

 ELECPOR

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**2026** 21 OUTUBRO  
LISBOA

# A Secure and Flexible Power System

*Is Europe getting the framework right?*

**Chloé Le Coq**

Université Paris-Panthéon-Assas (CRED) · Stockholm School of Economics (SITE)



## Three design challenges — one common problem: the interfaces

### ■ Challenge 1: Flexibility

Can short-run price signals mobilise demand, storage and flexible generation fast enough?

short run

### ■ Challenge 2: Financing

Can Europe de-risk investment without dulling the incentive to produce OR consume at the right time?

investment

### ■ Challenge 3: Interconnection

Can national choices and cross-border trading add up to reliable European security of supply?

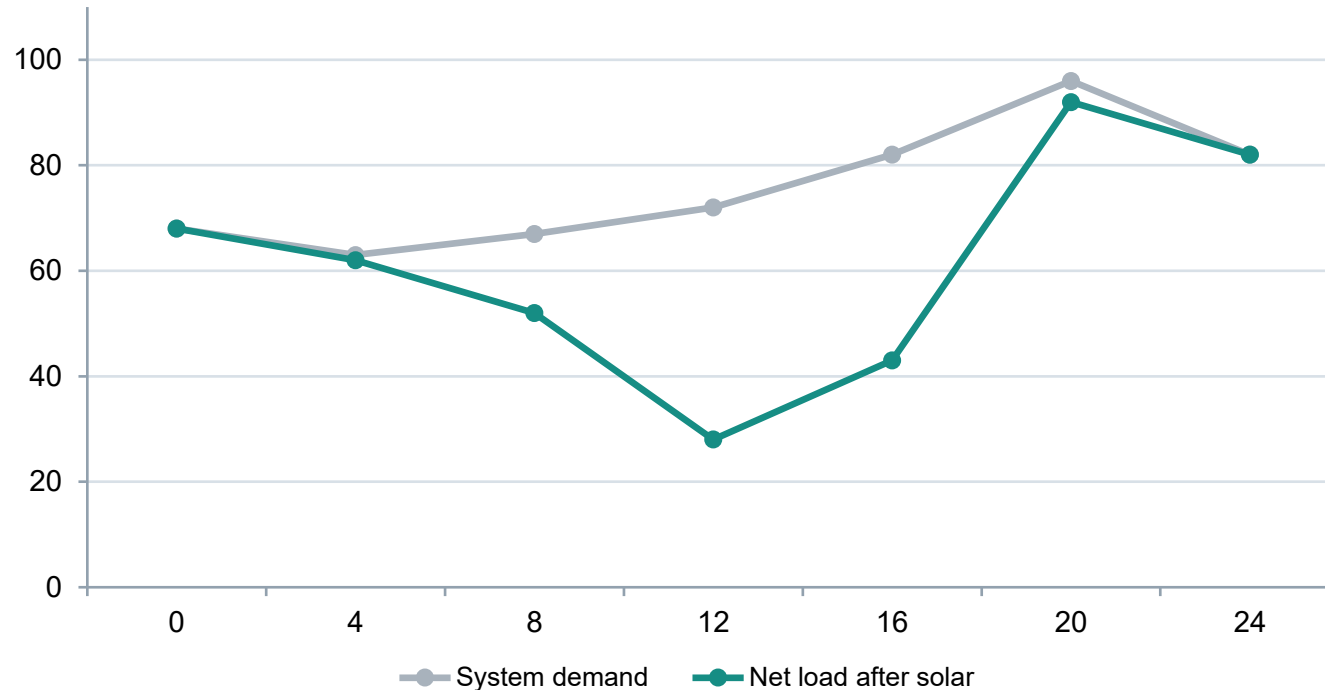
system-wide

**Europe largely has the building blocks. The policy challenge is to make them work together.**



# Variable renewables make *timing* the scarce commodity

*The duck curve is not a “solar problem”; it is a flexibility problem.*



## Midday surplus

Solar lowers net load. The system needs downward flexibility: charge storage, shift demand, export or reduce generation.

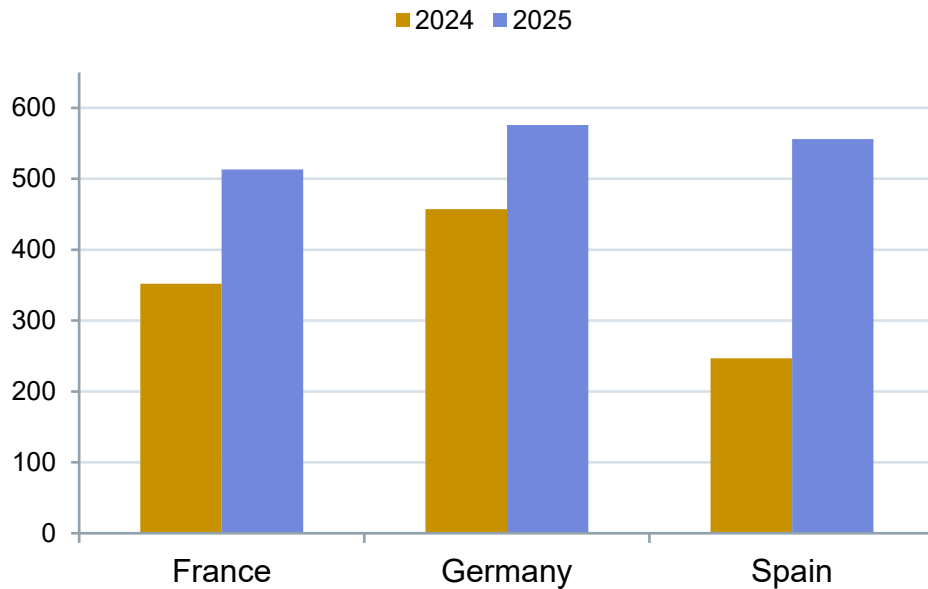
## Evening ramp

When solar output falls, the system needs upward flexibility: discharge storage, increase other supply, import or reduce demand.

**The transition shifts the system problem from producing MWh to moving and absorbing them across time.**



## Hours with a negative day-ahead price



### Signal

At a particular time and location, an additional MWh can have negative short-run value.

### Response

Flexible demand, storage and flexible generation should react to that signal.

### Design test

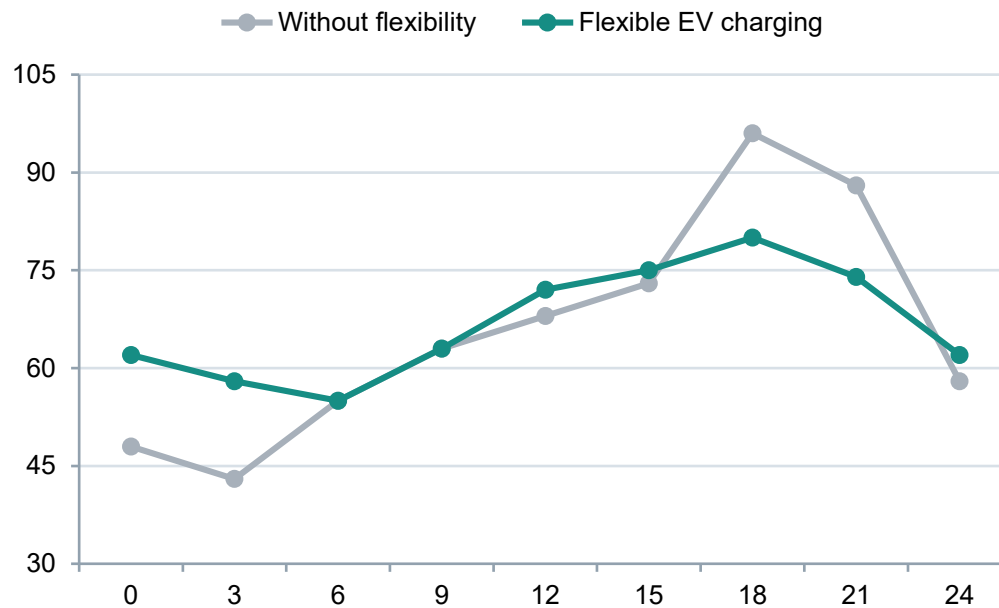
Support and contract design should not reward output precisely when its market value is negative.

**Negative prices are useful information, but lack of flexibility is the problem.**



# Challenge 1: make flexibility visible, tradable and valuable

## Illustrative daily demand profile



### Market access

Aggregators and small resources need practical access to wholesale, balancing and local flexibility markets.

### Automation

Smart meters, controls and flexible appliances reduce the transaction cost of responding.

### Value capture

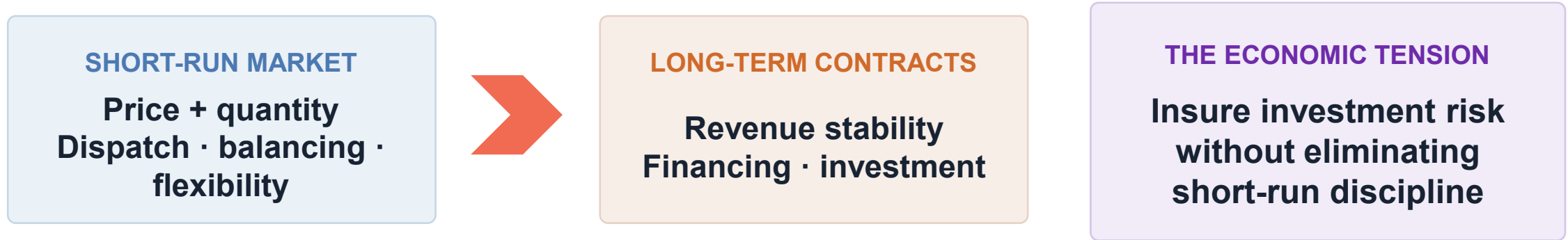
Consumers and aggregators need to retain part of the system value created by shifting demand.

**The EU framework is broadly adequate;  
implementation is what determines whether flexibility actually reaches the market.**



Challenge 2

## Challenge 2: finance tomorrow without distorting today



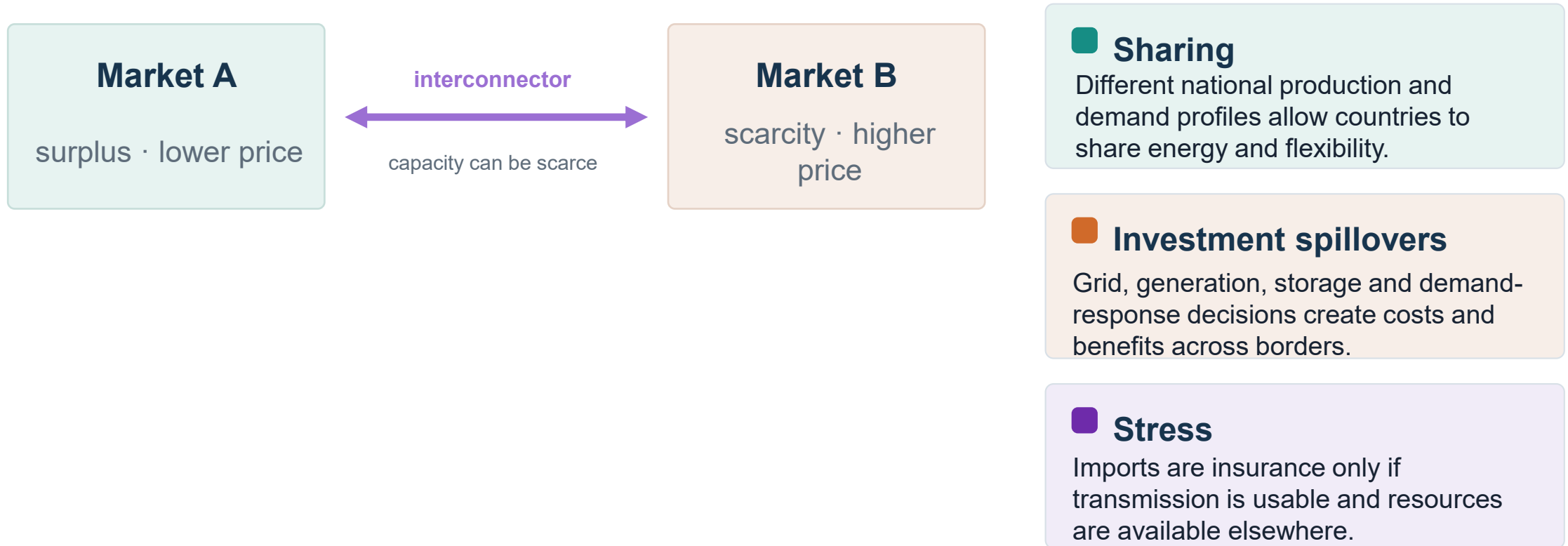
### Three design rules



The right contract de-risks financing while preserving the value of producing at the right time.



## Challenge 3: national choices create cross-border externalities



**Interconnection is both insurance and interdependence.**

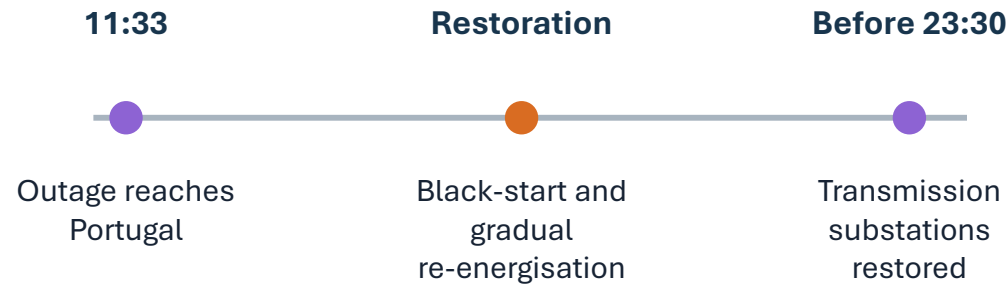


Challenge 3

# The Iberian blackout: market integration is not enough

28 April 2025 — restoration depended on operational capabilities, not only on trading arrangements.

## Portugal: what happened



### MARKET INTEGRATION ≠ OPERATIONAL SECURITY

Trading can share energy. It cannot replace restoration capability and system services.

## What the episode shows

- 1 Market integration**  
Shares energy and flexibility across borders.
- 2 Flexibility**  
Helps balance the system and manage scarcity.
- 3 Preparedness**  
Restores the system when normal market operation fails.

**Security requires markets + flexibility + preparedness — none is a substitute for the others.**



## Europe is broadly getting the architecture right, BUT three interfaces are unfinished

### **Prices → flexibility**

Short-term markets reveal scarcity and surplus.



**Demand response, storage and aggregation must respond at scale.**

### **Contracts → investment + dispatch**

Long-term contracts reduce financing risk.



**Contract design must preserve efficient short-run operating incentives.**

### **Interconnection → security**

Market coupling and interconnection enable sharing.



**Adequacy, system services and restoration coordination must be aligned across borders.**

**Design Policy priorities:**  
**make price signals, long-term contracts, network rules and preparedness coherent across time horizons and borders.**

The logo for ELECPOR, featuring a stylized 'E' composed of three horizontal bars in blue, green, and red, followed by the word 'ELECPOR' in white uppercase letters.

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**Thank you.**

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