INVEST IN

Kurimo Solar Park

SUOMUSSALMI
FINLAND

PROJECT SNAPSHOT

- **Location:** Suomussalmi, Kainuu, Finland
- **Project Area:** 71,89 ha (net panel area: 59,6 ha)
- **Status:** Pre-permitting and development phase
- **Grid Connection Potential:** Up to 60 MW (post-2030), 10 MW before 2030
- **Developer:** the Municipality of Suomussalmi

ENERGY POTENTIAL

- **Installed Capacity:** 55,7 MWp DC / 46,4 MW AC
- **Estimated Production (Year 1):** 43 GWh
- **Lifetime Production (25 years):** 1054 GWh
- **Performance Ratio:** 84.8 %
- **Solar Resource:** 769.2 kWh/m² (GHI)

TECHNICAL HIGHLIGHTS

- **Panel Layout:** Fixed tilt, ~ 85 458 panels
- **Inverters:** 216 units, 215 kVA max
- **Topography:** Favorable elevation for solar installation
- **Soil Conditions:** Mixed soil with thick peat layers —additional geotechnical analysis needed before more detailed planning.
- **Drainage Planning:** Ongoing, due to surface water flow from Hirvosenvaara

GRID & CONNECTIVITY

- **Primary Connection Point:** Kurimo substation
- **Voltage Options:** 33 kV cable, 110/33 kV transformer station, or 110 kV overhead line
- **Estimated Grid Connection Cost:** 2 million €
- **Capacity reservation:** 1.2 M€
- **Substation expansion:** 0.8 M€
- **Legislative Outlook:** 2025 energy law reform may ease pre-2030 connections

ECONOMIC VIABILITY

- **Annual Revenue Potential:** 1,5-2 M€ (at current price levels)
- **CAPEX Estimate:** ~ 29 M€ (excluding land and financing costs)
- **Business Cases Enhanced By:**
- PPA agreements
- Municipal energy use offset
- BESS integration for reserve market participation

BATTERY STORAGE (BESS) ADD-ON

- **Recommended Size:** 10 MW / 10 MWh
- **Use Case:** Reserve market, peak shaving, balancing
- **Cost Estimate:** 2–5 M€ (depending on supplier and configuration)
- Fast-track Connection Possible (< 10 MW)

HYDROGEN SYNERGY (OPTIONAL)

- **Pilot:** 1 MW AEM Electrolyzer + Storage
- **Production:** 23 kg/h green hydrogen
- **CAPEX:** 3.2 M€
- **Efficiency:** > 80 %
- Scalable Solution for Local Industry Use or Mobility

DEVELOPMENT CONSIDERATIONS

- Soil and peat depth may increase foundation costs
- Energy yield per kWp is moderate, affecting ROI
- Strong public and municipal cooperation improves feasibility
- Landowner flexibility (e.g. rent discounts) could strengthen the business case

Co-funded by the European Union

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