

Activity: Adapting the Renewable Energy Zone (REZ) Transmission Planning Process — Developing a Specific Planning Process

In this activity you will begin to develop a specific planning process for your country or region by working through parts of the first steps of the REZ process. The goal is to draft an organizational structure and become familiar with the necessary inputs for a REZ process.

This activity focuses on Steps 1 to 3 of the REZ Process shown in Figure 1 below. The activity is aimed at the [Lead Entity, Technical Advisory Committee, and Zone Identification and Analysis Working Group of a REZ process](#).¹

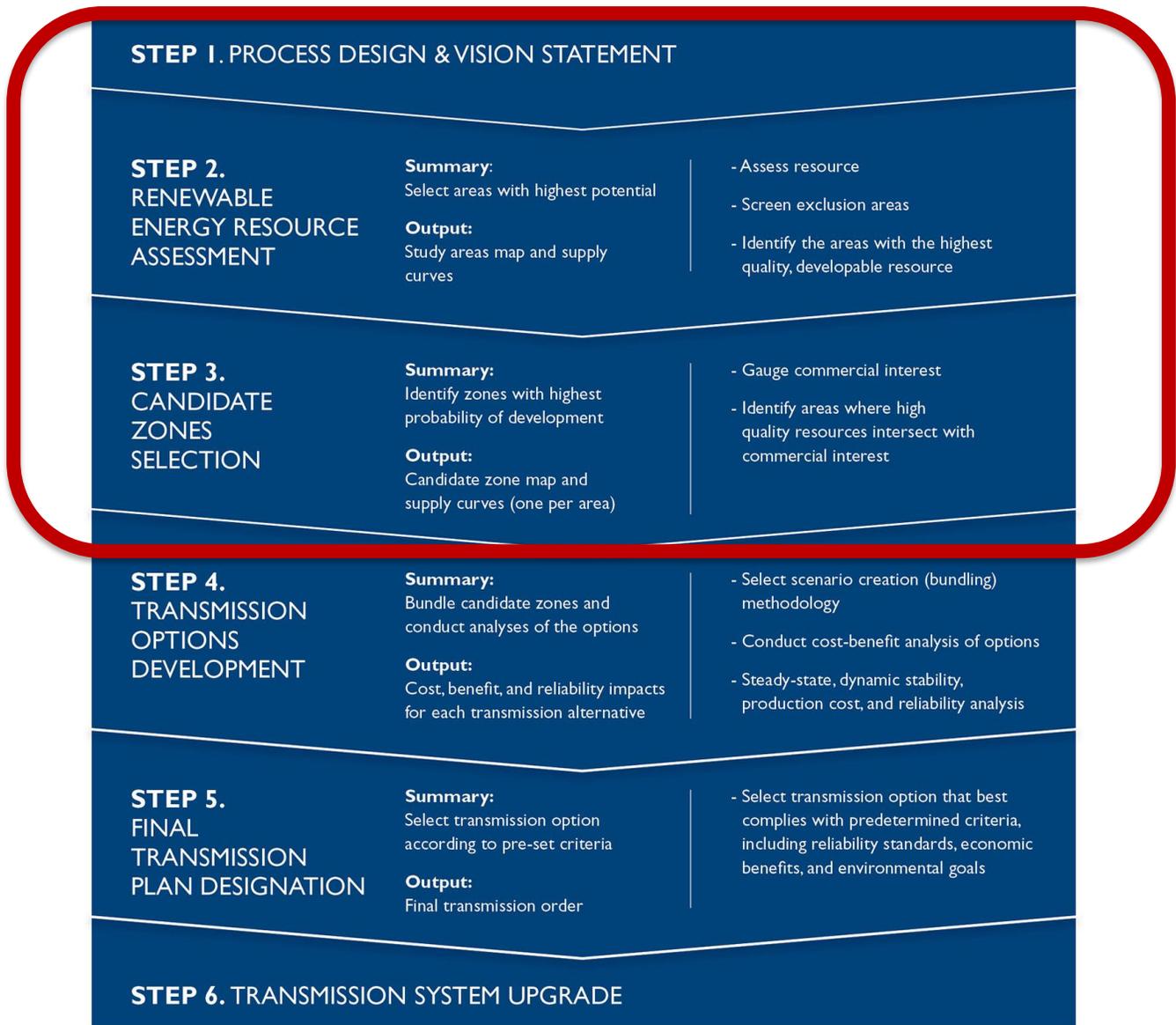


Figure 1. Renewable energy zones transmission planning process outline

¹ See <https://greeningthegrid.org/Renewable-Energy-Zones-Toolkit/guidebook/the-rez-process-organizational-structure> for more information.

Step 1. Process Design & Vision Statement

-  **Summary:** Design a power system-specific appropriate process and produce a vision statement
-  **Final outputs:** Vision statement and program design document
-  **Estimated time:** 3 months
-  **Central decision makers and stakeholders:** Lead Entity

Exercise 1: Organizational Structure

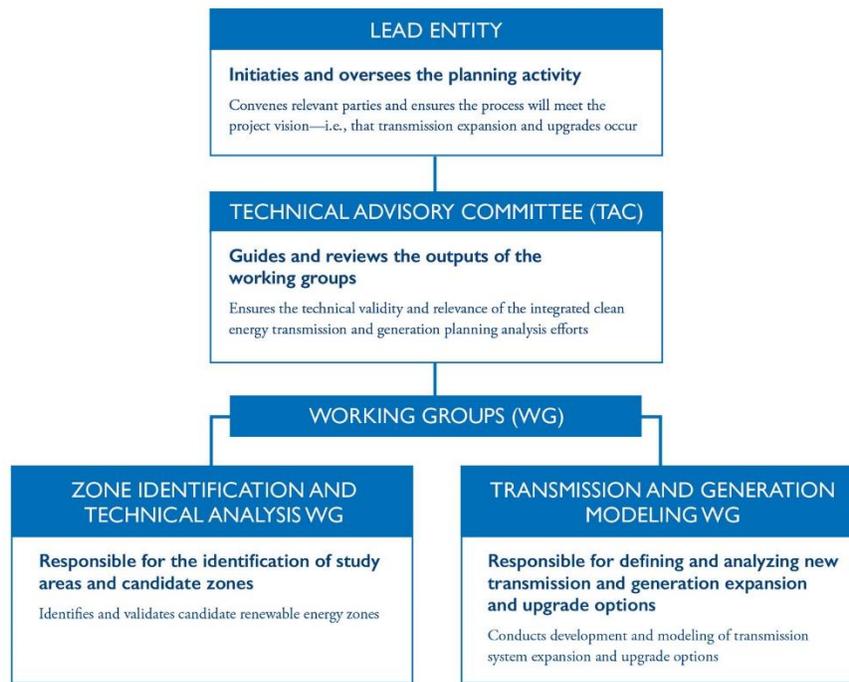


Figure 2. General REZ transmission planning organizational structure

The figure above proposes an organizational structure for an effective, stakeholder-inclusive REZ process, as referenced throughout this document. This general organizational structure may require modifications when applied to a specific country or other contexts. This begins with the Lead Entity—the decision maker that launches and oversees the planning activity and ensures its completion. A technical advisory committee (TAC) empowered by the Lead Entity guides and reviews the work of the REZ process. The working groups (WGs) conduct the technical and analytical work of the REZ process.

Discussion Questions:

A. Who leads and supports the REZ Process?

Complete the table below proposing the Lead Entity, TAC, Zone WG, and Transmission WG compositions.

Proposed **Lead Entity**

Proposed **TAC Composition**

Proposed **Zone WG Composition**

Proposed **Transmission WG Composition**

Exercise 2. Stakeholder Engagement

While laws and institutional frameworks vary from one power system to another, a successful REZs effort depends on active stakeholder engagement and the flow of information between stakeholders and decision makers throughout the process. The authority to plan for and approve investment decisions rests with the decision makers; however, stakeholder involvement is also critical to the REZ process. Although stakeholders do not make legal decisions, they have important interests in the electricity system and will be affected by those decisions. Often, stakeholders also have technical information and expertise that can enhance the decision.

Discussion Questions:

- A. In addition to the agencies identified in Exercise 1, what stakeholders should also be included in the REZ process as part of the TAC or an adhoc TAC? Complete the table below proposing potential stakeholders.

Electric Utilities

Renewable Energy Project Developers and/or Associations

Economic and Social Development Authorities

Environment, Natural Resource, and Land-Use Authorities

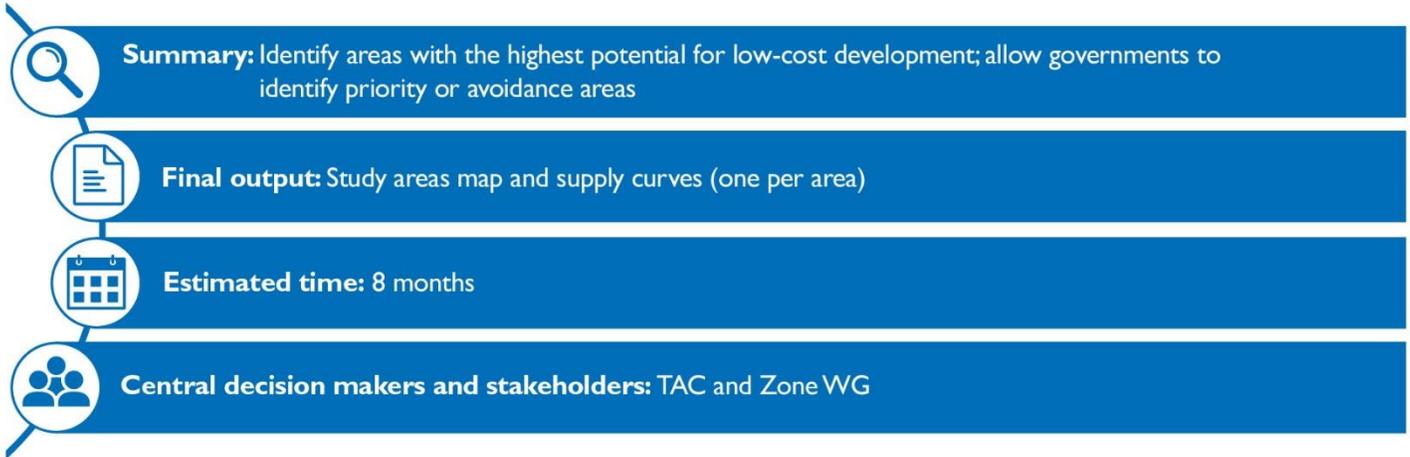
Environment, Wildlife, Social, and Other Interest Groups

Non-Governmental Organizations

Local Residents and Business Owners

Other Stakeholder Groups

Step 2. Renewable Energy Resource Assessment



Exercise 3. Technical Potential Assessment

The technical renewable energy potential estimates the achievable installed capacity and generation of a specific technology based on the topographic limitations, land use constraints, and system performance. This step identifies areas with abundant renewable energy resources that are technically developable.

The Zone WG screens the theoretical renewable energy potential (data often presented in the form of a renewable energy resource map) with the areas not available for project development. This process can also highlight known priority renewable energy development areas (such as “ecotowns” or economic development areas) to identify the set of study areas—the output of the technical resource analysis.

Discussion Questions:

- A. What are the renewable energy resources considered in your REZ process²

- B. Are there any land types that should be considered *priorities* for RE development?
Examples: Eco-towns, provincial or local development areas that provide eligibility for special benefits like expedited permitting or other special incentives for RE projects.

- C. Which types of lands should be excluded from consideration for utility-scale RE project development?
Standard technical exclusions are identified for land-based solar photovoltaics (PV) and on-shore wind.

	Type of land	Solar PV	Wind
		Exclude? (Yes/No)	
Technical exclusions	Wetlands and water bodies	Yes	Yes
	Urban areas	Yes	Yes
	High slopes <ul style="list-style-type: none"> • Solar >5% • Wind >20% 	Yes	Yes

² See Setting a Vision Statement for the Renewable Energy Zone (REZ) Process – Defining the Scope of a Project on the REZ Toolkit <https://greeningthegrid.org/Renewable-Energy-Zones-Toolkit/tools-templates>

	<i>Specify other:</i>		
Environmental exclusions	Federally-protected areas (e.g., national parks)	Yes	Yes
	<i>Specify other environmentally sensitive areas (national forests, wildlife protection areas, coastal or marine protection areas, etc.):</i>		
Social/ economic exclusions	Indigenous communities		
	Economic development zones		
	<i>Specify other lands with special economic or social classification:</i>		
Land use exclusions	Agricultural		
	Forest		
	<i>Other:</i>		
Other exclusions	<i>Specify any other considerations that would exclude particular areas from RE development</i>		

D. Can you identify a source for spatial data for each of the exclusions identified above?
List the exclusions and the potential data source in the table below.

Exclusions	Potential Spatial Data Source
Technical Exclusions	
Environmental exclusions	
Social/ economic exclusions	
Land use exclusions	
Other exclusions	

Step 3. Candidate Zones Selection



Summary: Select areas with the highest probability of commercial development



Final output: Candidate zones map



Estimated time: 2–6 months



Central decision makers and stakeholders: TAC and Zone WG

Exercise 3. Candidate Zone Selection

Private renewable energy project developers have valuable knowledge and information that can enhance decision-making. Certain areas with excellent renewable energy resources may not be attractive to private developers for reasons the previous assessment step (step 2 of the REZ process) fails to capture. To gauge the likelihood of development occurring in the identified study areas, the Zone WG and the regulatory authority (or other relevant authority) request indications of commercial interest from private developers. The regulatory authorities determine the threshold that constitutes enough commercial interest or financial commitment by developers for a zone to be considered a candidate zone.

Private developers can demonstrate financial commitment or commercial interest in different ways. Valid indicators of commercial interest are those that cost the developer money. The acceptable forms of commitment can be specified during step 1—*Program Design and Vision Statement of the REZ process*. Examples of commercial interest and financial commitment may include:

- Pending or signed interconnection agreements
- Leasing agreements
- Letters of credit
- Interconnection studies by a transmission owner or grid operator (see box below)
- Any other indication deemed appropriate by the regulatory authority.

Acceptable examples of interest should be identified in advance. This provides public transparency and a standard list of metrics that allow information to be aggregated and systematically compared across all REZ study areas.

Discussion Questions:

- A. What regulatory authority or other authority (such as ministry of energy) would likely lead this activity (such as determine the acceptable forms of financial and commercial interest evidence and thresholds and collect and hold potentially proprietary/sensitive data)
 - Do any similar processes exist now? What entities conduct these processes?

