

Readiness for Investment in Sustainable Energy (RISE)

REVISED INDICATORS FOR THE GLOBAL ROLLOUT:
ENERGY EFFICIENCY

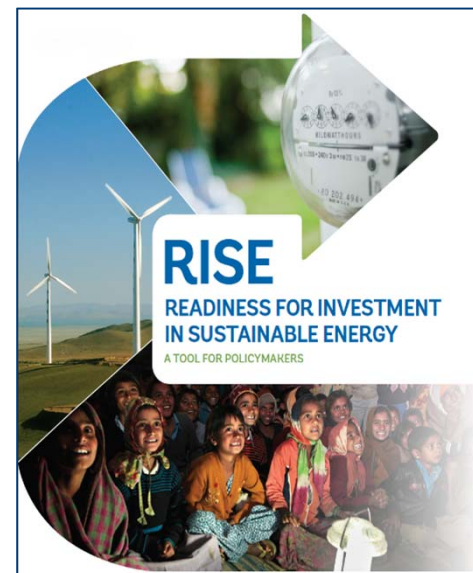
July 2015



Overview

RISE is a tool to help assess government support for sustainable energy investments

- A suite of indicators assessing policies, regulations, and support mechanisms for private investments
- A product of Sustainable Energy for All (SE4ALL) knowledge hub
- Separate sections cover each of the three SE4All pillars; renewable energy, energy efficiency and energy access
- Information is verified by the World Bank staff
- Results are published in a report and data is available online at <http://rise.worldbank.org>
- Pilot was conducted in 17 countries in 2014, first full global edition covering 110 countries in early 2016
- Annual/bi-annual updates will ensure information is up-to-date and RISE is a living resource



RISE Pilot Report, Nov 2014

Target audience

RISE is primarily a tool for policymakers – but it can benefit investors and anyone else with an interest in sustainable energy

Policymakers

- Design energy policies to achieve national and global sustainable energy objectives
- Identify best practices to support private energy investments and meet SE4All goals

Investors and developers

- Access to free, validated data on power sector policies and regulations for over 110 countries
- Identify countries that prioritize sustainable energy
- Receive support from new and more effective policies

Donors and funding agencies

- Identify potential high-impact policy reforms in each country
- Evaluate the success of a range of policy design elements

Other stakeholders

- Get access to a wealth of information on energy sector structure and policy around the world
- Compare country policy frameworks quickly and easily

Organization of indicators

RISE evaluates countries with indicators encompassing:

| | Planning | Policies and Regulations | Pricing and Subsidies | Procedural Efficiency |
|-------------------|--|---|---|--|
| Renewable Energy | National planning and institutions that support sustainable energy | Targeted incentives, mandates, and policies to promote sustainable energy | Sector-wide tariffs, subsidies, and structures that impact sustainable energy | Time and cost to establish sustainable grid/off-grid sustainable energy projects |
| Energy Efficiency | | | | |
| Energy Access | | | | |

All indicators have been carefully designed to be:




| | |
|-----------------|--|
| Objective | Yes/no or quantitative answers |
| Actionable | Under direct control of policymakers |
| Context neutral | Relevant independent of sector structure or maturity |
| Consensus | Widely agreed to support investment |

Scoring approach

RISE scores each indicator and pillar separately – but does not produce rankings

Scoring methodology

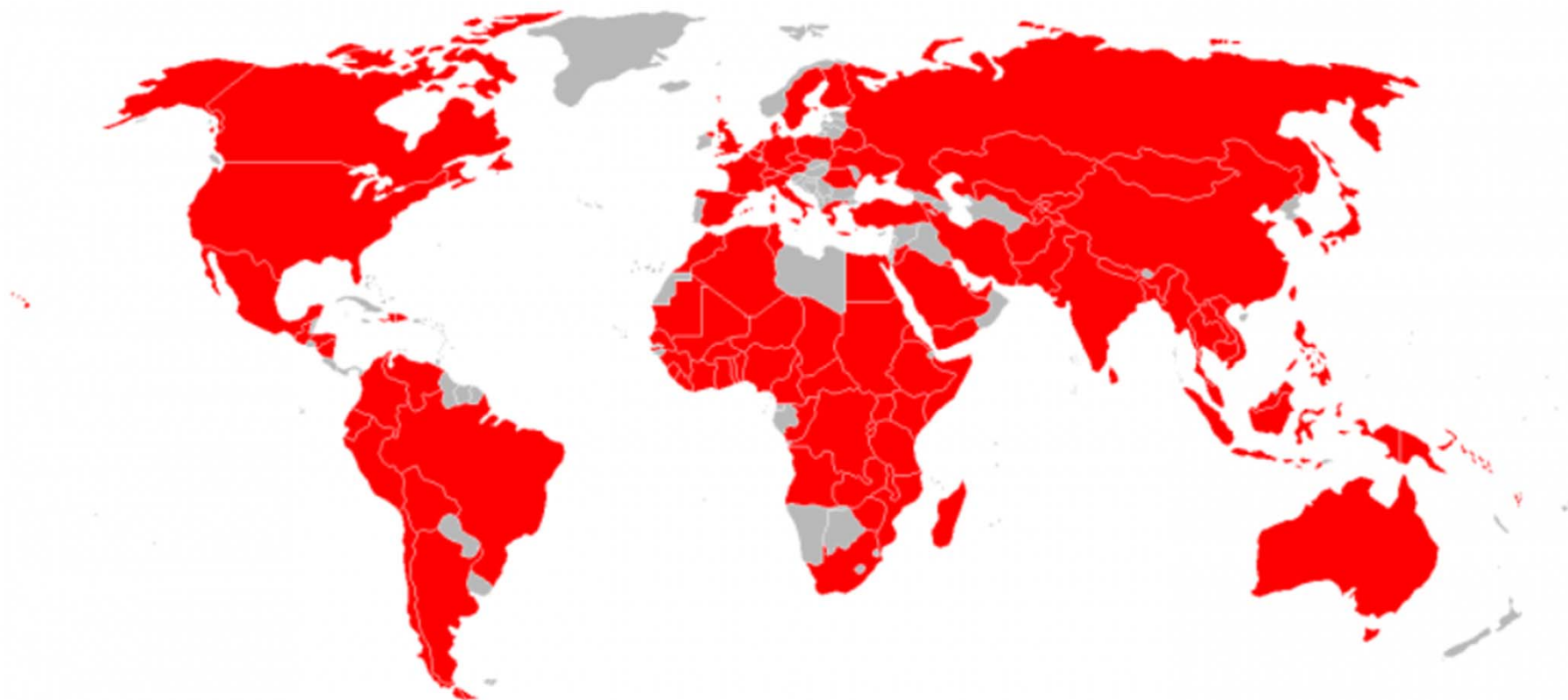
- **All indicators are objective, with either binary or quantitative answers**
- **Each indicator is scored between 0 and 100 and equally weighted**
- **Distance to frontier (DTF) method is applied for procedural efficiency category**
- **A “traffic light” color indicates overall performance**

| | |
|---|---|
|  | for countries with a score ≥ 75 , considered close to good practice |
|  | shows countries that are in between green and red |
|  | for countries with a scores ≤ 25 , presenting that they have a lot to improve to achieve good practice |

Expanded Scope for Global Rollout

RISE will cover 110 countries – including top 50 SE4All “high impact”^{*} for each pillar and 78 SE4LL opt-in countries^{}**

96% global population | 91% global energy consumption | 97% global access deficit



** Reported in Global Tracking Framework, 2015*

*** Those above 5 million population*

Country coverage

AFR (31)

Angola
Benin
Burkina Faso
Burundi
Cameroon
Chad
Côte d'Ivoire
D.R. Congo
Ethiopia
Ghana
Guinea
Kenya
Liberia
Madagascar
Malawi
Mali

Mozambique
Niger
Nigeria
Rwanda
Senegal
Sierra Leone
Somalia
South Africa
South Sudan
Sudan
Tanzania
Togo
Uganda
Zambia
Zimbabwe

EAP (15)

Cambodia
China
Hong Kong
Indonesia
Lao PDR
Malaysia
Mongolia
Myanmar
Papua New Guinea
Philippines
Solomon Islands
Taiwan
Thailand
Vanuatu
Vietnam

Country coverage (cont'd)

ECA (13)

Armenia
Azerbaijan
Belarus
Bulgaria
Hungary
Kazakhstan
Kyrgyz Republic
Romania
Russian
Tajikistan
Turkey
Ukraine
Uzbekistan

LAC (13)

Argentina
Bolivia
Brazil
Colombia
Dominican Republic
Ecuador
Guatemala
Haiti
Honduras
Mexico
Nicaragua
Peru
Venezuela

MNA (8)

Algeria
Egypt
Iran
Morocco
Saudi Arabia
Tunisia
United Arab Emirates
Yemen

SAR (7)

Afghanistan
Bangladesh
India
Maldives
Nepal
Pakistan
Sri Lanka

Country coverage (cont'd)

OECD high income (23)

| | |
|----------------|----------------|
| Australia | Korea, Rep. |
| Austria | Netherlands |
| Belgium | Poland |
| Canada | Portugal |
| Chile | Spain |
| Czech Republic | Sweden |
| Denmark | Switzerland |
| Finland | United Kingdom |
| France | United States |
| Germany | |
| Greece | |
| Israel | |
| Italy | |
| Japan | |

Dissemination of results

All pilot data and results are available online at rise.worldbank.org – overview of findings and country profiles published as stand-alone report

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Readiness for Investment in Sustainable Energy

DATA METHODOLOGY REPORTS CONTRIBUTORS ABOUT US

Readiness for Investment in Sustainable Energy (RISE) is a new World Bank Group project providing indicators that compare the investment climate of countries across the three focus areas of the Sustainable Energy for All (SE4ALL) initiative: energy access, energy efficiency and renewable energy. [Read more >](#)

What and how are we scoring?
Read about our scoring methodology.

Who are the donors?
We are thankful to our project donors.

Explore Data

Select an economy

- OR -

Select a topic

Performance of Economies ?

Renewable Energy Energy Efficiency Energy Access

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Map legends: ■ = high; ■ = medium; ■ = low.

Disclaimer: Country borders or names do not necessarily reflect the World Bank Group's official position. This map is for illustrative purposes and does not imply the expression of any opinion on the part of the World Bank, concerning the legal status of any country or territory or concerning the delimitation of frontiers or boundaries.

Tanzania EXPLORE SURVEY DATA

This page summarizes the RISE Survey data for Tanzania. The top section lists the overall performance(*) of the country across the three pillars for sustainable energy – Energy Access, Renewable Energy, and Energy Efficiency. The chart benchmarks the performance of the country in comparison to the lowest and highest scoring economies. The lower section consolidates the detailed results from the survey questionnaires and marks the performance of the country for each indicator.

Economy Overview
 Region : Sub-Saharan Africa
 Income Group : Low income
 Population : 47,783,107
 GNI Per Capita(US \$) : 570

GTF Indicators :
 Access to electricity (% of total population) : 14.8
 Energy intensity level of primary energy (MJ/\$2005 PPP) : 14.9
 Renewable electricity (% of total electricity output) : 58

RISE Results'

| | RENEWABLE ENERGY | ENERGY EFFICIENCY | ENERGY ACCESS |
|--------------------------|------------------|-------------------|---------------|
| Planning | ● | ● | ● |
| Policies and Regulations | ● | ● | ● |
| Pricing and Subsidies | ● | ● | ● |
| Procedural Efficiency | ● | - | ● |

RISE Score

| Category | Highest Score | Tanzania | Lowest Score |
|-------------------|---------------|----------|--------------|
| Renewable Energy | 92 | 34 | 6 |
| Energy Efficiency | 83 | 24 | 15 |
| Energy Access | 94 | 75 | 30 |

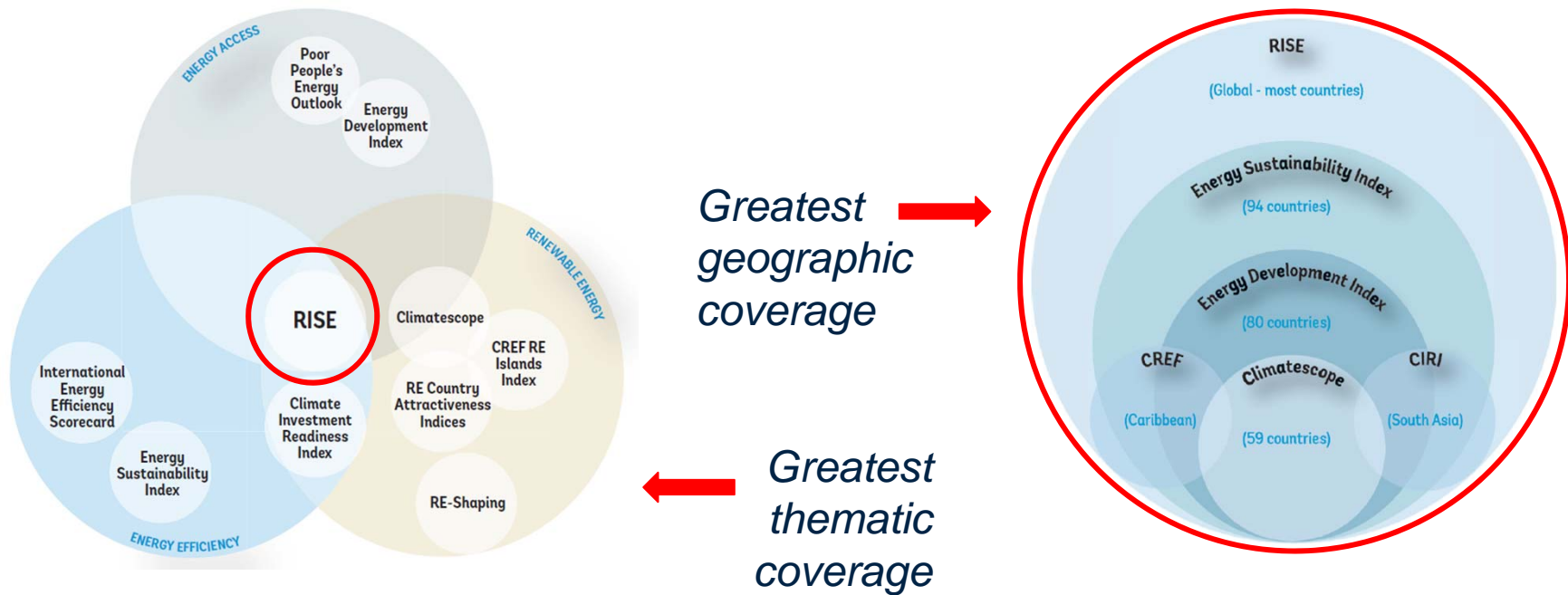
ENERGY ACCESS

Expand All

- Planning**
 - Electrification Plan ●
- Policies and Regulations**
 - Enabling Environment for Renewable Energy Developers to Invest in Mini-grids ●
 - Enabling Environment for Standalone Home Systems ●
- Pricing and Subsidies**
 - Funding Support to Electrification ●
 - Affordability of Electricity ●
 - Utility Performance ●
- Procedural Efficiency**
 - Establishing a New Connection ●
 - Permitting a Mini-grid ●

What makes RISE different from other indicator projects?

RISE has broad coverage, validated open data, and informs specific policy recommendations



But other initiatives cover topics RISE does not;
By working together we can provide a complete picture

Revision of indicators for global rollout

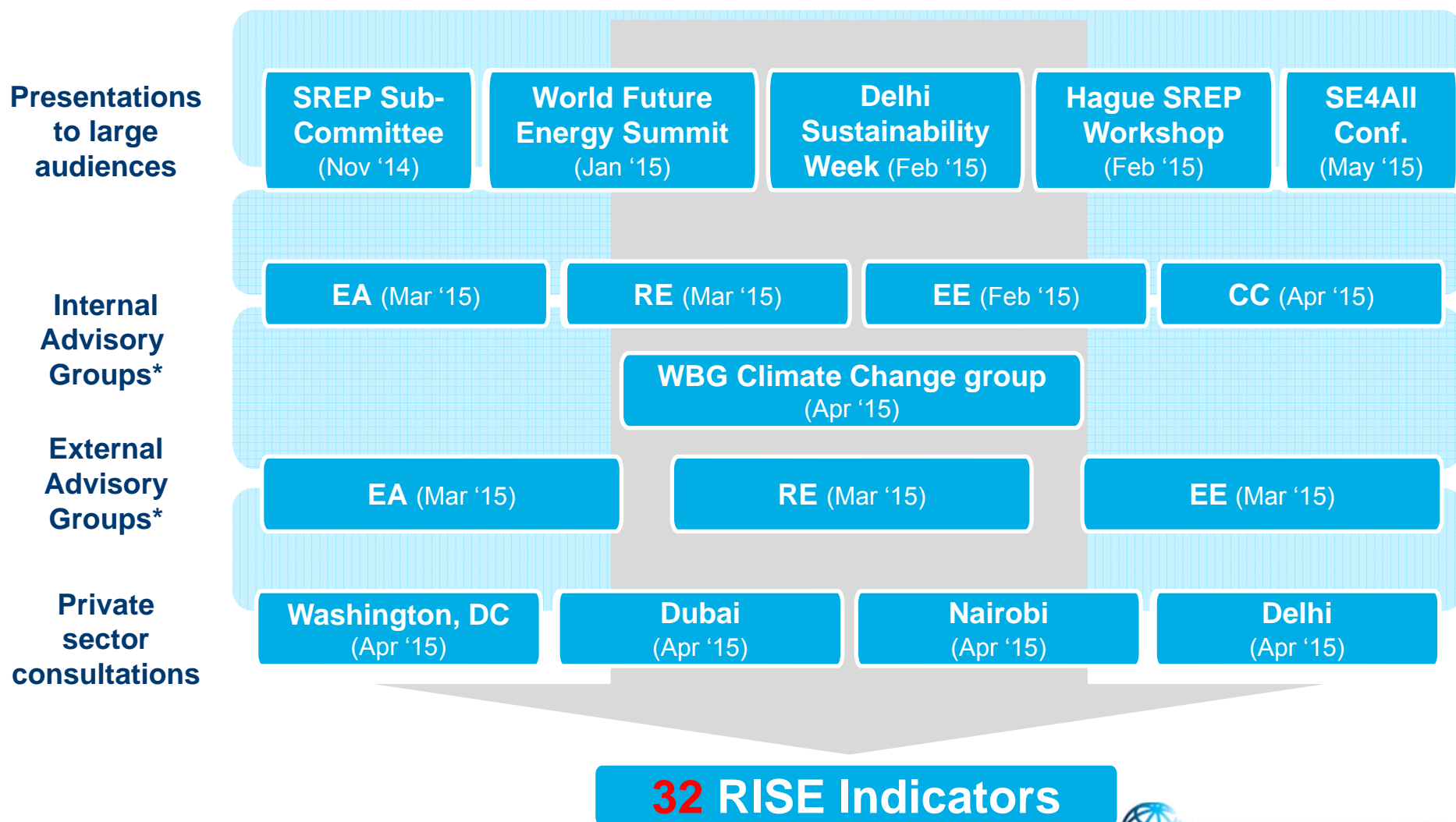
Based on the input from these consultations...

- Each pillar contains new indicators, sub-indicators and questions
- A number of existing indicators have been refined and re-worded to improve clarity or precision
- The methodology to calculate certain indicators has been refined
- Certain elements of the overall approach and methodology have been adjusted

| Pillar | Pilot | | | Global Rollout | | |
|---------------|----------------------|--------------------------|---------------------|----------------------|--------------------------|---------------------|
| | Number of indicators | Number of sub-indicators | Number of questions | Number of indicators | Number of sub-indicators | Number of questions |
| EA | 7 | 17 | 30 | 8 | 22 | 78 |
| EE | 10 | 44 | 85 | 13 | 35 | 96 |
| RE | 7 | 18 | 61 | 7 | 19 | 135 |
| Cross-cutting | 4 | 6 | (included in above) | 4 | 9 | 59 |
| Total | 28 | 85 | 176 | 32 | 85 | 368 |

Additional consultations

RISE has again gone through rounds of consultations with a wide group of stakeholders



Revisions – Overall Methodology

1. Unit of analysis

| | |
|---|--|
| Concerns raised in review meeting | <ol style="list-style-type: none">1. The current approach to assess policies in one state/province per country leaves RISE to poorly reflect the reality of many large, federal countries where policies differ widely by geographic area. Some indicators, e.g. building codes, typically even differ city to city, and all questions related to utilities/offtakers will likely have very different answers in countries with multiple service areas.2. Specifically, the choice of state with the largest city (and the utility servicing that city) will often skew scores high, as it is likely to be a relatively highly-developed area with wealthier customers who are easier to serve.3. Certain questions equate "municipal level" with "state government." These are terms of art and are not the same. |
| Proposed modifications for global rollout | <ol style="list-style-type: none">1. In 3 large, federal countries (US, India, Brazil), RISE will expand the analysis to three states, representing low, medium and high-income regions2. Codes or regulations that differ at the sub-regional level will still be assessed in the largest city in each state, but the options for level of government have been expanded to differentiate between state and local governments in many cases. |

Revisions – Overall Methodology

2. Weighting of Indicators

| | |
|---|---|
| Concerns raised in review meeting | <ol style="list-style-type: none">1. While each indicator is weighed the same, the individual questions are de facto weighted by how many comprise a single indicator. The project should make an effort to group sub-indicators in a way that doesn't overly discriminate among them2. For some indicators, scoring on a scale would be much more useful than simple binary answers3. Consider including certain thresholds in the overall scoring, such as requiring a minimum score be met on all indicators (or on certain select ones) |
| Proposed modifications for global rollout | <ol style="list-style-type: none">1. The team has considered grouping of sub-indicators informed by academic logic and consultations.2. The team decided not to score on a scale as it introduces subjective judgment.3. The team will evaluate the weighting of a few 'critical' indicators as a scenario. However, in the baseline, the indicators will remain unweighted.4. The user interface in the website will allow users to enter their own weights for each indicator and view the scores adjusted accordingly |

Revisions – Overall Methodology

3. Policy quality and implementation

| | |
|--|--|
| Concerns raised in review meeting | <ol style="list-style-type: none">1. While it is a challenge to evaluate the quality of policies using globally-relevant and objective indicators, RISE should strive to address key elements of policy design as much as possible. |
| Proposed modifications for global rollout | <ol style="list-style-type: none">1. New questions have been introduced in the planning modules (described further in the slides below) that capture whether policies have associated budgets and are tracked2. Questions to assess a number of additional policy attributes have been added to the Policy and Regulations modules for all three pillars. |

ENERGY EFFICIENCY

Indicator review for global rollout



RISE energy efficiency indicators for the global rollout

13 indicators, 33 sub-indicators

Planning

- National plan for increasing energy efficiency
 - Energy efficiency legislation/action plan
 - National energy efficiency targets
 - Sub-sectoral targets
- Entities for energy efficiency policies, regulation and implementation
 - Existence of entities
 - Dedicated budget

Policies and Regulations

- Quality of information provided to consumers
 - Reports on electricity usage
 - Quality of information in report
 - Comparison with other users
 - Energy saving information
- Incentives or mandates for energy supply utilities
 - Mandates for utilities
 - Cost recovery for utilities
- Incentives or mandates for public entities
 - Obligations for public buildings
 - Obligations for other public facilities
 - Public procurement of energy efficiency products
 - Multi-year contracts
 - Allowance to retain savings
- Incentives or mandates for large-scale users
 - Mandates for large-scale users
 - Incentives for large-scale users
 - Performance recognition
- Financing mechanisms for energy efficiency activities
 - Mechanisms in place
- Minimum energy efficiency performance standards
 - Standards in place
 - Regular update
 - Penalties for non-compliance
- Energy labeling system
 - Labeling systems in place
- Building energy codes
 - Codes in place
 - Compliance system
 - Renovated buildings
 - Building energy information
 - High quality incentive programs

Pricing and Subsidies

- Incentives from electricity pricing
 - Electricity rate structure
 - Charges for large customers
 - Time of use tariffs
- Fossil fuel subsidy
- Carbon pricing mechanism
 - Carbon pricing mechanism
 - MRV system
- Retail price of electricity
 - Residential users
 - Industrial users
 - Commercial users

Procedural Efficiency

- Securing building energy code approval
 - Time and cost of procedures
- Securing EE appliance standards certification
 - Time and cost of procedures

COMPOSITION OF ADVISORY GROUPS



Global rollout – Internal Advisory Group

| Name | Department |
|--------------------------|--------------------------------|
| Adrien de Bassompierre | Climate Change – CCSA |
| Alan David Lee | Energy & Extractives – GP |
| Alexandre Kossoy | Climate Change – CCSA |
| Alexios Pantelias | Trade & Competitiveness - GP |
| Ashok Sarkar | Energy & Extractives – GP |
| Bipulendu Narayan Singh | Energy & Extractives – GP |
| Dana Rysankova | Energy & Extractives – GP |
| Daniel Camos Daurella | Energy & Extractives – GP |
| Daniel J. Murphy | Energy & Extractives – GP |
| David Vilar Ferrenbach | Energy & Extractives – GP |
| Debabrata Chattopadhyay | Energy & Extractives – GP |
| Etienne Raffi Kechichian | Trade & Competitiveness – GP |
| Ivan Jaques | Energy & Extractives – GP |
| Jasneet Singh | Energy & Extractives – GP |
| Laurent Durix | Energy & Extractives – GP |
| Luiz T. A. Maurer | Climate Support Services – IFC |
| Masami Kojima | Energy & Extractives – GP |
| Mohua Mukherjee | Energy & Extractives – GP |
| Morgan Bazilian | Energy & Extractives – GP |
| Mustafa Zakir Hussain | Energy & Extractives – GP |
| Oliver James Knight | Energy & Extractives – GP |
| Peter Johansen | Energy & Extractives – GP |
| Pierre Audinet | Energy & Extractives - GP |
| Sean Whittaker | Climate Support Services – IFC |
| Venkata Ramana Putti | Energy & Extractives – GP |
| Vyjayanti T. Desai | Trade & Competitiveness – GP |
| Xiaoping Wang | Energy & Extractives – GP |
| Xueman Wang | Climate Change – CCSA |

Global rollout – External Advisory Group (Energy Efficiency)

| Name | Organization |
|--------------------------|--|
| John Christensen | UNEP-DTU Partnership |
| Timothy Clifford Farrell | Copenhagen Centre on Energy Efficiency |
| Scott Foster | UNECE |
| Sara Hayes | ACEEE |
| Rachel Young | ACEEE |
| Mark Hopkins | UN Foundation |
| Lauren Gritzke | UN Foundation |
| Ajay Mathur | Bureau of Energy Efficiency, India |
| Wolfgang Mostert | Independent |
| Robert P. Taylor | Independent |
| Tyler Bryant | IEA |
| Lorcan Lyons | IEA |
| Melanie Slade | IEA |
| Zoe Lagarde | IPEEC |
| Sandra Winkler | World Energy Council |
| Hongwei Yang | Beijing Energy Efficiency Center |
| Kornelis Blok | Ecofys |
| Jean-Marc Ollagnier | Accenture |
| Brian Dames | ESKOM |

* Indicates new members since Pilot