

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

### Energy Efficiency

| Indicator   | Score |
|---|-------|
| National energy efficiency planning                       | 83.33 |
| Energy efficiency entities                                | 100   |
| Information provided to consumers about electricity usage | 62.5  |
| EE incentives from electricity rate structures            | 77.78 |
| Incentives & mandates: large consumers                    | 66.67 |
| Incentives & mandates: public sector                      | 100   |
| Incentives & mandates: utilities                          | 16.67 |
| Financing mechanisms for energy efficiency                | 83.33 |
| Minimum energy efficiency performance standards           | 100   |
| Energy labeling systems                                   | 100   |
| Building energy codes                                     | 56.67 |
| Carbon Pricing  | 0     |
| <b>Total</b>  | 70.58 |

### Renewable Energy

| Indicator  | Score |
|--|-------|
| Legal framework for renewable energy                   | 100   |
| Planning for renewable energy expansion                | 60    |
| Incentives and regulatory support for renewable energy | 75    |
| Attributes of financial and regulatory incentives      | 100   |
| Network connection and pricing                         | 67    |
| Counterparty risk                                      | 47    |
| Carbon pricing and monitoring                          | 0     |
| <b>Total</b>   | 64.14 |

## Regulatory Indicators for Sustainable Energy (RISE)

**Overall Score**

44.91

### Energy Efficiency

| National energy efficiency planning                                      | Score | 83.33   |
|--|-------|---|
| Is there legislation or a national action plan that aims to increase EE? |       | Yes   |
| Name of EE legislation or action plan                                    |       | Energy Efficiency and Conservation Master Plan upto 23, March 215   |
| Is there an energy efficiency goal or target at the national level?      |       | Yes   |
| National target details  |       | savings 11-17 mil TOE in 2012-2015  |
| Is there a target for the residential sector?                            |       | No  |
| Target details   |       | 0   |
| Does the target have a milestone or deadline?                            |       | No  |
| Is there a commercial services sector target?                            |       | Yes   |
| Target details   |       | Increase proportion of travel demand using public transport by 10-15% by the year 2015  |
| Does the target have a milestone or deadline?                            |       | Yes   |
| Is there an industrial sector target?                                    |       | Yes   |
| Target details   |       | Reduction in energy consumption in steel, cement and textile industries (each have their own respective 2015 target reductions) |

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

| Energy efficiency entities   | Score                                 | 100 |
|--|---------------------------------------|-----|
| Are there governmental and/or independent bodies dedicated to setting EE strategy?                               | Yes                                   |     |
| Name of entity   | Ministry of Industry and Trade (MOIT) |     |
| Are there governmental and/or independent bodies dedicated to setting EE standards?                              | Yes                                   |     |
| Name of entity   | Relevant ministries                   |     |
| Are there governmental and/or independent bodies dedicated to regulating EE activities of energy suppliers?      | Yes                                   |     |
| Name of entity   | Relevant Ministries                   |     |
| Are there governmental and/or independent bodies dedicated to regulating EE activities of energy consumers?      | Yes                                   |     |
| Name of entity   | Relevant ministries                   |     |
| Are there governmental and/or independent bodies dedicated to certifying compliance with equipment EE standards? | Yes                                   |     |
| Name of entity   | 0                                     |     |
| Are there governmental and/or independent bodies dedicated to certifying compliance with building EE standards?  | Yes                                   |     |

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|  |     |
|--|-----|
| 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? | Yes |
| Name of entity   | 0   |

| <b>Information provided to consumers about electricity usage</b>                                     | <b>Score</b> | <b>62.5</b> |
|--|--------------|-------------|
| 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)?                               | 36           |             |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |     |
|--|-----|
| 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)?   | 36  |
| Do the reports include the price levels customers pay for energy usage?  | Yes |
| Does the regulator track utilities' compliance with laws for providing energy usage information to customers?        | Yes |
| Residential customers  |     |
| Do customers receive a bill or report which compares them to other users in the same region and/or usage class?      | No  |
| Method of comparison   | N/A |
| Commercial customers   |     |
| Do customers receive a bill or report which compares them to other users in the same region and/or usage class?      | No  |
| Method of comparison   | N/A |
| Industrial customers   |     |
| Do customers receive a bill or report which compares them to other users in the same region and/or usage class?      | No  |
| Method of comparison   | N/A |
| Residential customers  |     |
| Do customers receive a bill or report that shows their energy usage compared to previous bills or reports over time? | No  |
| Commercial customers   |     |

## Regulatory Indicators for Sustainable Energy (RISE)

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

| <b>EE incentives from electricity rate structures</b> | <b>Score</b> | <b>77.78</b> |
|---|--------------|--------------|
| Residential customers                                 |              |              |
| Are customers charged a flat fee (per connection)?    | No           |              |
| Are customers charged constant block rates?           | No           |              |
| Are customers charged declining block rates?          | No           |              |
| Are customers charged increasing block rates?         | Yes          |              |
| Commercial customers                                  |              |              |
| Are customers charged a flat fee (per connection)?    | No           |              |
| Are customers charged constant block rates?           | No           |              |
| Are customers charged declining block rates?          | No           |              |
| Are customers charged increasing block rates?         | Yes          |              |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| Industrial customers                                  |     |
| Are customers charged a flat fee (per connection)?    | No  |
| Are customers charged constant block rates?           | No  |
| Are customers charged declining block rates?          | No  |
| Are customers charged increasing block rates?         | Yes |
| Residential customers                                 |     |
| Do customers pay energy charges (per kWh)?            | Yes |
| Do customers pay demand charges (per kW)?             | 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  |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| 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  |
| Commercial customers  |     |
| Are customers charged based on real-time pricing?                                       | Yes |
| 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?                                       | Yes |
| 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

66.67

What is the threshold for classifying large consumers?

>1000TOE/year for industry, agriculture, transport enterprises and >500TOE/year for office,



## Regulatory Indicators for Sustainable Energy (RISE)

|  |  |
|--|--|
|  | hotel, restaurants,...                               |
| Large consumer EE mandate/incentive regulations  | Circular providing for EE measures in industries     |
| 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   |
| Details  | varies upon the sub-sector, no overall target exists |
| Are energy audits mandated for large consumers?  | Yes  |
| Are energy efficiency progress reports mandated for large consumers?   | Yes  |
| Interval of reports  | annually   |
| Are energy-management systems mandated for large consumers?  | Yes  |
| Details  | ISO 50001  |
| Are there penalties in place for non-compliance with regulatory obligations for large consumers?                               | Yes  |
| Is there a measurement and verification program in place?  | Yes  |
| Is verification done by a third party?   | No   |
| Are there financial incentives for large consumers to invest in energy efficiency?   | Yes  |
| Details  | preferred lending rate                               |
| Are there tax incentives for large consumers to invest in energy efficiency?   | Yes  |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |              |
|--|--------------|
| 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 investments opportunities? | No           |
| Primary Energy Consumption (MJ - latest GTF data from 2012)  | -22830.39829 |

| Incentives & mandates: public sector   | Score                                  | 100 |
|--|--|-----|
| Are there binding energy savings obligations for public buildings?   | Yes                                    |     |
| Are energy savings from efficiency activities at public buildings tracked (either in-house or by a third party)?   | Yes                                    |     |
| 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)? | Yes                                    |     |
| Are energy savings from efficiency activities at other public facilities tracked?  | Yes                                    |     |
| Is there a specific policy or mandated guidelines for public procurement of energy-efficient products and services?  | Yes                                    |     |
| Public procurement guidelines for EE   | Energy Efficiency and Conservation Law |     |
| Do public budgeting regulations and practices allow public entities to retain energy savings?  | Yes                                    |     |

## Regulatory Indicators for Sustainable Energy (RISE)

|                                     |  |
|-------------------------------------|--|
| Public budgeting regulations for EE | Energy Efficiency and Conservation Law |
|-------------------------------------|--|

|   |              |              |
|---|--------------|--------------|
| <b>Incentives &amp; mandates: utilities</b> | <b>Score</b> | <b>16.67</b> |
|---|--------------|--------------|

Name of utility energy efficiency regulation program

Electricity generation

Are utilities required to carry out energy efficiency activities in this area?

No

Details

Auxiliary thermal consumption < 5%;  
Specific heavy-duty diesel consumption < 23g/KWh

Are energy savings or other target indicators measured to track performance in meeting EE requirements?

No

Are the requirements measured/validated by an independent third party?

No

Are there penalties in place for non-compliance with EE requirements?

No

Are there mandates or incentives for new and/or brownfield co-generation?

No

Transmission & distribution

Are utilities required to carry out energy efficiency activities in this area?

Yes

Details

|   |              |              |
|---|--------------|--------------|
| <b>Financing mechanisms for energy efficiency</b> | <b>Score</b> | <b>83.33</b> |
|---|--------------|--------------|

## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| 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?   | No  |
| Are energy services agreements or ESCOs available for energy efficiency investments?  | No  |
| Are green bonds available for energy efficiency investments?  | No  |
| Is vendor credit and/or leasing available for energy efficiency investments?  | No  |
| Are partial risk guarantees available for energy efficiency investments?  | No  |
| Are there any other financing mechanisms available for energy efficiency investments?   | No  |
| 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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| Are these available as government-driven financing mechanisms?  | No  |
| Are these available as solely market-driven financing mechanisms without any direct government approval, subsidy,   | No  |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |   |
|---|---|
| authorization or other mediation procedure?   |   |
| Are these available as government-driven financing mechanisms?  | No  |
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| Are these available as government-driven financing mechanisms?  | No  |
| Details   | Japanese government financing for selected EE projects on an annual basis |
| 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?  | Yes   |
| Commercial services 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   |

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

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| Are green bonds available for energy efficiency investments?  | No  |
| Is vendor credit and/or leasing available for energy efficiency investments?  | Yes |
| Are partial risk guarantees available for energy efficiency investments?  | Yes |
| Are there any other financing mechanisms available for energy efficiency investments?   | Yes |
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| Are these available as government-driven financing mechanisms?  | No  |



## Regulatory Indicators for Sustainable Energy (RISE)

|   |   |
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| Are these available as government-driven financing mechanisms?  | Yes   |
| Details   | Japanese government financing for selected EE projects on an annual basis |
| 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  |

| Minimum energy efficiency performance standards | Score | 100                           |
|---|-------|-------------------------------|
| EE standards regulations                        |       | Vietnam Energy Standards TCVN |
| Refrigerators                                   |       |                               |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |   |
|---|---|
| Have minimum energy performance standards been adopted?                 | Yes   |
| Details of standards  | $E_{max} = 0,302 V_{adj} + 386$<br>(kWh/year) |
| Is there a verification program in place?                               | Yes   |
| Is it carried out by a third party?                                     | Yes   |
| Is there a penalty for non-compliance with energy efficiency standards? | Yes   |
| Are the standards based on external/international standards?            | No  |
| Air conditioners  |   |
| Have minimum energy performance standards been adopted?                 | Yes   |
| Details of standards  | EER <sub>min</sub> =2.6 (W/W)                 |
| Is there a verification program in place?                               | Yes   |
| Is it carried out by a third party?                                     | Yes   |
| 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?                 | Yes   |
| Details of standards  | 55lm/W  |
| Is there a verification program in place?                               | Yes   |
| Is it carried out by a third party?                                     | Yes   |
| Is there a penalty for non-compliance with energy efficiency            | Yes   |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |              |
|---|--------------|
| standards?  |              |
| Are the standards based on external/international standards?            | No           |
| Industrial electric motors  |              |
| Have minimum energy performance standards been adopted?                 | Yes          |
| Details of standards  | 70-95%       |
| Is there a verification program in place?                               | Yes          |
| Is it carried out by a third party?                                     | Yes          |
| Is there a penalty for non-compliance with energy efficiency standards? | Yes          |
| Are the standards based on external/international standards?            | No           |
| Other industrial equipment  |              |
| Have minimum energy performance standards been adopted?                 | Yes          |
| Details of standards  | 98.28-99.4%  |
| Is there a verification program in place?                               | Yes          |
| Is it carried out by a third party?                                     | Yes          |
| Is there a penalty for non-compliance with energy efficiency standards? | Yes          |
| Are the standards based on external/international standards?            | No           |
| Light duty vehicles   |              |
| Have minimum energy performance standards been adopted?                 | Yes          |
| Details of standards  | 21.5-6.5km/l |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| Is there a verification program in place?                               | Yes |
| Is it carried out by a third party?                                     | Yes |
| Is there a penalty for non-compliance with energy efficiency standards? | Yes |
| Are the standards based on external/international standards?            | No  |
| Heavy duty vehicles   |     |
| 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  |

| <b>Energy labeling systems</b>                                    | <b>Score</b> | <b>100</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  |              |            |
| Have energy efficiency labeling schemes been adopted?             | Yes          |            |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |     |
|---|-----|
| 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?             | Yes |
| Is the labeling scheme mandatory?                                 | Yes |
| Is the labeling scheme based on external/international standards? | No  |
| Other industrial 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  |
| Light duty vehicles   |     |
| Have energy efficiency labeling schemes been adopted?             | Yes |
| Is the labeling scheme mandatory?                                 | Yes |
| Is the labeling scheme based on external/international standards? | No  |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |    |
|---|----|
| 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>56.67</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?  | No   |              |
| Is there any provision for regular updates to the code for new commercial buildings?   | No   |              |
| EE building code regulations   | National Technical Regulation on Energy Efficiency Buildings |              |
| When was the code last updated for residential buildings?  | 2013   |              |
| When was the code last updated for commercial buildings?   | 2013   |              |
| Is there a system to ensure compliance with building energy efficiency codes?  | Yes  |              |

## 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?   | Yes |
| Are renovated commercial buildings required to meet a building energy code?   | Yes |
| 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?   | Yes |
| 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  | N/A |
| 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  |              | Electricity Law & Environmental Protection Law |
| Is private sector ownership of renewable energy generation legally authorized? |              | Yes  |

| <b>Planning for renewable energy expansion</b>  | <b>Score</b> | <b>60</b> |
|---|--------------|-----------|
| Does an official renewable energy target exist? |              | Yes       |



## Regulatory Indicators for Sustainable Energy (RISE)

|  |   |
|--|---|
| Overall target   | 5% of fuel mix, 4.5% of electricity generation. |
| Solar target   |   |
| Wind target  | 1,000 MW  |
| Hydro target   | 17,400 MW                                       |
| Biomass target   | 500 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   |
| Is the expansion plan based on a probabilistic approach?                                   | Yes   |
| Does the current transmission planning consider renewable energy scale-up?                 | No  |
| Name of the transmission plan  | 0   |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |     |
|--|-----|
| Has the country conducted a variable renewable energy integration study?   | No  |
| Name of the integration study  | 0   |
| Year of the integration study  | N/A |
| 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;  | Yes |
| Solar atlas has a spatial resolution of 5km or less;   | Yes |
| Solar atlas is based on modeling inputs covering at least a 10 year period;  | Yes |
| Solar 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 solar resources?                  | No  |
| Has the solar resource planning or zoning guidance been undertaken as part of a strategic environmental and social assessment or equivalent process? | No  |
| Are the solar resource planning or zoning guidance outputs publically available?   | No  |
| Does the country have sufficient resource abundance to warrant a wind resource atlas?  | Yes |
| Does the government publish or endorse a wind resource atlas or other data on the abundance and quality of the resource?                             | No  |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |     |
|--|-----|
| Wind atlas is validated by at least 5 ground-based measurements taken for a period of at least a year;   | No  |
| Wind atlas has a spatial resolution of 5km or less;  | No  |
| Wind atlas is based on modeling inputs covering at least a 10 year period;   | No  |
| Wind atlas is accompanied by an explanation of the methodology and instrumentation   | No  |
| Has the country carried out strategic planning or produced zoning guidance to inform the commercial development of wind resources?                   | Yes |
| Has the wind resource planning or zoning guidance been undertaken as part of a strategic environmental and social assessment or equivalent process?  | No  |
| Are the wind resource planning or zoning guidance outputs publically available?  | Yes |
| 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?                  | Yes |
| Has the hydro resource planning or zoning guidance been undertaken as part of a strategic environmental and social assessment or equivalent process? | No  |

## Regulatory Indicators for Sustainable Energy (RISE)

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

## Regulatory Indicators for Sustainable Energy (RISE)

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

| Incentives and regulatory support for renewable energy  | Score | 75                              |
|---|-------|---------------------------------|
| 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  |       | Yes                             |
| Feed-in tariff - Solar  |       | No                              |
| Feed-in tariff - Wind   |       | Yes                             |
| Feed-in tariff - Hydro  |       | Yes                             |
| Feed-in tariff - Biomass  |       | Yes                             |
| Feed-in tariff - Geothermal   |       | No                              |
| Government body in charge   |       | Ministry of Industry and Trade? |
| Projects guaranteed off-take  |       | Yes                             |
| Solar Feed-in-tariff Price (\$ cents/kWh)   |       | N/A                             |
| Solar Feed-in-tariff Max. capacity (single)   |       |                                 |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |   |
|--|---|
| Solar Feed-in-tariff Max. capacity (total)       |   |
| Solar Feed-in-tariff Closing date                |   |
| Wind Feed-in-tariff Price (\$ cents/kWh)         | 8   |
| Wind Feed-in-tariff Max. capacity (single)       | All projects  |
| Wind Feed-in-tariff Max. capacity (total)        | N/A   |
| Wind Feed-in-tariff Closing date                 | When electricity sale price is determined by market |
| Hydro Feed-in-tariff Price (\$ cents/kWh)        | 13  |
| Hydro Feed-in-tariff Max. capacity (single)      | 30 MW (or 60 MW of cascade hydro)                   |
| Hydro Feed-in-tariff Max. capacity (total)       | N/A   |
| Hydro Feed-in-tariff Closing date                | N/A   |
| Biomass Feed-in-tariff Price (\$ cents/kWh)      |   |
| Biomass Feed-in-tariff Max. capacity (single)    | All projects  |
| Biomass Feed-in-tariff Max. capacity (total)     | N/A   |
| Biomass Feed-in-tariff Closing date              | N/A   |
| 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                              | No  |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |    |
|---|----|
| Auction 1 - Year                                  |    |
| Auction 1 - Technology                            |    |
| Auction 1 - Project-specific tender and size (MW) |    |
| Auction 1 - Auction for total and size (MW)       |    |
| Auction 1 - Standard PPA and Term                 |    |
| Auction 1 - Price ceiling                         | No |
| Auction 1 - Winning bid (\$ cents/kWh)            |    |
| Auction 1 - Government body in charge             |    |
| Auction 2 - Year                                  |    |
| Auction 2 - Technology                            |    |
| Auction 2 - Project-specific tender and size (MW) |    |
| Auction 2 - Auction for total and size (MW)       |    |
| Auction 2 - Standard PPA and Term                 |    |
| Auction 2 - Price ceiling                         | No |
| Auction 2 - Winning bid (\$ cents/kWh)            |    |
| Auction 2 - Government body in charge             |    |
| Winning bid guaranteed off-take                   | No |
| Mandates  | No |
| Generation premium                                | No |
| Production tax credit                             | No |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |     |
|--|-----|
| 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  | Yes |
| Accelerated depreciation   | Yes |
| Reduction in import taxes  | Yes |
| Reduction in sales tax or other taxes  | No  |
| 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  |

| Attributes of financial and regulatory incentives   | Score | 100 |
|---|-------|-----|
| 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   |     |
| 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)? | Yes   |     |
| If there is a guaranteed tariff, is there a mechanism to differentiate tariffs based on the size of the generation plant?     | Yes   |     |



## Regulatory Indicators for Sustainable Energy (RISE)

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

| <b>Network connection and pricing</b>  | <b>Score</b> | <b>67</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)? | No           |   |
| Do the rules define the size and allocation of costs for transmission and distribution wheeling charges? (e.g., wheeling charges, locational pricing?)               | N/A          |   |
| Do the rules consider customer type/size in determining eligibility for purchasing electricity from a third party?   | N/A          |   |
| connection cost document   |              | (1) Decision on the support mechanism for development of wind power projects in Vietnam; (2) Decision on the support mechanism for development of biomass power projects in Vietnam; (3) Decision on Promulgation of Regulation on Avoided Cost Tariff and Standardized Power |

## Regulatory Indicators for Sustainable Energy (RISE)

|  | Purchase Agreement for Small Hydro Power Plants |
|--|---|
| Does the country have a grid code that includes measures or standards addressing variable renewable energy?                              | Yes   |
| 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   |

| <b>Counterparty risk</b>   | <b>Score</b> | <b>47</b> |
|--|--------------|-----------|
| Does the government offer or allow backing of utility payments (e.g. through a letter of credit, escrow account, payment guarantee, or other)? | No           |           |
| Information disclosure   | 17           |           |
| Are the financial statements of the largest utility publicly available?  | 0            |           |
| Are the financial statements of the largest generation company publicly available?   | Yes          |           |
| Are the financial statements of the largest transmission company publicly available?   | Yes          |           |
| Are the financial statements of the largest distribution company publicly available?   | Yes          |           |
| Are the financial statements of the largest retail electricity sales company publicly available?   | Yes          |           |
| Are the following metrics published in a primary official document (by the utility, regulator or ministry and/or government)?                  | 0            |           |

## Regulatory Indicators for Sustainable Energy (RISE)

|  |     |
|--|-----|
| Is the transmission loss rate published in a primary official document (by the utility, regulator or ministry and/or government)?                                | No  |
| 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   | 33  |
| Financial statements independently audited?  | 0   |
| Are the financial statements of the largest generation company audited?  | Yes |
| Are the financial statements of the largest transmission company audited?  | Yes |
| Are the financial statements of the largest distribution company audited?  | Yes |
| 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 |

## Regulatory Indicators for Sustainable Energy (RISE)

|   |                                    |
|---|------------------------------------|
| Are the data available to the public?                     | Yes                                |
| Name of the selected utility                              | Ho Chi Minh City power Corporation |
| data - 17.1. Current ratio (working capital ratio)        | 1                                  |
| data - 17.2 Debt Service Coverage Ratio                   | 3                                  |
| data - 17.3 Days payable outstanding                      | 39                                 |
| 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              | 25                                 |
| EBITDA margin of selected utility                         | 7                                  |

| <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       |