



**Institutional and Regulatory  
approach to successful  
implementation of RE projects  
*(some aspects)***

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Raushana Chaltabayeva, Partner Unicase

# On the governmental side: key elements to address

## WHO

are the key players?

- **MoE**
- **RE Agency**
- **GRID**
- **System operator**
- **Local authorities**
- **Off-taker, etc.**

- ✓ Functions/Competence
- ✓ Rights & obligations
  - ✓ Responsibility
  - ✓ Credibility
  - ✓ Incentives
- ✓ Transparency
- ✓ Political will

## WHAT

are the instruments to use?

- **Programs (regional, sectors)**
  - **Roadmaps**
- **Primary & secondary laws**
  - **Instructions**
  - **Standards**

- ✓ RE laws
- ✓ Land regulations
- ✓ Grid laws
- ✓ Electricity rules
- ✓ Construction laws
- ✓ Environmental laws

## HOW

are the procedures set?

- **Policy objectives/Targets**
- **Planning** (siting planning, goals, grid capacity, grid development, measurements, etc.)
- **Design** (auctions, project auctions, PPPs, public procurement, etc.)
- **Timelines** (auction schedules, project completion timelines)
- **Permitting procedures** (land, **grid connection**, construction permits&standards, net metering, etc.)
- **PPA/CGA/other agreements**
- **Preferences** (taxes, customs, land grants, subsidies, guarantees)
- **Monitoring**

# Power sector: planning, implementation, monitoring

*Support of the targets by a stable policy, regulatory framework, step-by-step roadmaps & regular progress reports*



**Grid  
Connection**  
Off-grid areas  
Small RE

Land (land-use compatibility)  
Permitting procedures (connection, EPC, O&M,  
etc.)  
Cost recovery for RE developers (tariffs)  
Project finance  
**Off-takers**  
Templates (PPA, GCA templates, etc.)

# RE Development Planning

## Mistakes (regional practice)

- ✗ **Uncertainties** regarding governmental renewable energy **strategy and targets**
- ✗ Tendency of the governments to **change course frequently**, reconsidering previously adopted measures and resulting in a lack of long-term vision
- ✗ **Case-by-case** approach to support

## Suggestions

- ✓ Establish **clear strategy** for renewable energy targets in **total and for each sector** (*energy industry, residential / commercial buildings, transport and district heating, etc.*)
- ✓ The government should keep up the commitment
- ✓ The law should explicitly indicate where exactly RE projects can be and cannot be developed and should introduce **limits on RE installed capacity or generated electricity**, which can be **eligible for support**
- ✓ RE planning would be secured/improved by clarifying status and methods of the **RE Siting Plan** (next slide)

## RE Siting Plan

— as a mechanism to control the RE development and prioritize projects depending on **regional needs**, grid capacity, **land-use compatibility**, etc.

### Objectives of the siting plan:

- Clarity on the *regional needs for the energy*
- Clarity on *RE development status and expectations for future (targets)*
- Clarity on *technical capacity* of the system to integrate RE (*by defined area*)
- Clarity on the *auction schedules*



## Key Player: strong off-taker

Certainty about **long-term creditworthiness** of the off-taker

Establishing international best practice in the off-taker's structure, operations and **corporate governance**

Implementation of sustainable cost recovery policies

**Corporate guarantees**, short-term secured funds (**reserves**)



## Key Player: guaranteed grid access (policies & regulations)

Clear **plans for installation of new capacity** in each electrical zone  
(incl. critical areas of the grid)

Attractive & clear **technical rules** to account for physical specifics of RE facilities

Clear procedures for **generation forecasting and demand management, monitoring** of RE projects at both production and development stages

Bankable PPA and greed agreements  
(incl. **Take-or-Pay and curtailment**)



## Key Player: guaranteed grid access (PPA & grid agreements)

### TOP & curtailment combined within PPA

- ✓ **RE off-taker** pays for: the total volume of electricity received by the grid & amount of energy curtailed by the grid
- ✓ **RE producer** calculates the amount of deemed electric energy and curtailed energy for the curtailment period using the agreed methodology
- ✓ Allowable **reasons of curtailment** should be specified in detail in the PPA

**PPA** guaranteed purchase of a certain amount of electricity generated from RES (take or pay - ToP)

- ✓ **RE producer** undertakes to produce electricity up to the **max volumes** specified in PPA &
- ✓ **Off-taker** pays a **certain part of such volumes, regardless** of how much electricity was actually supplied to the grid

**Guarantee to accept all produced electricity from RES via agreements with grid (Curtailment)**

- ✓ **Grid organizations** can restrict the grid for a certain period of time for various reasons &
- ✓ If the **restriction exceeds** certain period of time, losses incurred by RES stations **should be compensated by energy transmission organizations**



# Monitoring: Fundamental Concepts

The Monitoring should fulfill 2 main functions

- 1 provide information on **completed projects** (producing plants) - affects all already operating RE facilities
- 2 provide information on **projects under development** - how projects are moving through respective milestones, how fast, whether there are systematic problems etc., and it also allows prediction of fulfilment of RE targets



## Monitoring: Possible Milestones - Monitoring Tool (example)

- |   |   |
|---|---|
| <ul style="list-style-type: none"><li>▼ <b>PPA</b></li><li>▼ Monitoring of yield</li><li>▼ Project documentation</li><li>▼ Verification / Approvals</li><li>▼ Technical condition</li><li>▼ <b>Connection point (approvals, GCA)</b></li><li>▼ <b>Long-term land use rights</b></li></ul> | <ul style="list-style-type: none"><li>▼ Automated Commercial Electricity Metering System</li><li>▼ Financial Arrangements</li><li>▼ Equipment Order</li><li>▼ <b>Commencement of site works</b></li><li>▼ <b>Construction completion</b></li><li>▼ <b>Energy Production (regular reporting)</b></li></ul> |
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## Efficient RE Agency: Powers & Functions

Based on the international best practice, it is recommended to create a separate agency [under the Ministry of Energy] with the following possible *powers and functions*:

- ✓ *accounting, storage, systematization and generalization of data on **RE potential***
- ✓ *organization and conduct of research in connection with measurements of RE potential (independently or with the assistance of experts)*
- ✓ ***monitoring** process of preparation and implementation of RE projects, including for purpose of tracking progress in achieving the RE targets*
- ✓ *tracking information on **historical costs** in connection with measurements of RE potential & establishment of cost and terms for obtaining such information by potential bidders*
- ✓ *assistance in development of **regulatory & technical documents, standards***
- ✓ *preparation of information / documentation / **approvals** packages for **reserved land plots, connection points, measurements, etc.** (as part of assistance for elaboration of the project **for auctioning**)*
- ✓ *assistance to RE auction organizer during selection of potential participants at the **(pre)qualification stage (financial, legal, technical expertise)***



# Raushana Chaltabayeva

Partner

E: [raushana.c@unicaselaw.com](mailto:raushana.c@unicaselaw.com)

[www.unicaselaw.com](http://www.unicaselaw.com)

