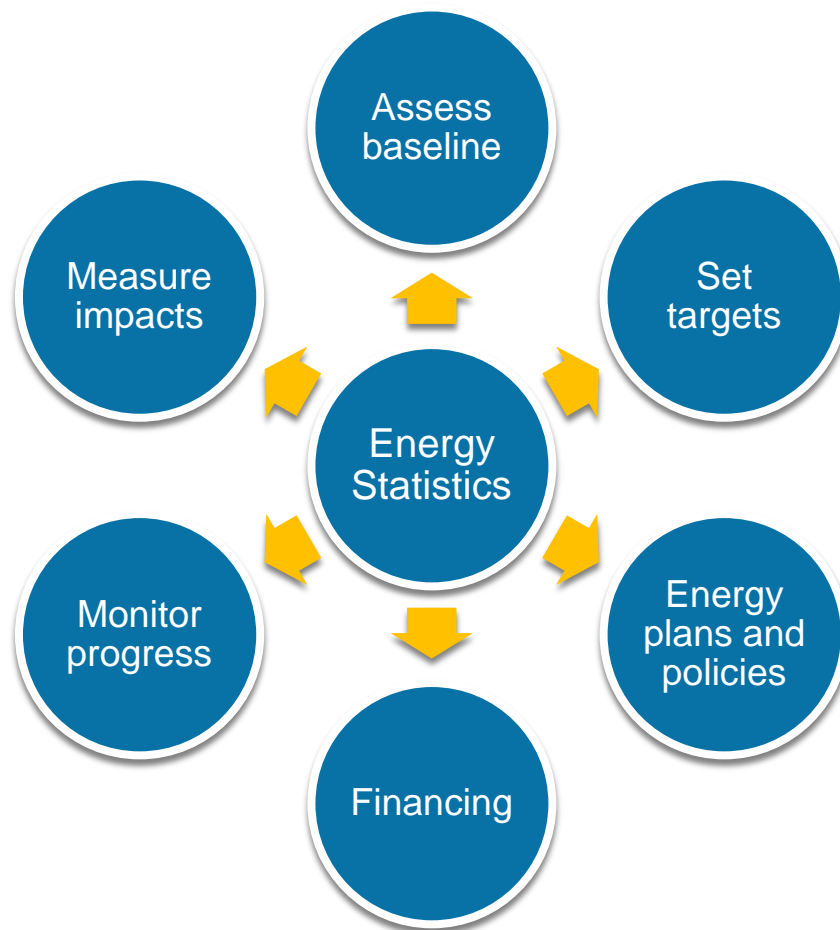


5. Assessment of data needs and capacity

IRENA Renewable Energy Statistics Training



Data collection challenges

1. Institutional and human resource capacity
2. Technical challenges
3. Timeliness of data collection

Capacity Needs Assessment Tool

Capacity needs assessment for renewable energy statistics



QUESTIONNAIRE FOR CAPACITY NEEDS ASSESSMENT

Instructions: For each of the following statements, tick respondents whether they agree or disagree. Respondents should indicate the strength of their answer using a five point scale (strongly agree, agree, neutral, disagree, strongly disagree). For questions where respondents do not have an opinion or are not in a position to give an answer, tick 'no answer'.

Statement	Comments	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.1 There is a legal framework for the collection of renewable energy statistics.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.2 Major actors in the renewable energy sector are required to provide data if requested.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.3 There is a lead agency with a mandate to collect renewable energy statistics.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.4 There is a consultation process to facilitate data collection and review procedures.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.5 There is adequate funding for the collection of renewable energy statistics.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.6 The production of renewable energy statistics is monitored and reviewed.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How national data is implemented		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.1 There are clear objectives for the collection of renewable energy statistics.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.2 Renewable energy statistics are used for policy monitoring.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- Guide to help energy statisticians understand the various elements and processes involved in renewable energy data collection and management.
- Includes assessment tools that countries can use to identify areas for improvement and suggests priority actions.

Solid legal and institutional framework

Well defined data requirements

Sufficient skilled personnel

Clear methodologies and processes

Appropriate data collection mechanisms

Analysis and validation procedures

Mechanism for data dissemination

Key Requirements for Effective Data Management

- Legal and Institutional frameworks
- Well-defined data requirements
- Sufficient skilled personnel
- Clear methodologies and processes
- Appropriate data collection mechanisms
- Analysis, review and validation procedures
- Mechanisms for data dissemination

1. Legal and Institutional Frameworks

- Refine/develop an institutional framework for the collection of renewable energy statistics.
 - A designated lead agency
 - Clear institutional roles and responsibilities
 - Well defined data collection, analysis, and validation processes
 - An annual timeline
- Adapt statistical laws to incorporate renewable energy statistics.
- Form a multi-agency renewable energy statistics working group.
- Develop and implement a multi-year strategic plan for the collection and reporting of renewable energy statistics.

2. Well-defined Data Requirements

- Define renewable energy data needs based on:
 - National objectives for renewable energy data collection
 - The current and future relevance of RE products

Objective	Required data
To measure progress towards a renewable energy target (as a share of final energy consumption)	Annual energy balance showing renewable energy consumption, including its share of heat and electricity consumption
To monitor short-term trends in the markets for renewable energy	Quarterly renewable capacity statistics, investment statistics, cost and price statistics
To monitor and adjust a feed-in-tariff programme for rooftop solar photovoltaic installations	Monthly statistics on new rooftop solar photovoltaic installations, electricity prices and solar panel costs
To monitor energy access, measured as the share of the population with an electricity supply	Annual statistics on the number of households connected to the national electricity grid and sales of solar home systems
To measure energy security	Annual energy balance showing net imports of energy as a share of final consumption, by sector

3. Sufficient Skilled Personal

- Ensure there are staff dedicated to the collection of renewable energy statistics in the lead agency.
- Promote the close cooperation of staff between key agencies.
- Provide regular renewable energy statistics training for core staff.
 - Questionnaire development
 - Renewable energy terms, classifications, units and definitions.
 - Sampling framework development
 - Data collection, processing and analysis
 - Etc.
- Provide sufficient training for enumerators.
 - Estimation methods (e.g. estimating the capacity of a solar panel on sight)
 - In-situ measurements
- Dedicate IT staff to work on database development, maintenance and dissemination platforms.

4. Clear Methodologies and Processes

- Develop consistent templates for the reporting of renewable energy statistics
- Develop nationally appropriate manuals for compilers that include all calculations and estimation methods
- Develop manual for enumerators that includes:
 - pictorial examples/ diagrams
 - guidance on how to make estimates
 - guidance on taking in situ measurements
- Ensure documentation and archiving of data and sources
 - Archive/ statistical working system for recording changes in historical data, data sources, estimates and other adjustments
 - Also include contact points and data collection timelines

5. Appropriate Data Collection Mechanisms

- The main instruments for collecting RE data are: household surveys; enterprise surveys and administrative data.
- Given survey costs, options for using existing data collection activities should be explored before starting new data collection exercise;
- Design a sample that takes into account characteristics of renewable energy e.g. regional availability of bioenergy resources.
- Consider the most appropriate survey method.
 - E.g. face-to-face interviews, telephone surveys, postal surveys, online surveys etc.
- Provide enumerators with the equipment and tools needed for in-situ measurements (e.g. scale, tape measure etc.)

6. Analysis, Review and Validation Procedures

- Conduct automated and manual checks to validate data collected
 - whether data is complete, internally consistent and realistic
- Data should be peer reviewed prior to publication.
- Conduct regular review of the process of collecting and reporting renewable energy statistics

7. Mechanisms for Data Dissemination

- Establish a regular release date for the publication of renewable energy statistics.
- Make renewable energy statistics available to the public in an easily accessible format.
- Promote the use of renewable energy statistics to support decision making.
- Consult with key data users to ensure to ensure that statistical activities support their needs.
- Considerations - will all data be made publically available? Are there issues of confidentiality or levels of data access?

Group Discussion

Capacity	Challenges	Examples of Good Practices
LEGAL AND INSTITUTIONAL FRAMEWORKS		
WELL-DEFINED DATA REQUIREMENTS		
SUFFICIENT SKILLED PERSONNEL		
CLEAR METHODOLOGIES AND PROCESSES		
APPROPRIATE DATA COLLECTION MECHANISMS		
ANALYSIS, REVIEW AND VALIDATION PROCEDURES		
MECHANISMS FOR DATA DISSEMINATION		



Thank you!