TECHNICAL REQUIREMENTS – WIND FARMS (Tender with Energocom, ~105 MW)

1) Type of Power Plant

- Onshore wind farms (land-based).

- Turbines must be commercial, proven models, not prototypes.

- Reconditioned or second-hand equipment is not allowed.

- All equipment must be new at the time of installation.

2) Wind Turbine Requirements

Turbine Class: IEC Class II or III (suitable for Moldova's wind conditions)

Rated Power per Turbine: ≥ 3 MW recommended (4–6 MW commonly used)

Rotor Diameter: ≥ 100 m

Hub Height: ≥ 80 m (120–140 m recommended)

Turbine Warranty: Minimum 10 years

3) Electrical & Control System Requirements

- SCADA system with remote access and integration with Moldelectrica.

- Turbines must support active power curtailment.

- Voltage & frequency regulation must follow Moldova Grid Code.

- Required protections: overvoltage, undervoltage, ROCOF, anti-islanding.

4) Grid Connection

- Connection at 110 kV or 35 kV depending on site.

- Requires Grid Connection Permit from Moldelectrica / Premier Energy.

- Developer finances 100% of connection infrastructure.

5) Mandatory Studies & Permits

Wind Study (≥ 12 months, met mast or LiDAR)

Environmental Impact Assessment (EIA)

Urban Planning Approval

Civil Aviation Obstacle Clearance

6) Commercial Terms

Maximum Tariff Offered: ~1.50 MDL/kWh (excl. VAT)

Contract Duration: 15 years with Energocom

Commercial Model: Competitive Feed-in-Premium

7) Typical Turbine Models Proposed

Vestas: V136, V150 (3.6–5.6 MW, hub height 112–166 m, rotor 136–150 m)

Siemens Gamesa: SG 145 / 155 (4.5–6.6 MW, hub height 110–140 m, rotor 145–155 m)

GE Vernova: Cypress 158 / 164 (4.8–6.1 MW, hub height 120–161 m, rotor 158–164 m)

Nordex: N133 / N149 / N163 (4.0–6.0 MW, hub height 105–163 m, rotor 133–163 m)

Conclusion:

The tender is optimized for medium-wind zones. The best-performing wind projects use:

Large rotor + tall towers + 4–6 MW turbine units.