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |    |
|--|----|
| of new building stocks that must be LEED certified)? |    |
| Details  | 0  |
| LEED incentives                                      | No |
| Local program details                                | 0  |

| <b>Carbon Pricing</b>  | <b>Score</b> | <b>0</b> |
|--|--------------|----------|
| 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

| <b>Legal framework for renewable energy</b>                                    | <b>Score</b> | <b>100</b>                                 |
|--|--------------|--|
| Does a legal framework for renewable energy development exist?                 |              | Yes  |
| Name of the Law  |              | Law n°13-09 relative to renewable energies |
| Is private sector ownership of renewable energy generation legally authorized? |              | Yes  |

| <b>Planning for renewable energy expansion</b>  | <b>Score</b> | <b>73</b> |
|---|--------------|-----------|
| Does an official renewable energy target exist? |              | Yes       |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |  |
|--|--|
| Overall target   | The objective is to increase the contribution of renewables in primary energy consumption by nearly 5% in 2009 to 8% in 2012 to reach 10-12% in 2020 and 15-20% in 2030. Their share in the power generation will reach 42% in 2020, |
| Solar target   | 2000 MW  |
| Wind target  | 2000 MW  |
| Hydro target   | 2280 MW  |
| Biomass target   | 200 MW   |
| 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? | Yes  |
| Name of the institution  | 0  |
| Does an electricity generation plan that includes renewable energy development exist?      | Yes  |
| Name of the generation plan  | 0  |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |                           |
|--|---------------------------|
| Is the expansion plan based on a probabilistic approach?   | No                        |
| Does the current transmission planning consider renewable energy scale-up?   | Yes                       |
| Name of the transmission plan  | 0                         |
| Has the country conducted a variable renewable energy integration study?   | Yes                       |
| Name of the integration study  | 0                         |
| Year of the integration study  | in 2004, 2009 & 2014-2015 |
| 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?                            | Yes                       |
| 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? | Yes                       |
| Are the solar resource planning or zoning guidance outputs publically available?   | No                        |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| 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?                            | Yes |
| Wind atlas is validated by at least 5 ground-based measurements taken for a period of at least a year;  | Yes |
| Wind atlas has a spatial resolution of 5km or less;   | Yes |
| Wind atlas is based on modeling inputs covering at least a 10 year period;  | Yes |
| Wind 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 wind resources?                  | Yes |
| Has the wind resource planning or zoning guidance been undertaken as part of a strategic environmental and social assessment or equivalent process? | Yes |
| 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?   | No  |
| Hydro atlas is validated by ground-based water run-off data and/or site surveys from potential sites;   | No  |
| Hydro 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 hydro resources?                 | No  |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |     |
|--|-----|
| Has the hydro resource planning or zoning guidance been undertaken as part of a strategic environmental and social assessment or equivalent process?   | No  |
| Are the hydro resource planning or zoning guidance outputs publically available?   | No  |
| Does the country have sufficient resource abundance to warrant a biomass resource atlas?   | Yes |
| Does the country publish or endorse a national biomass resource map or atlas?  | Yes |
| Biomass atlas is validated by ground-based survey or officially reported data;   | Yes |
| Biomass atlas is accompanied by an explanation of the methodology and instrumentation.   | Yes |
| 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  |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |    |
|--|----|
| The government has supported the creation of a reservoir model at at least one site?   | No |
| 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?nt process? | No |
| Are the geothermal resource planning or zoning guidance outputs publically available?  | No |

| <b>Incentives and regulatory support for renewable energy</b>   | <b>Score</b> | <b>100</b> |
|---|--------------|------------|
| 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)   |              |            |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |     |
|--|-----|
| Solar Feed-in-tariff Max. capacity (single)      |     |
| 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 |



## Regulatory Indicators for Sustainable Energy (RISE)

|   |   |
|---|---|
| Auction 1 - Year                                  | 2011: launching of the tender   |
| Auction 1 - Technology                            | Wind  |
| Auction 1 - Project-specific tender and size (MW) | 150 MW  |
| Auction 1 - Auction for total and size (MW)       | 150 MW  |
| Auction 1 - Standard PPA and Term                 | 20 years from the commissioning   |
| Auction 1 - Price ceiling                         | No  |
| Auction 1 - Winning bid (\$ cents/kWh)            | 590 DH/MW   |
| Auction 1 - Government body in charge             | ONEE  |
| Auction 2 - Year                                  | 2012: Launching of the call for pre-qualification_x000D_2014 : tender delivered to the pre-qualified bidders_x000D_ |
| Auction 2 - Technology                            | Wind  |
| Auction 2 - Project-specific tender and size (MW) | 850 MW  |
| Auction 2 - Auction for total and size (MW)       | 850 MW in 5 locations   |
| Auction 2 - Standard PPA and Term                 | 20 years from the commissioning   |
| Auction 2 - Price ceiling                         | No  |
| Auction 2 - Winning bid (\$ cents/kWh)            | N/A   |
| Auction 2 - Government body in charge             | ONEE  |
| Winning bid guaranteed off-take                   | Yes   |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |     |
|--|-----|
| 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, investment tax credits, tax reductions?) | Yes |
| Investment tax credit  | No  |
| Accelerated depreciation   | No  |
| Reduction in import taxes  | Yes |
| Reduction in sales tax or other taxes  | 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?  | Yes |
| Are there mechanisms to compensate RE projects for lost generation due to certain curtailments after project commissioning?  | Yes |

| Attributes of financial and regulatory incentives  | Score | 67 |
|--|-------|----|
| 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?                                       | Yes   |    |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| Are tariffs indexed (in part or in whole) to an international currency or to inflation?   | Yes |
| 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 |
| If there is competitive bidding/auctions, are there provisions to ensure full and timely project completion (e.g., bid-bonds, project milestones, eligibility requirements) | Yes |
| 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?                           | No  |

| <b>Network connection and pricing</b>  | <b>Score</b> | <b>50</b> |
|--|--------------|-----------|
| Are there rules defining the allocation of connection costs?   | Yes          |           |
| What is the type of the connection cost allocation policy (i.e. shallow/deep)?   | Shallow      |           |
| 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 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?   | Yes          |           |
| connection cost document   |              | 0         |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |     |
|--|-----|
| 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 |
| Are there provisions in the power exchange rules that allow for plant forecasting?   | N/A |

| Counterparty risk  | Score | 62 |
|--|-------|----|
| 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   | 4     |    |
| Are the financial statements of the largest utility publicly available?  | 0     |    |
| Are the financial statements of the largest generation company publicly available?   | No    |    |
| Are the financial statements of the largest transmission company publicly available?   | No    |    |
| Are the financial statements of the largest distribution company publicly available?   | No    |    |
| 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                           | No    |    |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |       |
|--|-------|
| government)?   |       |
| Is the distribution loss rate published in a primary official document (by the utility, regulator or ministry and/or government)?                                | No    |
| Is the bill collection rate published in a primary official document (by the utility, regulator or ministry and/or government)?                                  | No    |
| 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)? | No    |
| Information Auditing   | 8     |
| 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?  | Yes   |
| Monitoring Reliability   | 0     |
| 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 data reported to the regulatory body?  | Yes   |
| Are the data available to the public?  | No    |
| Name of the selected utility   | LYDEC |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| data - 17.1. Current ratio (working capital ratio)        | 1   |
| data - 17.2 Debt Service Coverage Ratio                   | 11  |
| data - 17.3 Days payable outstanding                      | 797 |
| data - 17.4 EBITDA margin                                 | 0   |
| Current ratio (working capital ratio) of selected utility | 0   |
| Debt Service Coverage Ratio of selected utility           | 25  |
| Days payable outstanding of selected utility              | 0   |
| EBITDA margin of selected utility                         | 25  |

| <b>Carbon pricing and monitoring</b>   | <b>Score</b> | <b>0</b> |
|--|--------------|----------|
| 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       |