



KRONOS · LEVEL 1 — PROJECT SHEET

Technical-Economic Analysis and Risk Factors

Agrivoltaic + BESS Project SAMPLE CASE — Central Italy

Preliminary pipeline assessment — exogenous and endogenous risk factors

Agrivoltaic plant with single-axis tracker and integrated electrochemical storage · 8,60 MWp DC / 6.900 kW MV injection · BESS 9,0 MW · site in Central Italy — location and cadastral details reserved.

Project vehicle: Dedicated SPV (name reserved)

Type Agrivoltaic + BESS, bifacial single-axis tracker	Location Central Italy — peri-urban valley floor (detail reserved)
Power 8,60 MWp DC · 6,90 MW AC · BESS 9,0 MW (~36 MWh)	Declared production 1.650 kWh/kWp/year (client input)
Expected title Single Authorization (AU) — environmental screening not required	Land Surface-right preliminary (DDS) (Q4 2025) — 4.200 €/ha/year, 30 years
Connection MV 20 kV — dedicated antenna from the area reference Primary Substation (CP)	Consideration 520.000 € + VAT (634.400 € · ~92 €/kW VAT incl.)

Report date: June 2026

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Demonstrative case for illustrative purposes. Data, location and economic values are fictitious and not attributable to any real project; the valuation model and benchmarks are proprietary to ReNow.*

SUMMARY AND PRIORITY ATTENTION POINTS

Overall profile: MEDIUM. Technically sound project with land at market conditions. The risk profile is dominated by the connection — costly, with a route of declared criticalities and an imminent deadline — and by the issue of BESS withdrawal not covered by the STMG. Three actions are urgent in the coming weeks.

Item	Assessment	Summary
Connection estimate acceptance	● URGENT	45-working-day window expiring shortly. Failure to accept = loss of the reservation on a saturated primary substation.
Connection / STMG	● HIGH	Dedicated MV antenna ~4,5 km, complex works, two sections declared by the distributor as presumably not feasible. Typo in the estimate's subject to be corrected.
BESS withdrawal from the grid	● HIGH	The estimate governs only injection; withdrawal for charging from the grid is not covered. Without a withdrawal contract the BESS operates on PV charging only — impact on the hybrid business model.
STMG validity vs AU timing	● MEDIUM	Reservation valid for 210 working days against a regional AU of 12-18 months. Manageable by activating the persistence checks in good time (arts. 33.5/33.6 TICA).
Land	● MEDIUM	Preliminary in private form not transcribed (not enforceable against third parties); deposits to be paid; subdivisions to be carried out.
Permitting	● LOW	AU correct; agrivoltaic qualification (module height $\geq 2,1$ m + sworn statement $\geq 80\%$ PLV) to be explicitly documented.
Territorial / cumulative	● MEDIUM	Area sensitive to agrivoltaics with active local opposition in the wider area; recent hail event in the zone; existing PV adjacent.
Layout / technical	● LOW	Consistent layout; minor documentary inconsistencies (DC power, module model) and structure height to be documented.

1. Accept the connection estimate by the deadline, paying the 30% advance; simultaneously request correction of the typo in the subject and start the procedure for the BESS grid-withdrawal contract.
2. Start the AU application by Q3 2026 to keep the Services Conference consistent with the validity of the STMG reservation; document the height of the structures ($\geq 2,1$ m) for the Law 4/2026 qualification and harmonize the DC power inconsistencies before filing.
3. Proceed with the notarial transcription of the preliminary: it releases the deposit, makes the contract enforceable against third parties and enables the sale of the project at RtB.

1. Land

Unilateral preliminary surface-right agreement signed in private form (Q4 2025) with the sole owner. Some parcels are only partially covered by the contract; the residual areas remain with the owner following a cadastral subdivision at the Developer's expense.

Aspect	Outcome	Note
Contractual form	● TO BE COMPLETED	Private deed not transcribed = not enforceable against third parties. The notarial transcription is a condition for the deposit and is indispensable for any sale of the project (RtB).
Surface and parcels	● COMPLIANT	~15 ha; DDS 30 years; unilateral preliminary (obligation of the final deed on the Owner only).
Rent (DDS)	● COMPLIANT	4.200 €/ha/year, updated annually at 100% of the ISTAT FOI index from the second year. In line with the macro-zone market.
Cadastral subdivisions	● TO BE COMPLETED	Necessary for the parcels affected only in part, before the execution of the final deed — cost borne by the Developer.
Final deed	● ATTENTION	Not executable before autumn 2027; to be represented in the event of an early exit.
Deposits	● LOW	First on notarial transcription; Second on a positive connection feasibility outcome; a further one on any extension — creditable against the consideration.
Agricultural safeguard	● LOW	Agricultural usufruct and cultivation pre-emption in favour of the owner; organic land for ≥3 years — functional to the Law 4/2026 agrivoltaic qualification.
Agrarian pre-emption	● LOW	Owner obliged to offer pre-emption to neighbouring direct farmers (Law 817/1971 and 590/1965).

2. Connection (STMG analysis)

MV 20 kV connection estimate, power for connection purposes 6.900 kW. File code, POD and specific references reserved.

- **Saturated point — antenna solution:** available capacity close to zero at the reference Primary Substation (CP). Solution: new delivery substation connected in antenna, with ~4,5 km of underground AL 240 mm² cable + overhead section + new bay in the CP and refurbishment of the MV switchgear.
- **Complex works (art. 10.1 TICA):** a significant portion can be executed only by the distributor. Self-building the grid plant does not eliminate the DSO critical path (works on the existing grid cannot be assigned).
- **Sections “presumably not feasible”:** the distributor flags two critical sections (cycle paths, unpaved road) and the crossing of a peri-urban area (roads, railway, underground utilities). The executive design will require variants, easements and clearances, with a probable revision of costs and timing.
- **Typo in the subject:** distributor's error on the source, to be corrected together with acceptance — relevant for GAUDÌ, the operating regulation, CCI obligations and consistency with the AU application.
- **BESS withdrawal not covered:** the scheme envisages withdrawal for charging from the grid but the estimate governs injection exclusively. Without a separate withdrawal contract the BESS operates on PV charging only: open the procedure with the distributor before or together with acceptance.
- **Potentially shared connection (art. 16.7 TICA):** the STMG contemplates the case of infrastructure shared with other plants, with an obligation to identify a lead party within the terms of law. If not yet identified: additional risk, delays beyond the developer's control.

ECONOMIC FRAMEWORK AND DEADLINES

Item	Amount / deadline	Note
Connection consideration	520.000 € + VAT (634.400 € VAT incl.)	~92 €/kW VAT included — about double a “short” MV connection
30% advance on acceptance	190.320 € VAT incl.	To be paid by the estimate's deadline
70% balance	444.080 € VAT incl.	On completion of the works (not due if self-build)
Acceptance deadline	45 working days → expiring shortly	CRITICAL: few working days remaining
STMG validity	210 working days from acceptance	Arts. 33.5/33.6 TICA for persistence check beyond the term
DSO works execution	~395 working days (~18 months)	Net of permitting suspensions

Terna planning (Development Plan): the area is among the zones in planned reinforcement (new CP and HV links). The zone is therefore recognized as saturated and evolving: the area works are a medium-term de-risking option, but their timing (2030+) is not compatible with the schedule — the current solution remains the only viable reference.

3. Permitting process

The AU strategy declared by the client is confirmed as the correct baseline: environmental screening is not required; the agrivoltaic qualification is an **admissibility condition** that depends on the technical documentation.

- **Agrivoltaic qualification (Law 4/2026, TU FER):** raised trackers, minimum height 2,1 m for cultivation activity, sworn agronomic plan, ≥80% of PLV preserved. The organic land and the agricultural usufruct already contracted are favourable elements to be leveraged in the documents.
- **Suitable areas:** regional transposition of the national framework underway in many Regions. If the parcels fell within a suitable area, the PAS window would open, with timing more compatible with the STMG reservation. Failing that, proceed with the AU without waiting.

CRITICAL SEQUENCE

Event	Deadline	Condition that holds the target
STMG acceptance deadline	Expiring shortly (45 working days)	CRITICAL — to be met; in parallel: typo correction + opening of the BESS withdrawal procedure
AU application	By Q3 2026	Conditions the grid window; slipping beyond Q3 reduces the buffer on the STMG deadline
STMG reservation validity	~210 working days from acceptance	Persistence checks (arts. 33.5/33.6 TICA) to be activated in advance
Services Conference (AU)	Estimate 12–18 months from application	Depends on the SUAP's workload and any public inquiry
RtB target	H1 2028	Holds only if the above sequence is respected

4. Exogenous risk factors and context

Overall index: **MEDIUM**. Territory with high sensitivity to the agrivoltaic topic; recent hail event in the zone; saturated grid but in planned reinforcement. No direct obstacle factor on the specific site.

- **Social — MEDIUM:** in a neighbouring municipality (~10–12 km) a local opposition to agrivoltaics has been active since 2024, supported by a municipal Council motion and by initiatives before the regional legislative assembly. The catchment can be mobilized on neighbouring projects too. No opposition documented on the specific site as of this date.
- **Hail — HIGH:** in the last season an exceptionally intense hail event occurred in the zone, with documented damage to PV plants in neighbouring municipalities and requests for a state of natural disaster. Design implications: modules to be verified against the IEC 61215 class III test (≥ 35 mm); anti-hail stow systems in the design; “All Risks” policy with a hail clause from the STMG stage.
- **Hydrogeological / PAI-PGRA:** peri-urban site on a river valley floor. Verify on the regional geoportal that the parcels do not fall within band A (flood flow) or B (100-year flooding). To be included in the AU application and in the hydraulic compatibility report.
- **Landscape and constraints — LOW-MEDIUM:** no direct landscape constraint documented on the site (Legislative Decree 42/2004 art. 142: verify the distance from the protected river course); high local sensitivity due to the area debate. To be confirmed in the VincAE framework during the AU.
- **Grid — reference CP saturation:** the CP is at the limit of its capacity; the antenna solution isolates the plant from competition but does not eliminate the route risks. The planned area reinforcements (2030+) are incompatible with the schedule.

CUMULATIVE IMPACT (SUMMARY ASSESSMENT)

Plant / project	Estimated distance	Relevance for cumulative impact
Existing adjacent PV (neighbouring parcels — “restricted area” in the layout)	< 0,3 km	HIGH — direct co-visibility; to be surveyed in the AU's AVI framework with cadastral precision
PV / agrivoltaics in the peri-urban area (estimated from orthophotos)	0,5–2 km	MEDIUM — widespread presence of small and medium plants; check on GAUDÌ for size and power
Significant plant in the wider area (in AU process)	~10–12 km	LOW for intervisibility, HIGH for social and grid sensitivity: same perception catchment

A dedicated cumulative-impact analysis is recommended, to be attached to the AU application (GAUDÌ survey, intervisibility, surface summation at 3-5-10 km, mitigations): a strategically critical document for the Services Conference in sensitive territories.

5. Layout and technical notes

Parameter	Value from documents	Assessment
Available / fenced area	~13,3 ha available / ~14,4 ha fenced	Consistent with the contracted surface (buffer for internal roads, fencing, substations)
DC density / GCR	≈ 0,58 MWp/ha · GCR ~0,37	Physiological for agrivoltaics with trackers (inter-row spaces for agricultural machinery)
Pitch / free space between rows	~6,5 m pitch · ~4,1 m free space	Compatible with standard agricultural machinery; to be confirmed in the agronomic plan
Modules	Bifacial Tier-1 · ~14 per string	Verify hail resistance (IEC 61215 class III, ≥35 mm) — recent event in the zone
Structure (tracker)	Single-axis tracker · 1 string/structure	Tilt to be documented for the agrivoltaic qualification
Height of structures from the ground	Not documented in the documents provided	TO BE DOCUMENTED: min. 2,1 m for cultivation activity (Law 4/2026) — eligibility for the qualification
DC/AC ratio	≈ 1,25	Physiological; consistent with limited clipping for a single-axis tracker
BESS	9,0 MW active — battery area, PCS and containers in the layout	Size ~4 h (estimate ~36 MWh); layout present but not detailed in the documents provided
DC power — INCONSISTENCY	Discrepancy among pipeline, layout and STMG	Documentary inconsistency to be harmonized before the AU — affects GCR, production and authorization

Production note: the declared figure (1.650 kWh/kWp/year) is taken as a reference; it appears high for a single-axis tracker in the macro-zone and must be validated. A lower actual irradiation would compress the development margin.

6. Economic assessment (LCD model)

The model **LCD (Land · Connection · Development)** compares the sum of the three cost items with the target sale value at RtB, derived from ReNow's proprietary market benchmarks (comparable transactions, energy price forecasts and expected IRR by buyer type: co-developer, fund/IPP at RtB, utility at COD). The output is a **margin rating** and a development fee range for the macro-zone.

Item	Value	Reading
Land (NPV DDS)	≈ 97 k€/MWp	DDS: 15,0 ha × 4.200 €/ha × 13 (capitalization ~30 years @6,5%) = 819.000 € net of VAT · ÷ 8,45 MWp DC (pipeline).
Connection	≈ 62 k€/MWp	STMG consideration net of VAT (520.000 €) ÷ 8,45 MWp DC. Mid-range of the agrivoltaic benchmark; self-building does not reduce the net consideration but can shorten the DSO timing.
Land + Connection	≈ 159 k€/MWp	Positioning in the average of the agrivoltaic benchmark (LC p50 ≈ 147 k€/MWp, p75 ≈ 196).
Target value at RtB	≈ 270–278 k€/MWp	Derived from the AGRIVOLTAIC benchmark model (prod. 1.650 kWh/kWp): oriented towards the upper part of the

Item	Value	Reading
		band; a prudential scenario at 1.540 kWh/kWp brings the target to ~258 k€/MWp.
Residual development margin at RtB	≈ 92-108 k€/MWp	Oriented towards the lower end: optimistic production + advanced agrivoltaic CAPEX. Prudential scenario: ≈ 78-96 k€/MWp.

Reading: the project falls within the macro-zone's target values; the connection cost erodes the margin but the Land is positioned correctly. Three protective levers: (i) freeze the connection consideration by avoiding costly route variants; (ii) monetize the hybrid — the BESS on the same POD is the main negotiating upside in M&A, once the withdrawal contract is resolved; (iii) document the advanced agrivoltaic qualification, which reduces the buyer's perceived risk on the permitting profile.

The economic values reported above are illustrative and fictitious (demonstrative case); the LCD model, the weights and the market benchmarks are proprietary to ReNow.

— End of project analysis —

KRONOS · Level 1 methodology (project sheet). Demonstrative case for illustrative purposes.