

# **TRANSFORMING POWER DISTRIBUTION GRIDS**

## **The regulatory viewpoint**

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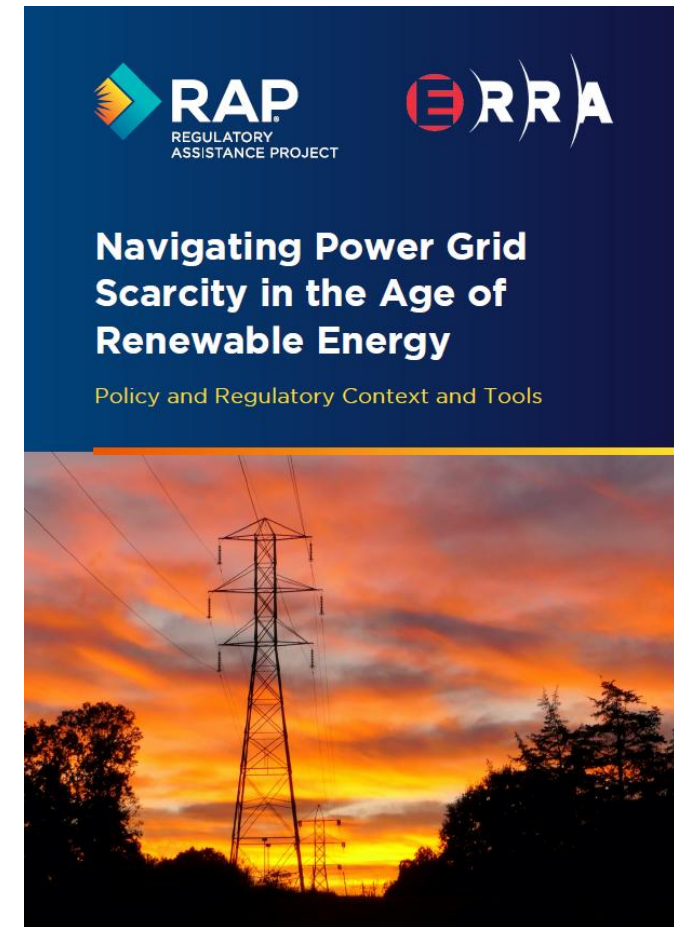


# Background

In 2024, ERRA and RAP jointly developed a **regulatory toolbox** for coping with «*grid scarcity*»

## Step-wise approach

0. No-regret option: Make Better Use of Existing Grids (GETs, maps...)
1. Comprehensive (CBA-based) Network Planning
2. Regulatory Incentives for Investment Execution



<https://erranet.org/2024-grid-paper/>

# ERRA 2025 report on Grid Investments

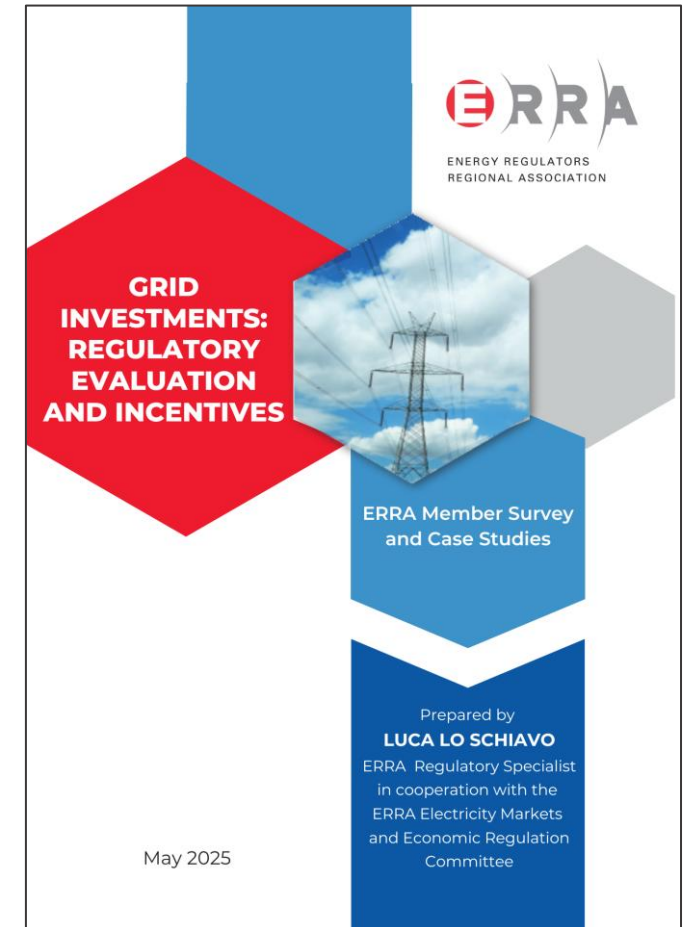


In 2025, ERRA published a survey, with case studies on:

- regulatory **assessment of grid plans** submitted by grid operators (how ERRA regulators evaluate proposed investments)
- regulatory **incentives for investments execution** (how ERRA regulators foster timeliness and efficiency of approved grid investments).

## Transmission vs distribution

- Planning (AM, DSO level; GE, TSO level)
- CBA methodology (US-Rhode Island)
- CAPEX-based incentives (FR)
- Time milestone incentives (OM)



<https://erranet.org/erra-report-grid-investment/>

# ERRA Regulatory stories

## Romania:

- **LOCATIONAL TARIFF FOR INJECTION:** From 2025, an injection charge is introduced for producers connected to distribution networks (110 kV, >5MW) where electricity generated is in excess and carried to other geographical zones to be consumed
- **RATIONALE:** losses due to the transit of electricity in HV distribution network (110 kV) because of the generation surplus in the zone (a study was conducted with participation of all DSOs and TSO; public consultation followed); before the intervention, losses were recovered only through withdrawal charges
- **IMMEDIATE EFFECT:** The injection charge covers only additional losses in HV distribution network due to electricity surplus generation to the local consumption and it is in one case 6% and in the other 17% of the withdrawal charge for the same voltage level
- **EXPECTED RESULT:** it's also expected a serious signal for new producers to locate in other geographical zones with demand surplus

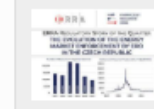
## Regulatory Stories of the Quarter

<https://erranet.org/regulatory-stories/>

The ERRA Regulatory Story of the Quarter presents and portrays member and policies or regulatory approach that could be relevant to other regulators



ERRA Regulatory Story of the Quarter: The Evolution of the Battery Energy Storage Systems in Ukraine



ERRA Regulatory Story of the Quarter: The Evolution of the Energy Market Enforcement by ERO Czech Republic



ERRA Regulatory Story of the Quarter: Price Zero, Or Less, For 17 Hours In A Row: "Happy Hours" For Electricity in France



Case Study from ANRE Romania on Injection Charge for Producers Connected to Distribution Networks – Featured in ERRA Spring Newsletter 2025

# How to incentives distribution network companies for future proofing their grids



## Italy

- **MINIMUM REQUIREMENTS FOR DSO NETWORK DEVELOPMENT PLANS:** Arera decisions 296/2023 (overall framework, public consultation of D-NDP) and 521/2024 (guidelines and benefit evaluation criteria), amend. 112/2025
- **REGULATORY INCENTIVES FOR INCREASING RESILIENCE:** based on risk-based index (return time) and cost-benefit analysis
- **ENLARGED REGULATORY INCENTIVES:** for infrastructural investments with  $B/C > 1$  (TIQD art.79)

[www.arera.it/fileadmin/allegati/docs/23/296-23ti.pdf](http://www.arera.it/fileadmin/allegati/docs/23/296-23ti.pdf)

[www.arera.it/atti-e-provedimenti/dettaglio/521-24](http://www.arera.it/atti-e-provedimenti/dettaglio/521-24)

[www.arera.it/fileadmin/allegati/docs/23/617-23alla\\_ti.pdf](http://www.arera.it/fileadmin/allegati/docs/23/617-23alla_ti.pdf)

# Italy: enlarged regulatory incentives

Accepted projects: RES integration, load adjustment, quality of service especially in the event of heat waves, voltage control or combinations thereof

Distribution Company	n° projects	Cost [M€]	Benefit [M€]	B/C
ARETI S.P.A.	14	12,2	27,5	2,2
E-DISTRIBUZIONE S.P.A.	14	181,7	514,4	2,8
SET DISTRIBUZIONE S.P.A.	4	3,2	10,0	3,1
UNARETI S.P.A.	7	5,4	8,1	1,5
<b>Total</b>	<b>39</b>	<b>202,6</b>	<b>560,0</b>	<b>2,8</b>

More details (in Italian)

[www.arera.it/fileadmin/allegati/docs/25/112-2025-R-eel.pdf](http://www.arera.it/fileadmin/allegati/docs/25/112-2025-R-eel.pdf)

[www.arera.it/fileadmin/allegati/docs/25/112-2025-R-eel-ALLEGATO\\_A.pdf](http://www.arera.it/fileadmin/allegati/docs/25/112-2025-R-eel-ALLEGATO_A.pdf)

# Italy: local flexibility markets

ARERA launched pilot project for local flexibility markets with Decision 351/2021. One of the most advanced is the **RomeFlex project** in the city of Rome, for example, integrates distributed resources, including RES and electric vehicles connected via home "wallboxes", as well as EV charging stations in publicly accessible locations, to contribute to local dispatching services. The project aim is to prevent congestions during heatwaves, when energy demand reaches critical peaks (due to AC).

Results: **37 MW** flexibility procured (**+70%** on previous auction). Prices 2026: **80 k€/MW/year + 280 €/MWh** (cap for services). Requested availability: 24h x all days x all months  
Typical service: duration 2.5 hours from activation

Link (in Italian)

[https://www.areti.it/content/dam/acea-aret/documenti/area-istituzionale/innovazione/romeflex/documenti/aret\\_Relazione\\_tecnica.pdf](https://www.areti.it/content/dam/acea-aret/documenti/area-istituzionale/innovazione/romeflex/documenti/aret_Relazione_tecnica.pdf)

ROMEFLX

PROGETTO PILOTA ARETI  
PER L'APPROVVIGIONAMENTO DI SERVIZI ANCILLARI  
LOCALI

*Relazione tecnica  
per l'esercizio di RomeFlex  
nell'Annualità 2026*



**THANK YOU  
FOR YOUR ATTENTION!**

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