

Market & Industry Perspective

Carlo Degli Esposti – CEO, TERADEC S.r.l.

ENEA webinar “Driving the Green Transition: Innovative
Solutions for Energy and Sustainability”

Innovation Village 2026 · 5 October 2026





The transition is no longer limited by technology

Solar, wind and batteries are available, proven and competitive.

WHAT IS SCARCE TODAY

**A grid
connection**

capacity to plug into

A permit

the right to build

Time

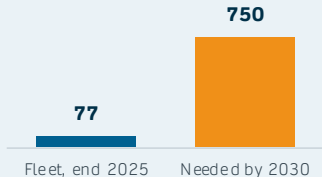
the speed of the system
(regulator and SysOp)

That scarcity defines what the market needs – and where the opportunities are for innovators.

Trends: the bottleneck has moved to the grid

1 - Storage is mainstream

EU battery storage (GWh)



27 GWh installed in 2025 (+45%);
for the first time more than half
utility-scale

2 - Demand is concentrated

+72 TWh

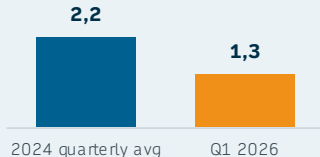
data-centre demand in Europe by
2030 – more than electric vehicles

≈ 30 GW

data-centre connection requests to
the Italian TSO (end 2024)

3 - Capital is selective

EU cleantech venture &
growth (EUR bn)



Weak point: late-stage equity, from
working pilot to first commercial
plant

Technology momentum: making the existing network do more – grid-enhancing technologies, power electronics, storage, digital tools and AI

Source: SolarPower Europe, EU Battery Storage Market Review (Jan 2026); Ember, Grids for data centres (2025); Rivista Energia (Aug 2026); Cleantech for Europe, Q1 2026 briefing

Energy users: energy from grid is too expensive, out of their control

PERCEPTION

Grid electricity is too expensive and, above all, prices are too unpredictable due to pricing mechanisms

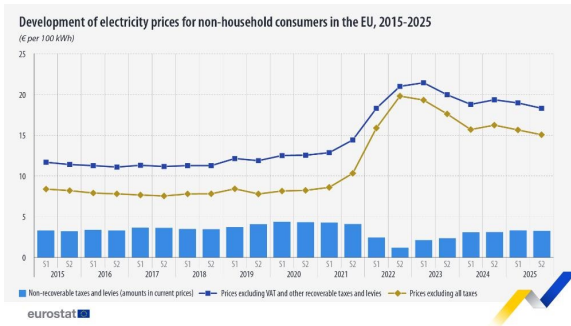
PERCEIVED CAUSE

Price still set by the marginal gas plant: geopolitics out of reach, plus taxes, levies and network charges

REACTION

Taking back control via self-supply: PPAs, self-generation, behind-the-meter storage, energy communities

Electricity price, non-household users, H2 2025 (EUR per 100 kWh)



Few want to leave the grid; most want to depend on it, less.
Self-supply should become flexibility for the grid, not a way out of it.

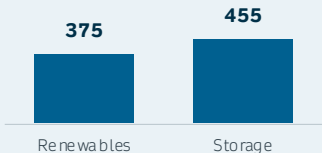
Source: Eurostat, non-household electricity prices, second half 2025 (May 2026); user sentiment: TERADEC reading of the market



Energy system needs: capacity, flexibility, speed

Capacity

Distribution queues, 8 countries (GW)



830 GW ≈ EUR 100 bn of projects waiting

Italy: 329 GW of renewable requests vs about 77 GW installed

Flexibility

Congestion management cost (EUR bn a year)



A wind and solar system is balanced hour by hour: storage, demand response, real-time visibility and control

Speed

Months, not years

→ More capacity from existing lines

→ Flexible connection agreements

→ Faster grid studies

Speculative requests hide the serious ones

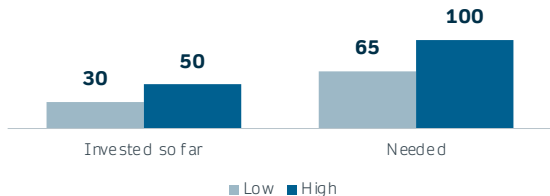
Source: AFRY for Beyond Fossil Fuels, Grid Expectations (cumulate data from DE, UK, PL, IT, ES, CZ, GR, BG) (June 2026); Rivista Energia on Terna data (Aug 2026); Bruegel, Upgrading Europe's electricity grid (Feb 2025)

Money: grid plans are too large for tariffs alone

EUR 1.2 trillion

needed for EU electricity grids by 2040

Annual grid investment in Europe (EUR bn a year, range)



Financed almost entirely through tariffs: the same bills users already find too high

A REAL PUBLIC-PRIVATE PARTNERSHIP

1

Public money and guarantees

to reduce risk

2

Private long-term capital

infrastructure and pension funds carry the volume

3

Regulation

that rewards investing ahead of demand

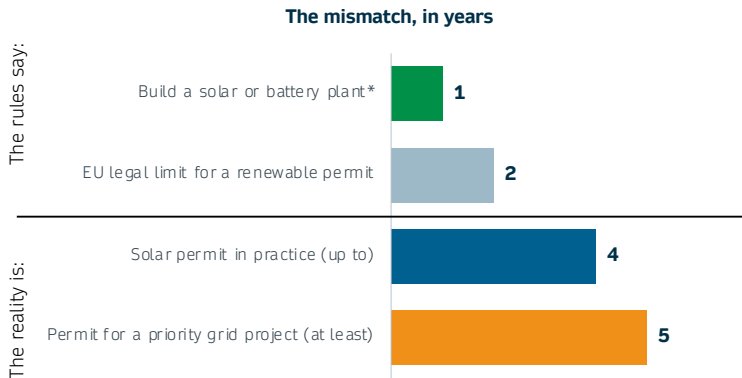
Source: European Commission, European Grids Package (Dec 2025); Bruegel, Upgrading Europe's electricity grid (Feb 2025)



TERADEC

RESPONSE STRATEGIC ADVICE ON THE ENERGY TRANSITION

Time: the rules run slower than the technology



11,000+

connection requests a year for the average distribution operator

Italy: single renewables code and single authorisation; clearer framework, practice still measured in years

EU Grids Package: binding deadlines, but effects in some years

A plant is built in about a year. The line it needs takes much longer. Operators need answers today.

Source: SolarPower Europe, EU renewable energy permitting state of play (July 2025); European Commission, European Grids Package (Dec 2025); AFRY for Beyond Fossil Fuels (June 2026). *TERADEC indicative estimate based on survey with major Italian developers

Where innovation fits, and why it is hard

The gap between what the grid and its users need now and what regulation will deliver later is the space for innovation

WHAT INNOVATORS FACE

1

The valley between prototype and scale

Energy is hardware: pilots and first-of-a-kind plants cost a lot and pay back late, beyond most venture horizons

2

The first-customer paradox

Buyers of 30-year assets ask for references. Nobody wants to be first; without a first, no bankability

3

Rules

A ready technology can still lack a recognised revenue model, or wait years for a certification or a connection. Grid operators' investment plans blocked over 5 years' periods

The challenge is rarely the technology itself: it is aligning the clocks of capital, customers and regulation

Source: TERADEC analysis

Three routes to collaboration

Operators + startups

- A pilot site (sandboxes!)
- Real data
- A first contract

The first reference is worth more than a funding round

Research + industry

- Patents
- Laboratories
- Test facilities

Transfer works when it starts from a precise industrial need

Accelerators + mentors

- Access to pilots and customers
- Mentors from the buyer's side
- Credibility with investors

Meta-analysis of 21 studies: significant positive effect on venture performance

Around them: European consortia and regulatory sandboxes, to test what today's rules do not yet foresee

Source: Seitz et al., Journal of Technology Transfer (2025), meta-analysis of accelerator programmes; TERADEC analysis

Three takeaways

1

The bottleneck is the grid

and the speed of the system around it

2

Autonomy should become flexibility

users want affordable, predictable energy and more control: for the grid, not a way out of it

3

No one does it alone

public and private capital, operators, research, startups, and the accelerators and mentors who connect them

That is what the brokerage meetings are for: use them.



Thank you!



Carlo Degli Esposti - cde@teradec.eu

TERADEC S.r.l. © This presentation and its contents are entirely confidential and may not be further distributed or transmitted to any other person or published or reproduced, in whole or in part, by any means or in any form for any purpose whatsoever, without the prior written consent of a legal representative of TERADEC S.r.l.

TERADEC S.r.l. © Cette présentation et son contenu sont entièrement confidentiels et ne peuvent être distribués ou transmis à une autre personne, ni publiés ou reproduits, en tout ou en partie, par quelque moyen ou sous quelque forme que ce soit et à quelque fin que ce soit, sans l'accord écrit préalable d'un représentant légal de TERADEC S.r.l.

TERADEC S.r.l. © Diese Präsentation und ihr Inhalt sind absolut vertraulich und dürfen ohne die vorherige schriftliche Zustimmung eines gesetzlichen Vertreters von TERADEC S.r.l. weder ganz noch teilweise in irgendeiner Form zu irgendeinem Zweck weiterverteilt oder an andere Personen weitergegeben oder veröffentlicht oder reproduziert werden.

TERADEC S.r.l. © Questa presentazione e i suoi contenuti sono interamente riservati e non possono essere ulteriormente distribuiti o trasmessi ad altre persone o pubblicati o riprodotti, in tutto o in parte, con qualsiasi mezzo o in qualsiasi forma per qualsiasi scopo, senza il preventivo consenso scritto di un rappresentante legale di TERADEC S.r.l.