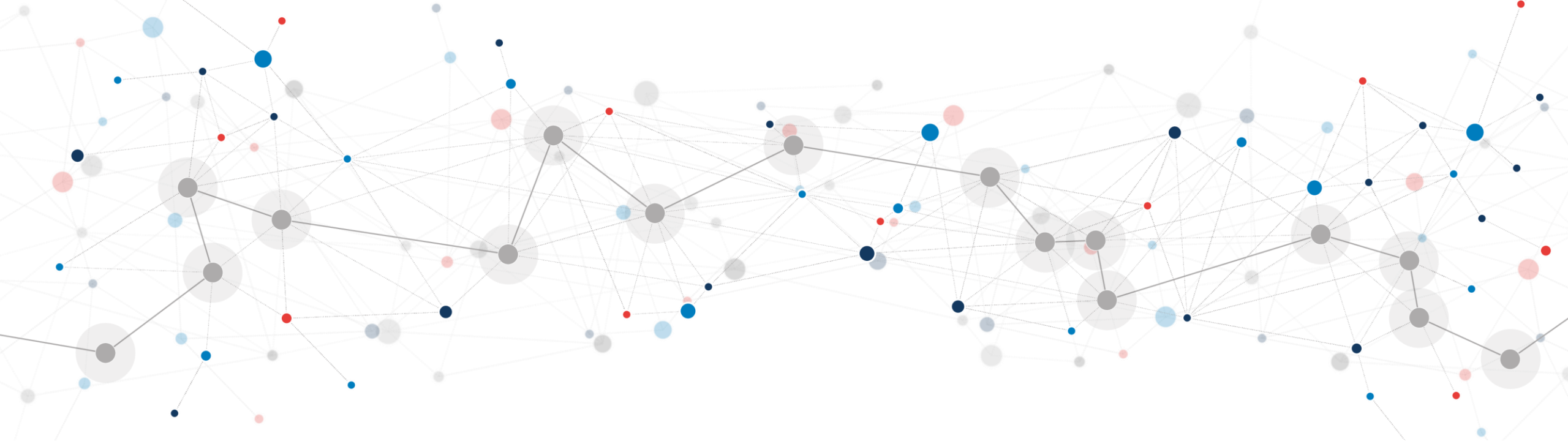




A MARKET FIT FOR NET-ZERO POWER SYSTEM

EURELECTRIC'S FLAGSHIP STUDY

Prepared for
29 March 2023

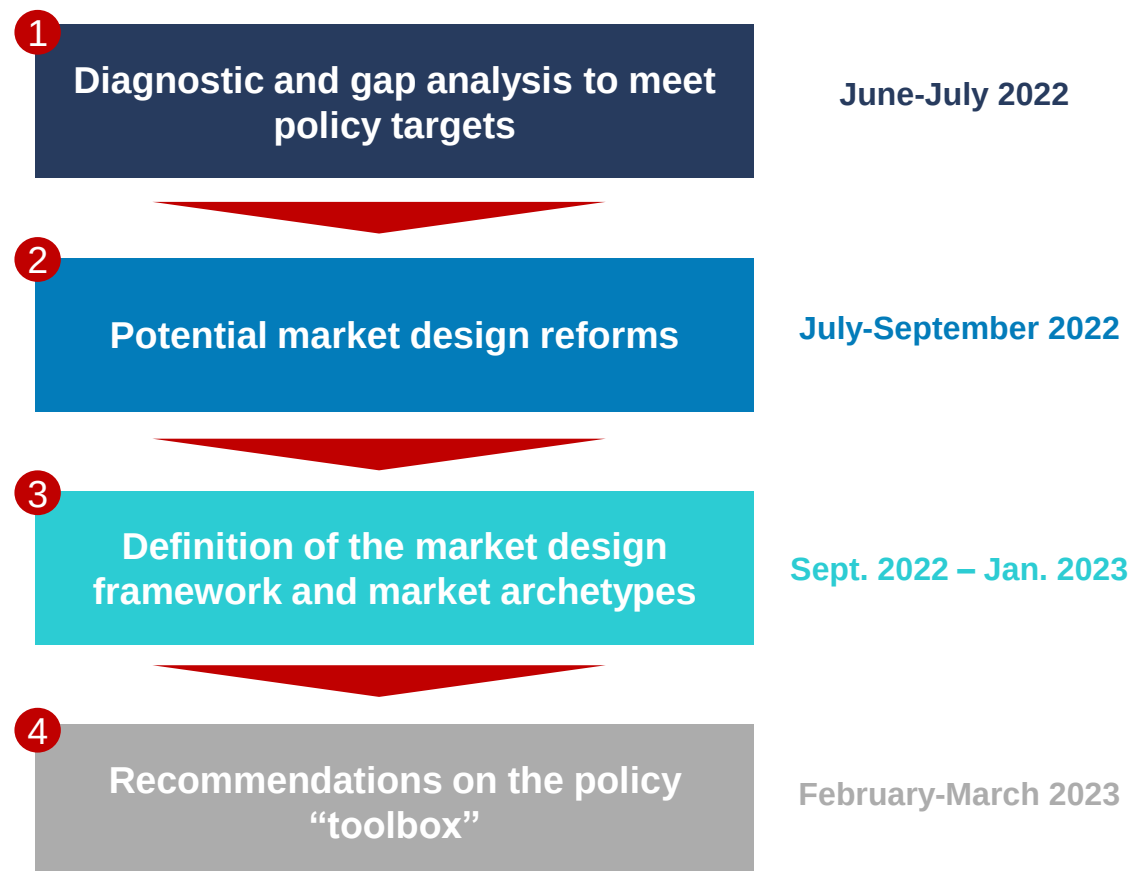


Agenda and overview of the study

Today's agenda

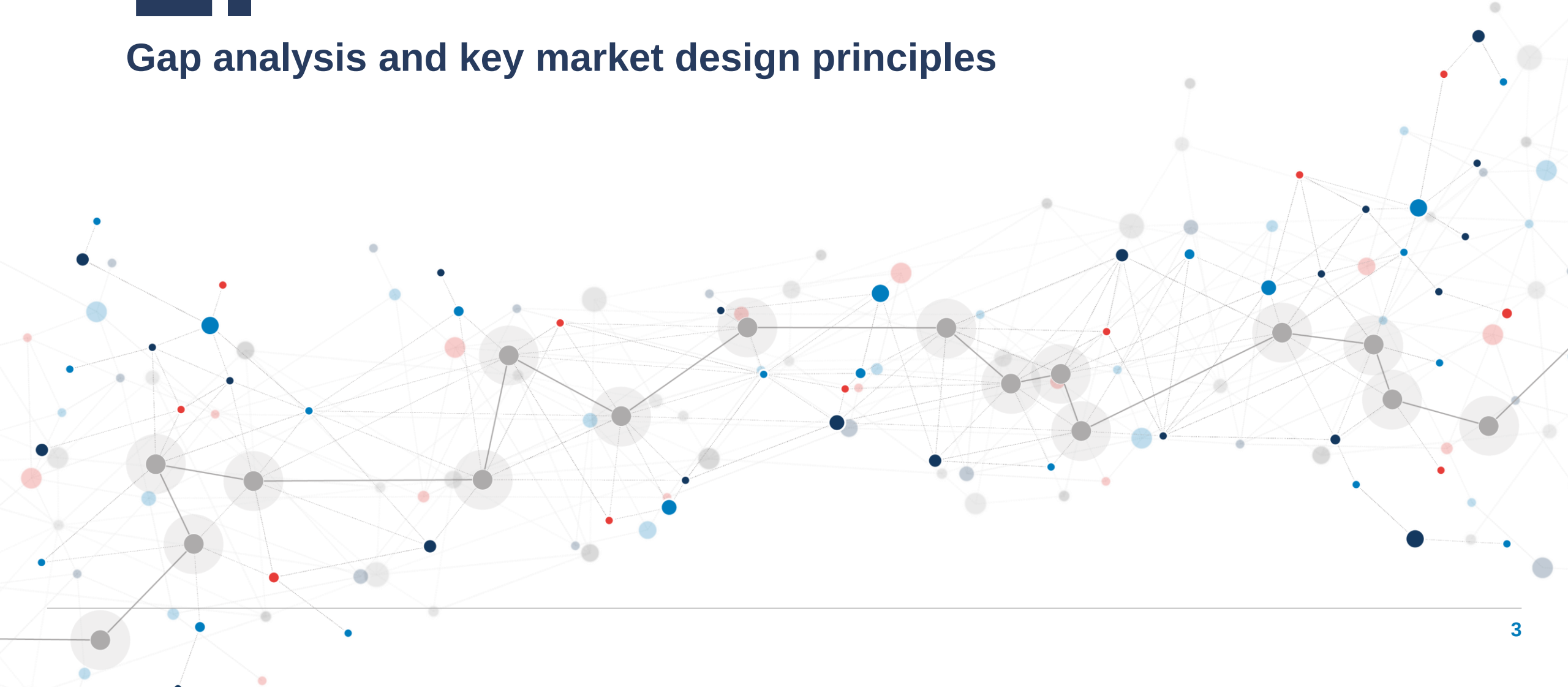
- Study scope and approach
- Gap analysis and key market design principles
- Overview of policy recommendations

Study overview: a 4-phase approach



1.

Gap analysis and key market design principles



The EU integrated market ensures an efficient functioning of the power system but needs to be complemented to address policy objectives

Wholesale markets based on marginal pricing ensure an efficient operation of the energy system and have proven resilient in the energy crisis

- 1 an **efficient dispatch** of generation and flexibility resources;
- 2 **optimised imports / exports** to limit costs for consumers;
- 3 a **mutualisation of resources** to integrate renewables and strengthen security of supply;
- 4 **short term** economic signals to coordinate generators, prosumers, flexibility providers and foster demand response

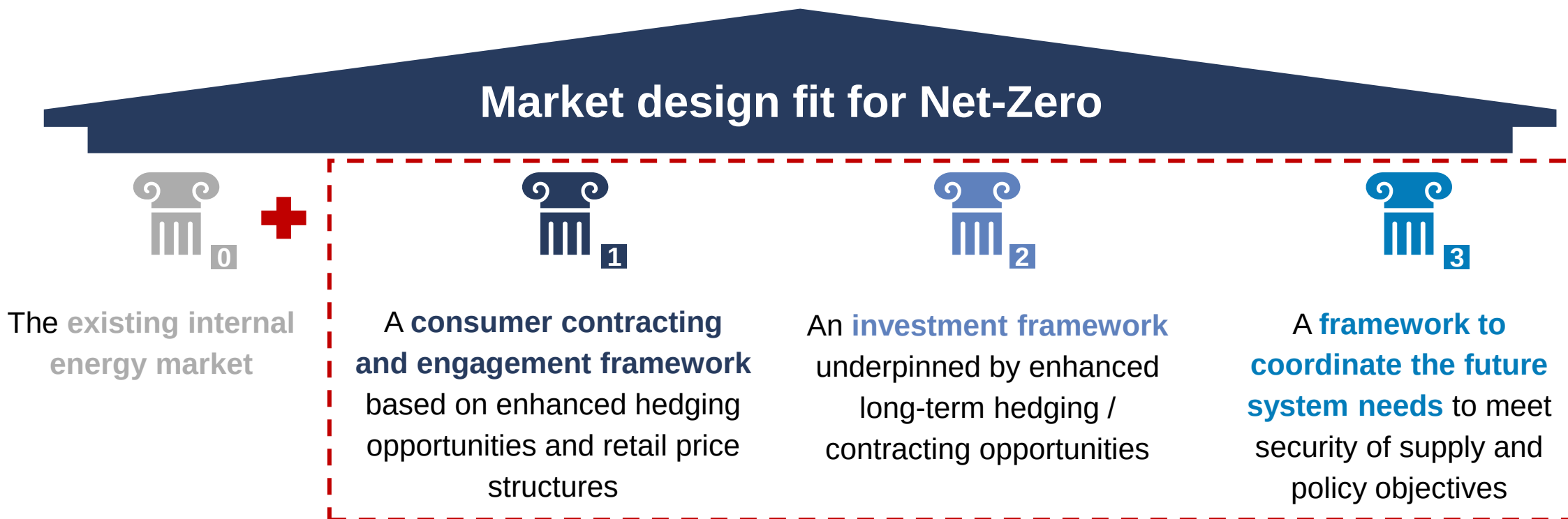
However, the recent energy crisis has highlighted some of the gaps of the current EU electricity markets to address policy objectives

Need to drive the scaling up of investment in resources necessary for the energy transition (clean technologies and flexible resources, but also networks)

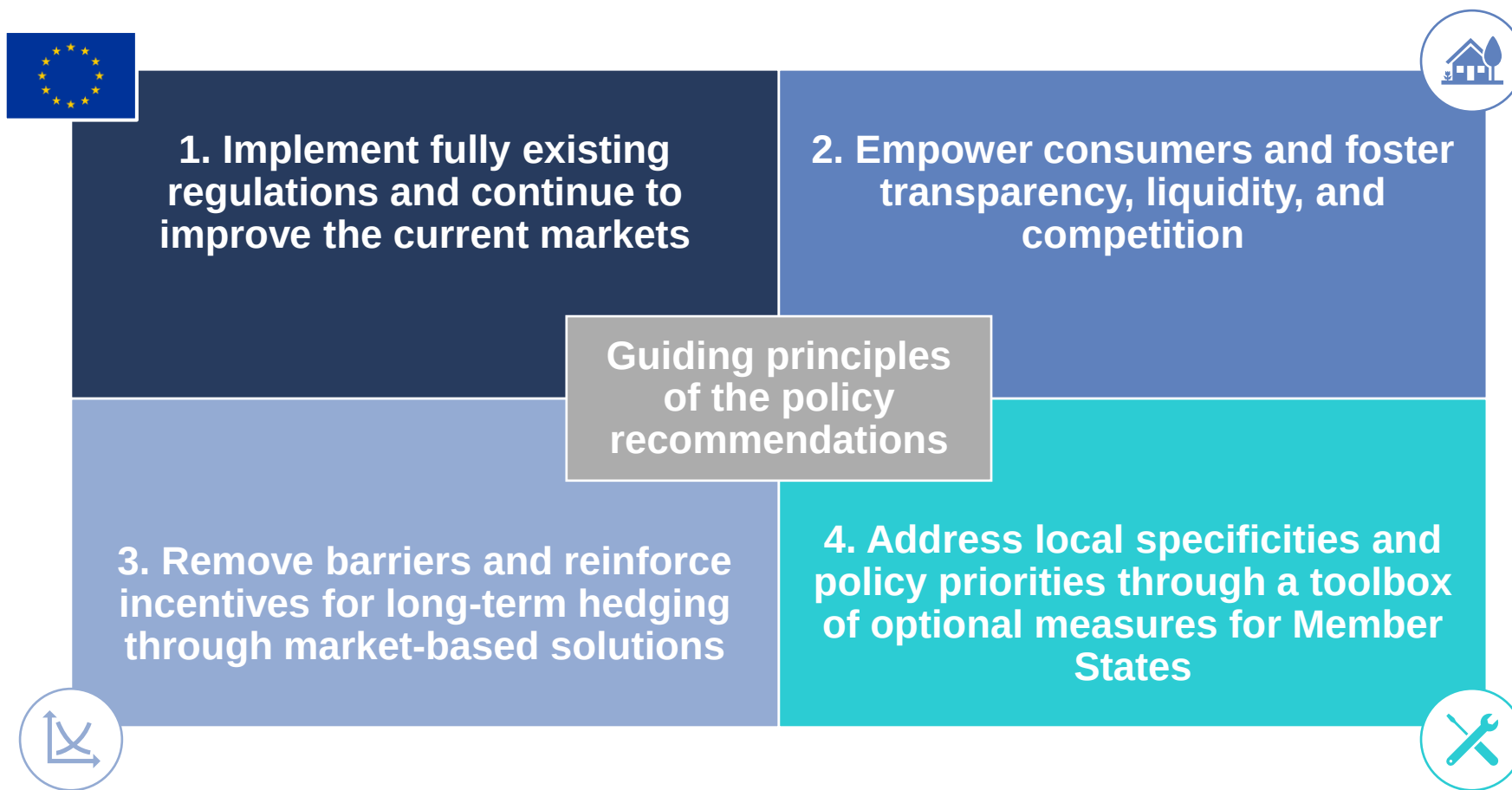
Need to **benefit consumers and support their active engagement**

A long-term hedging and contracting framework can complement existing short-term markets to address the double-challenge of stimulating investments while providing better hedging opportunities for consumers

Key design elements – A market design fit for Net-Zero should build on the existing internal energy market, adding three critical pillars

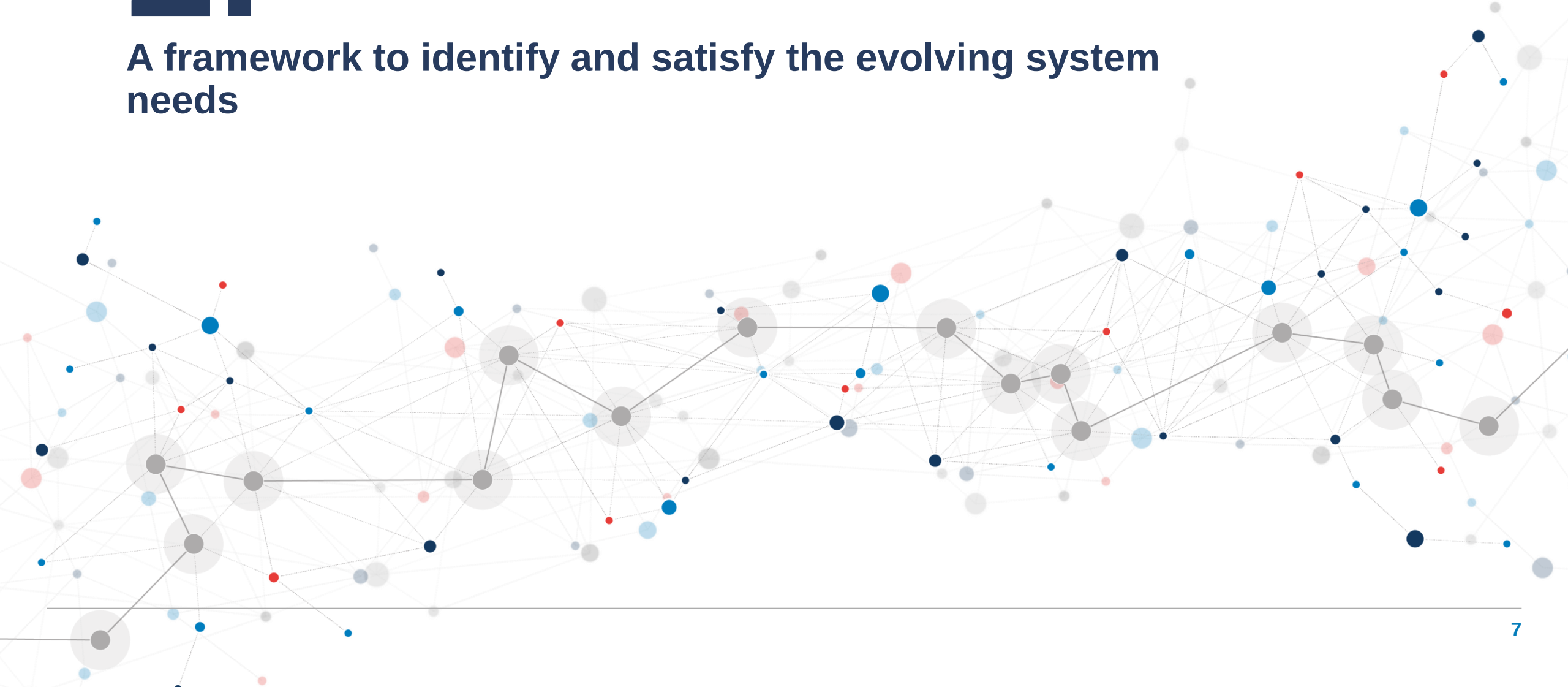


Guiding principles of the policy recommendations



2.

A framework to identify and satisfy the evolving system needs



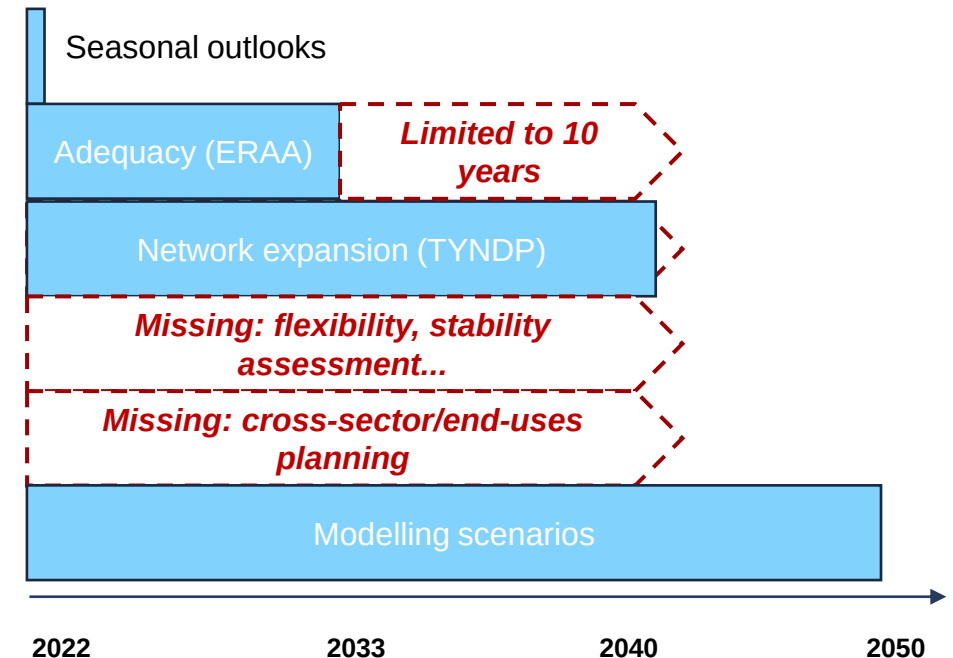


Key gaps with the current European framework for the identification of system needs to ensure security of supply

System needs assessment needs to be further improved

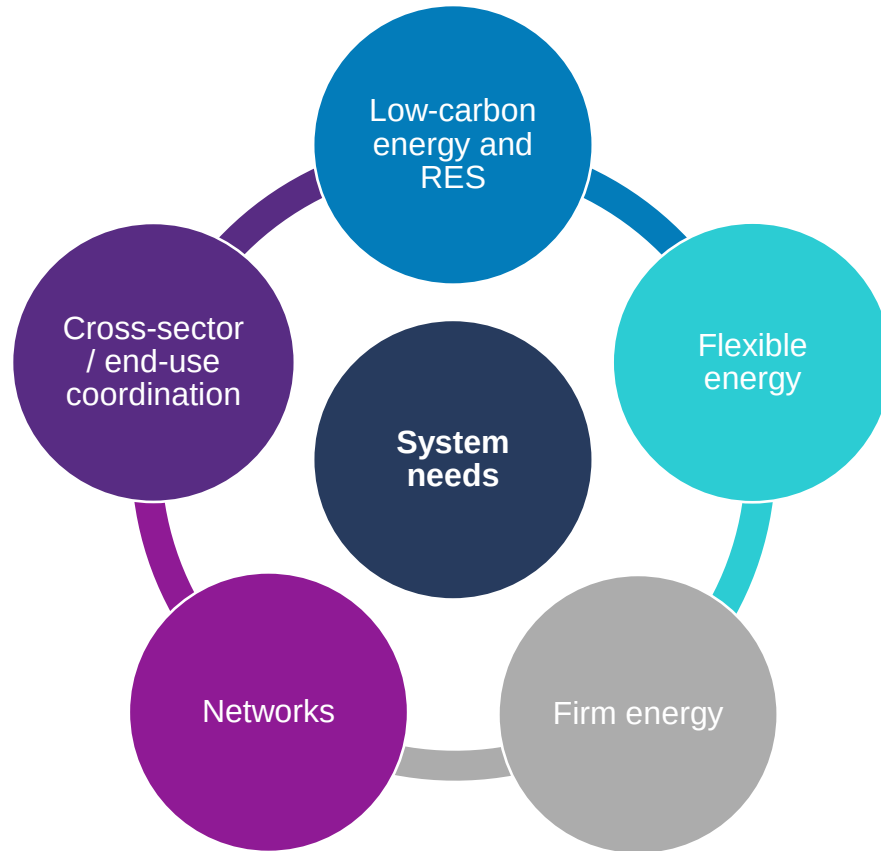
- **Broaden focus of EU / national planning instruments**
- **Time horizon** (10-20 years) **needs to be extended** to map challenges on path towards net-zero
 - Provide visibility for market participants and network operators and allow timely investments and dimension networks fit for the future power system
- **Cross-sector**: Whole energy system perspective needed to assess synergies across sectors
- **Demand-side contribution** not fully captured

Limitations to current power system planning studies¹



Key recommendations to establish an **enhanced framework to assess system needs** with a cross-sector perspective in the long-term

Scope of system needs to be assessed:



1

Scope

- **Widen the scope** and include cross-sector
- **Extend the time horizon**
- Move away from a **too incremental approach** and allow to **anticipate investments in networks and optimise their dimensioning**

2

Methodology

- **Develop EU-wide guidelines** for the methodology
- **Assess systematically the economic viability** for all resources
- **Stress test the resilience of the energy system**

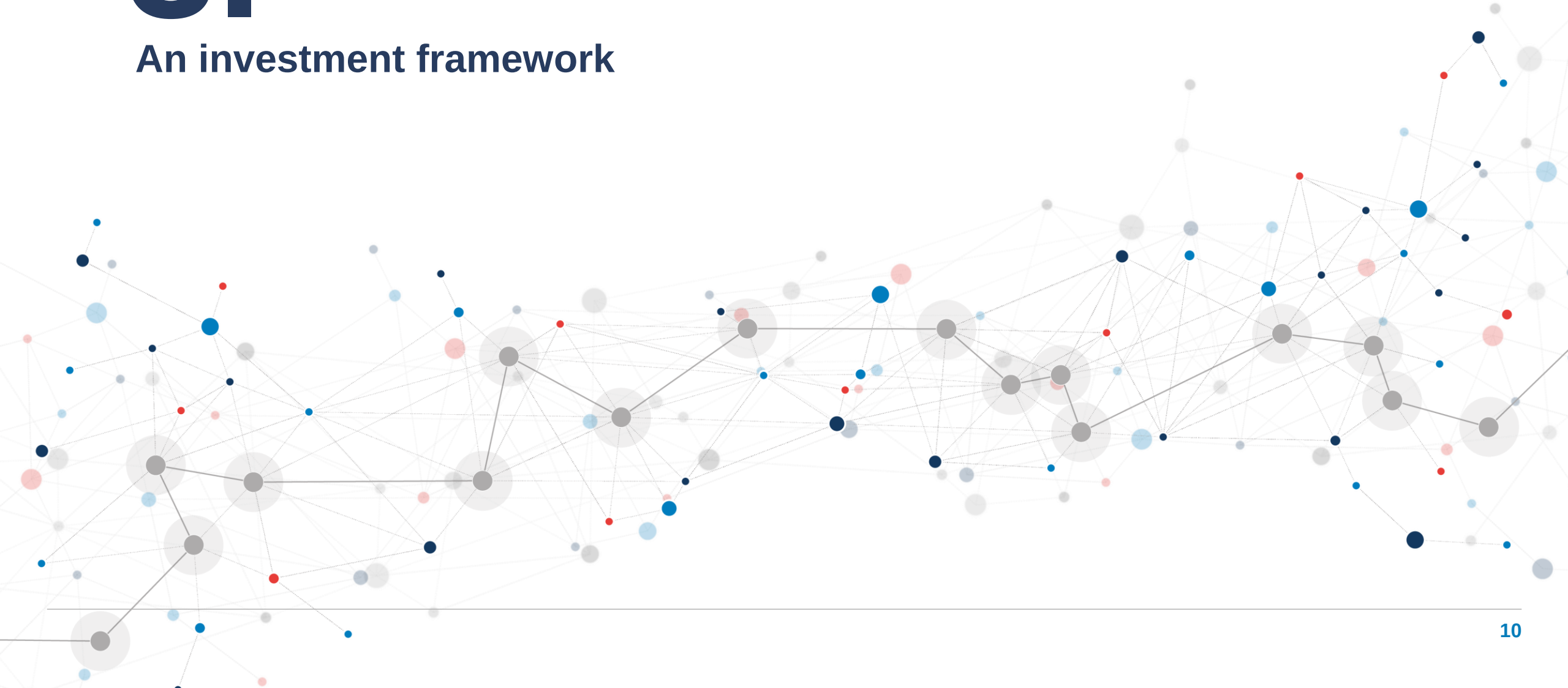
3

Governance

- Define a **governance framework** with adequate **cooperation with distribution**, through EU DSO, and **improved stakeholder engagement**

3.

An investment framework

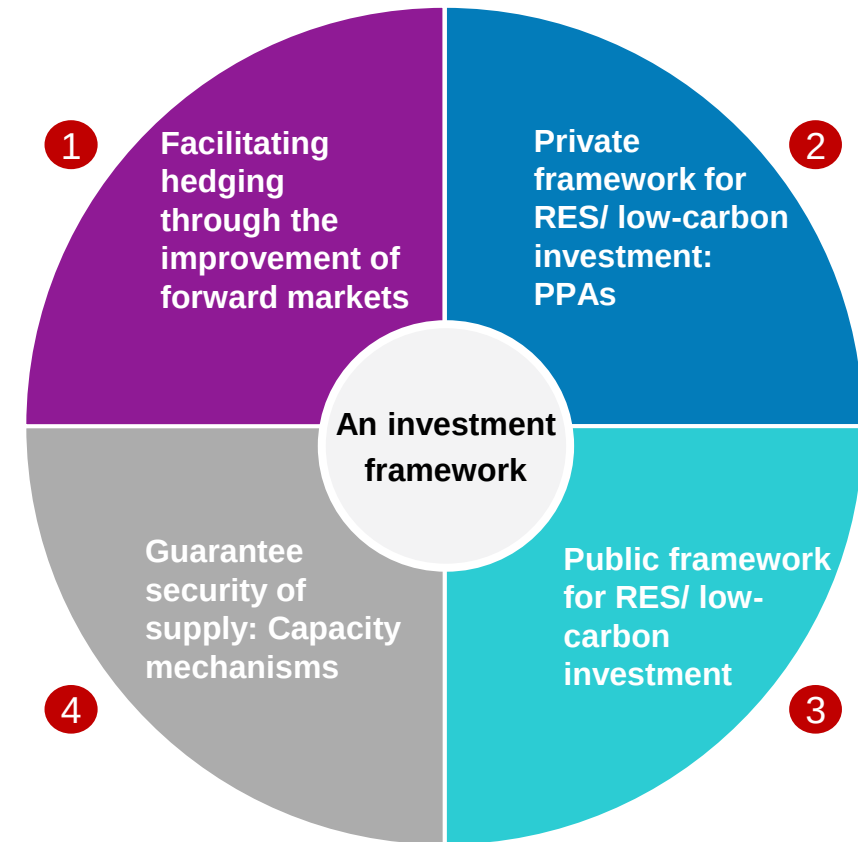




An investment framework underpinned by enhanced long-term hedging / contracting opportunities

Different types of measures can be introduced to enhance long-term contracting, reflected by different types of long-term contracts at the core of the new market model

- **Long-term contracts play a critical role to support large-scale investment** in RES and low-carbon technologies, as well as in firm and flexible capacities
- **By facilitating financing and reducing the cost of capital**, they reduce the total cost of decarbonisation and benefit consumers
- **Capacity mechanisms, private PPAs, public RES and low-carbon schemes, and forward hedging**, all have a role to play
- If well designed, **these instruments are complementary and can work together** to meet a wide range of needs and preferences of customers.





Key recommendations to facilitate hedging through the improvement of forward markets

Key gaps

Restrictions on collaterals

Volume of LTTRs too low and only limited to a year

Regulatory interventions increase uncertainties and affect forward market liquidity

Lack of liquid products to hedge beyond 2-3 years

Recommendations

Removing barriers to forward market hedging

-  Ease collateral regulations in forward markets
-  Facilitate cross-border hedging
-  Make regulatory frameworks stable.

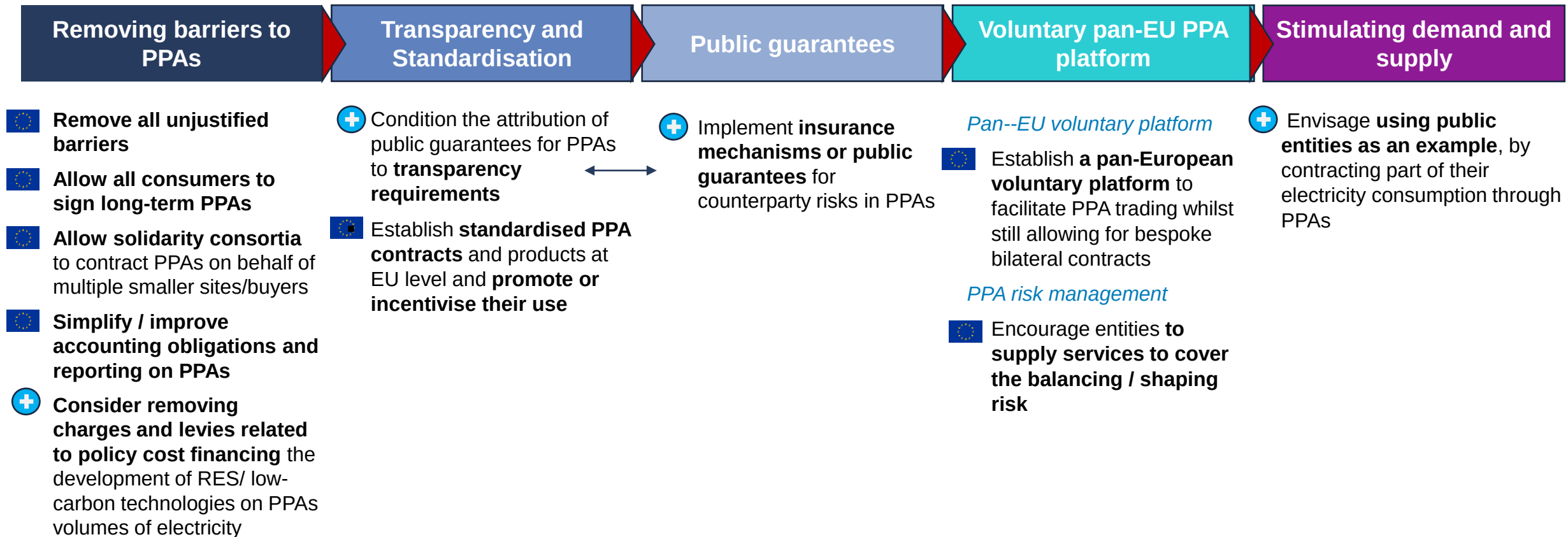
Stimulating demand and supply in forward markets, including at longer horizons

-  Explore voluntary mechanisms for market makers in forward markets



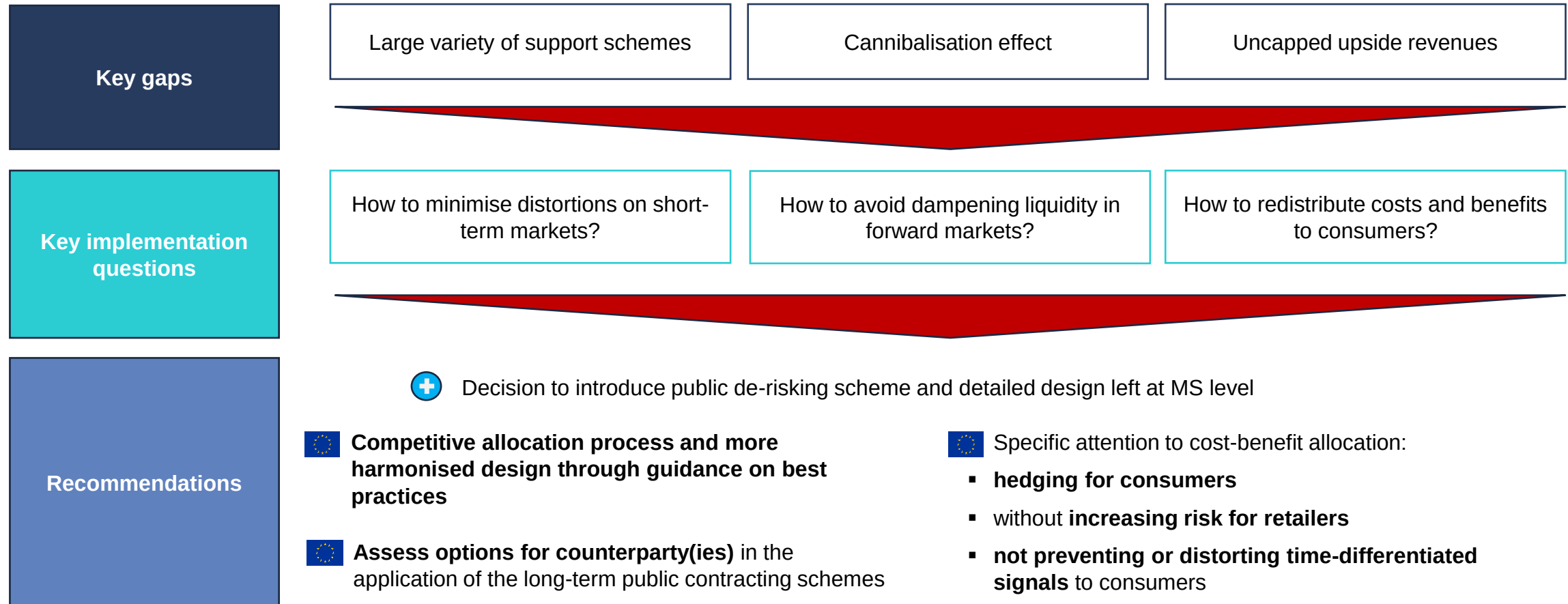
Key recommendations to establish a private framework for RES and low-carbon investment: Power Purchase Agreements

We put forward a range of measures at a European level, and some optional measures at national level depending on local specificities



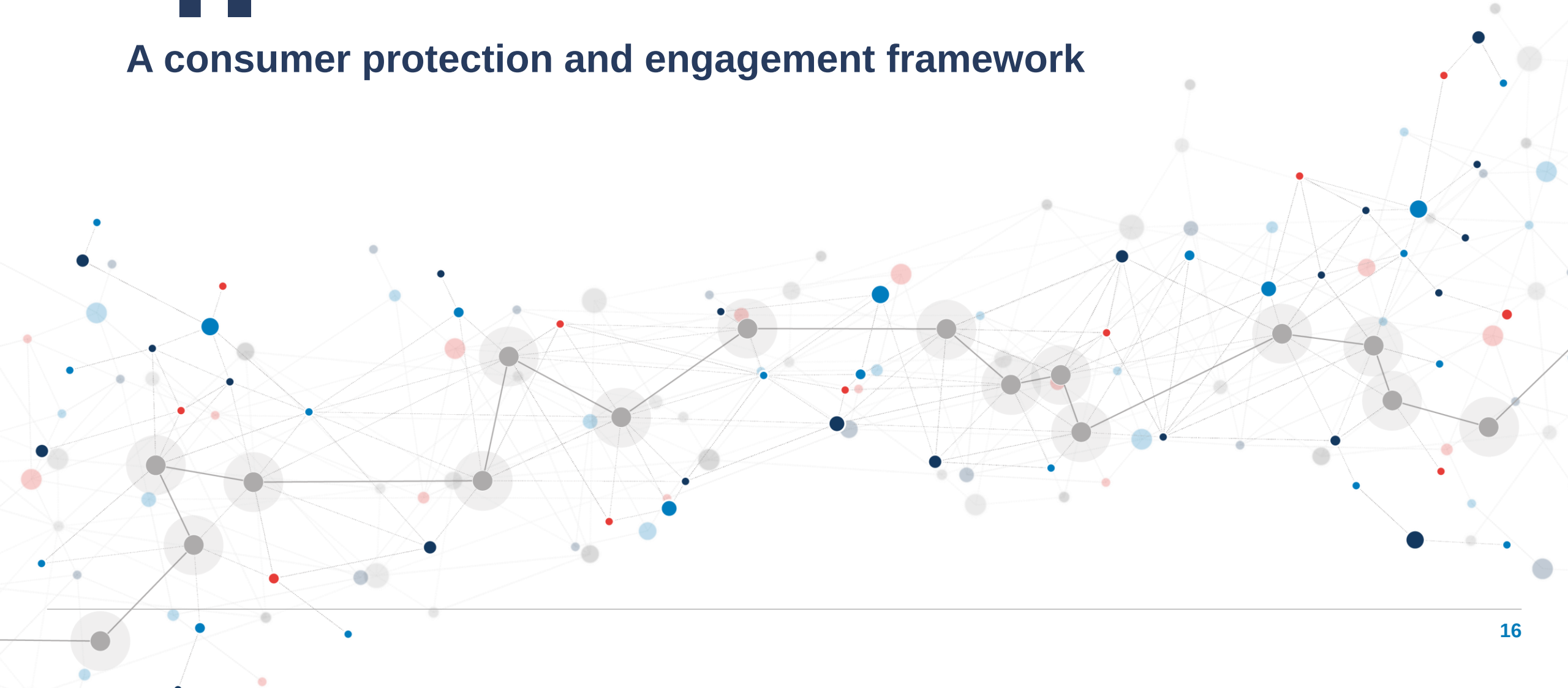


Key recommendations to establish a public framework for RES and low-carbon investment



4.

A consumer protection and engagement framework



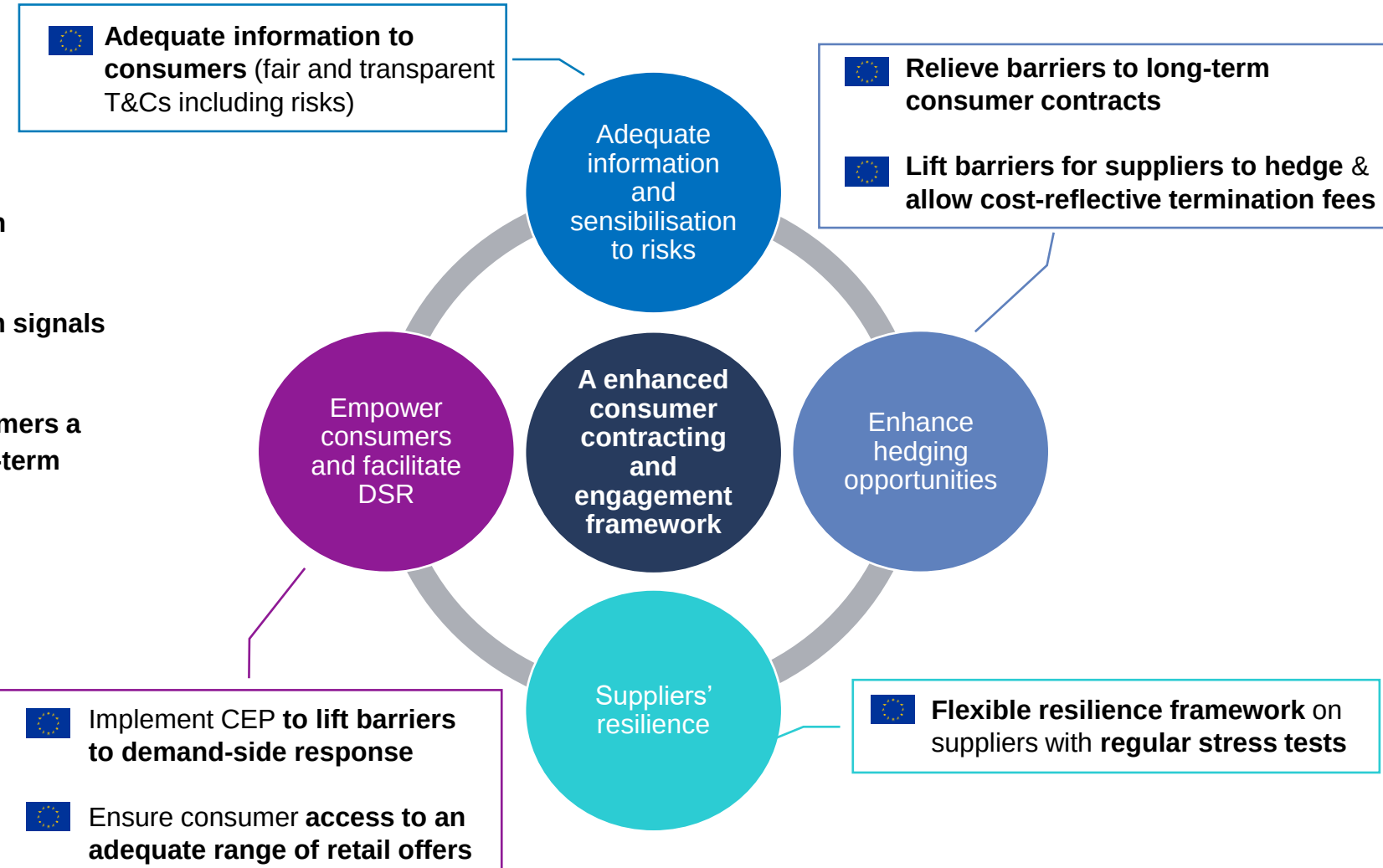


Key recommendations to establish a consumer protection and engagement framework

- Bring the benefits of RES and low-carbon generation more directly to consumers...
- ...while still providing efficient short-term signals fostering active demand participation.
- The overarching objective is to offer consumers a more balanced choice of short- and long-term price signals in retail prices



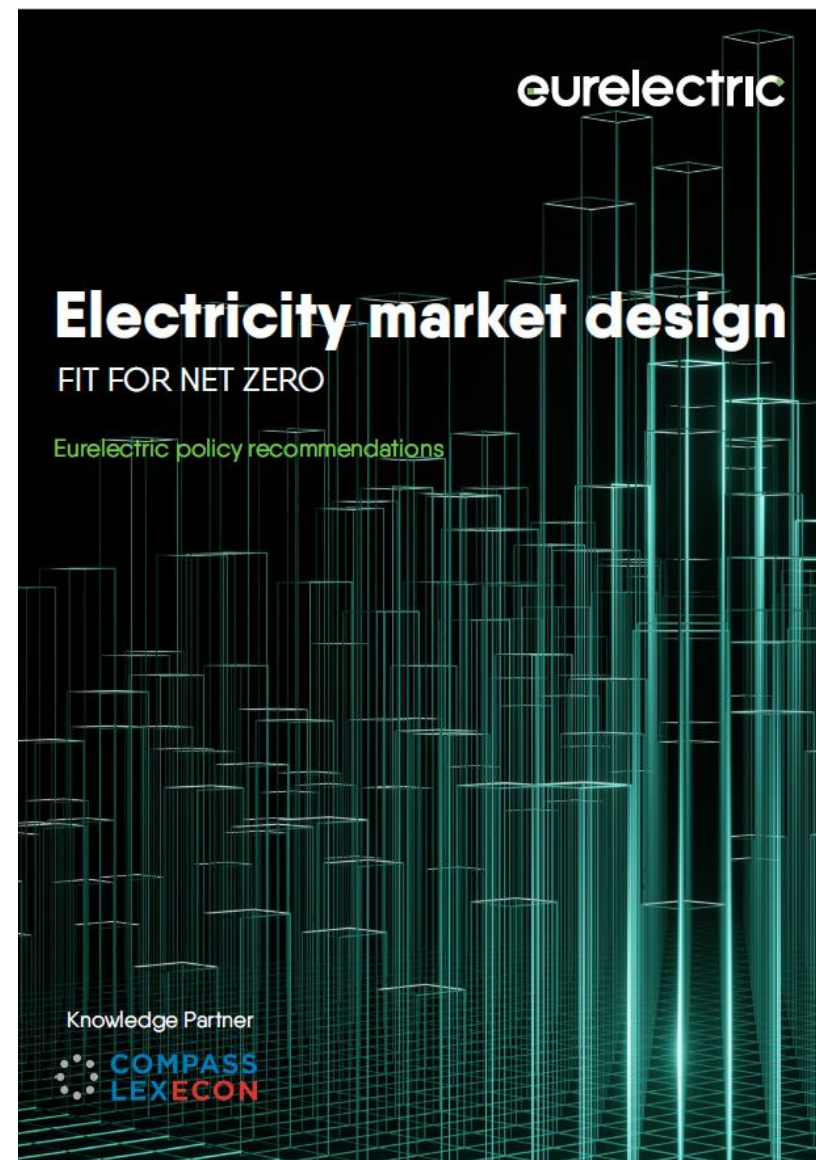
This pillar is strongly linked to the investment framework pillar through the hedging properties of long-term contracting and the importance of forward markets, public schemes and PPAs



Thank you for your attention

**Further details of policy
recommendations can be found in
the study report**

**[https://market-
design.eurelectric.org/](https://market-design.eurelectric.org/)**



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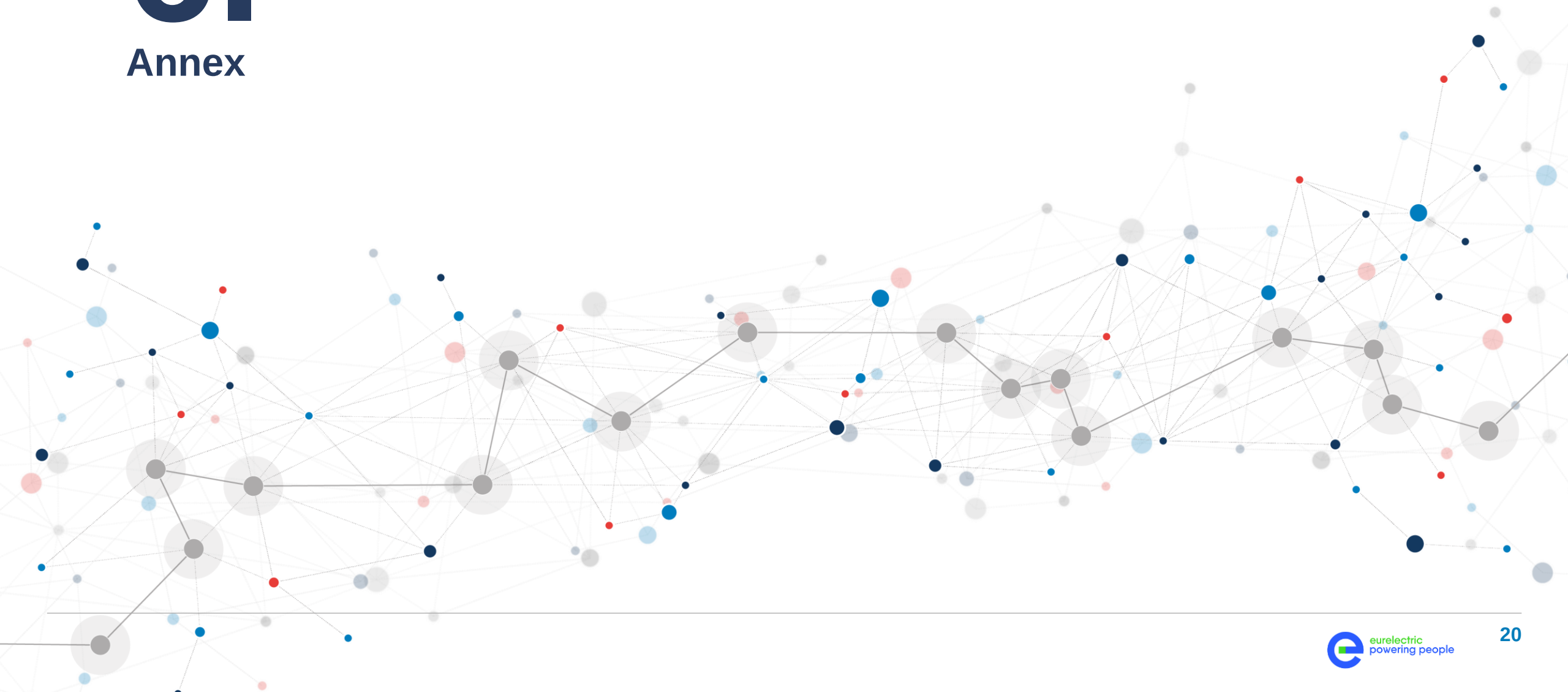
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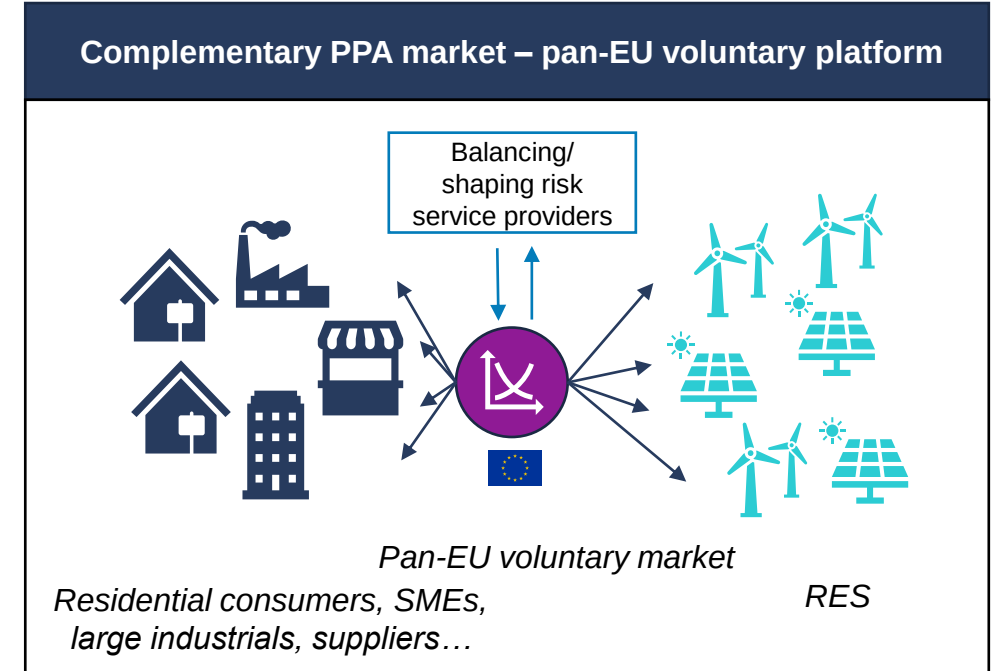
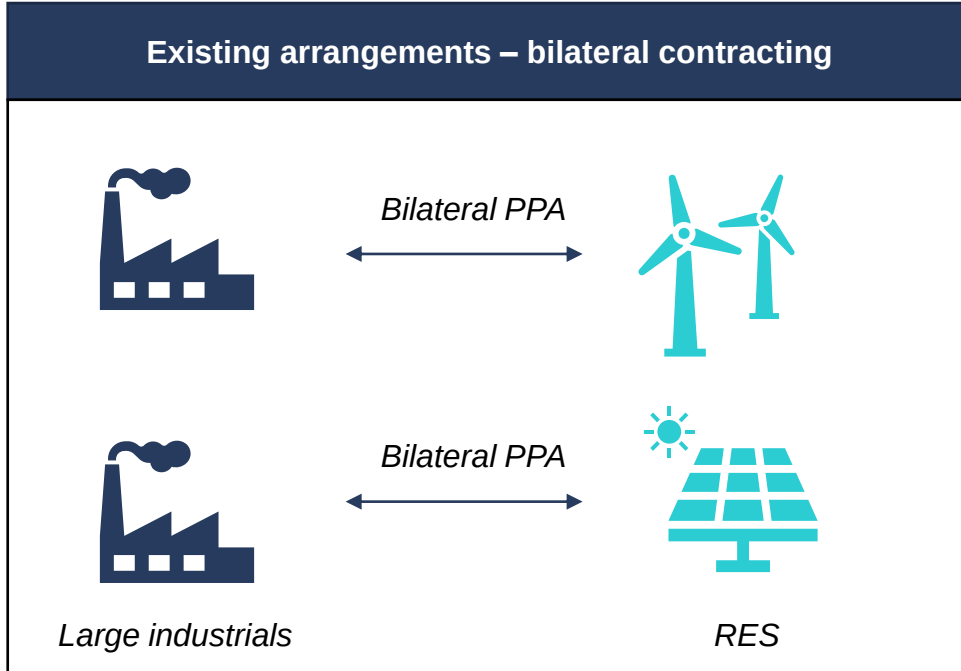
6.

Annex





Deep dive on the recommendation to establish a pan-European voluntary platform to facilitate PPA trading



The voluntary platform would:

1. Facilitate supply and demand to meet more easily, potentially including with **balancing/shaping risk service providers**
2. Provide **standard contractual arrangements** for PPAs, to facilitate secondary trading over the lifetime of such contracts if necessary
3. Allow the platform operator to act as a **central counterparty** to PPA contracts, potentially backed by public guarantees.

This would still allow for bespoke contractual arrangements outside of the platform if required by some market participants



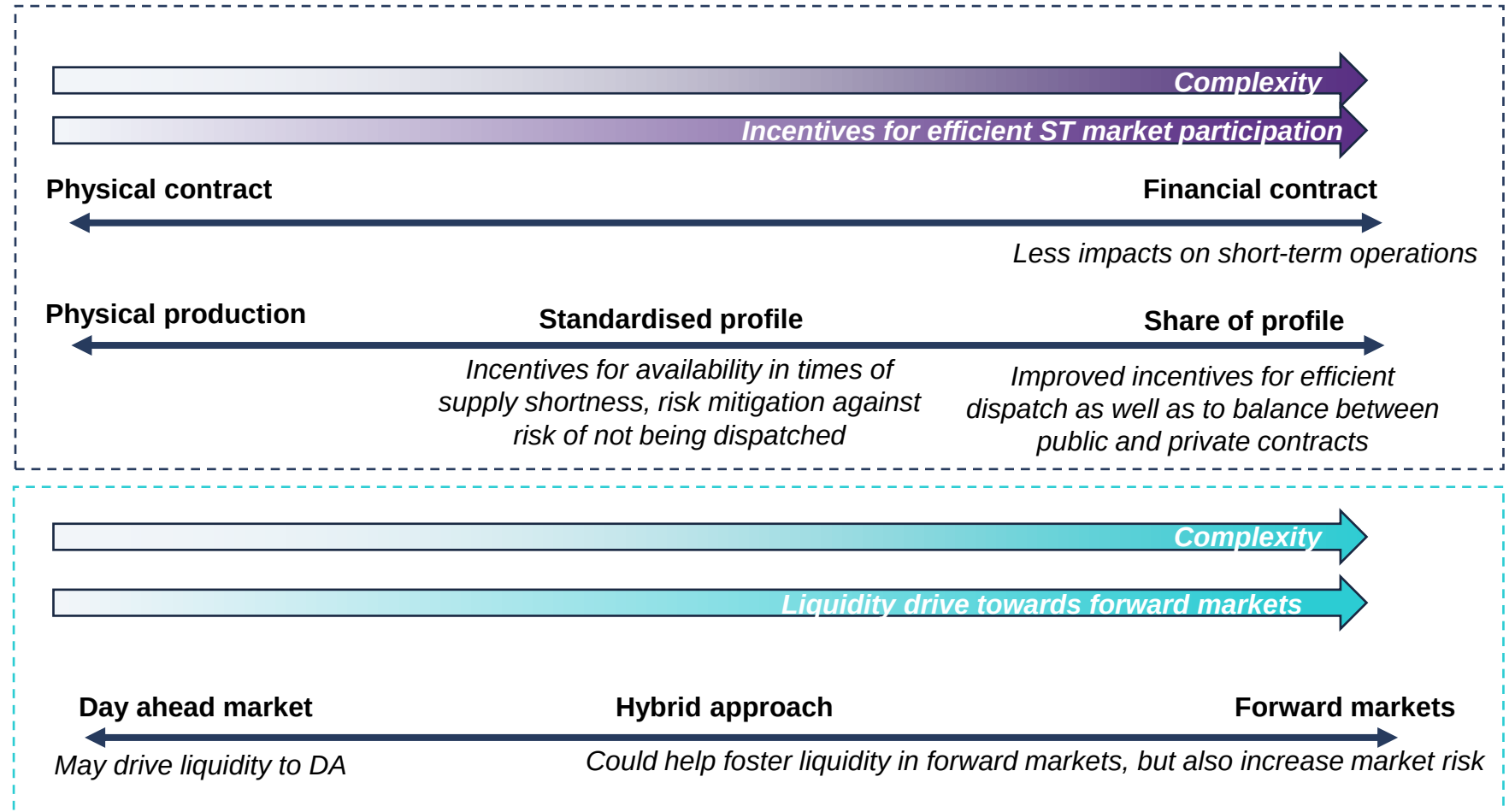
Key design choices to establish an efficient public framework for RES and low-carbon investment which benefits consumers (1)

Key implementation question

The choice of **product type** and **energy profile** impact interactions with short-term markets

Choice of **reference index** in de-risking contracts impacts liquidity in forward markets

Key implementation options



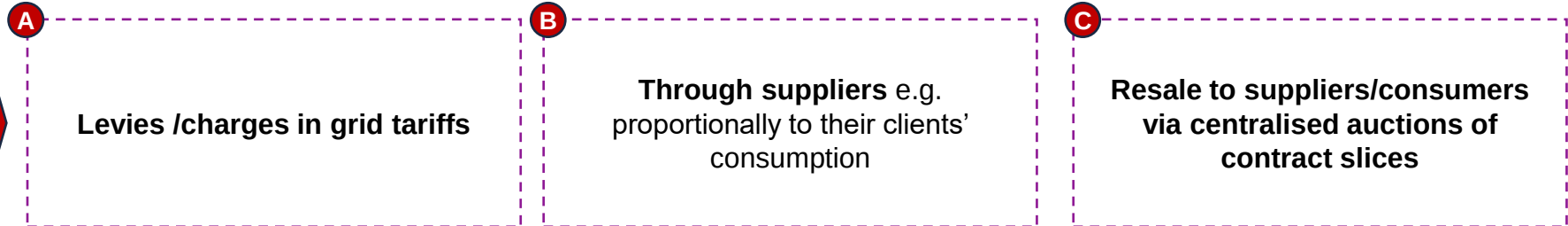


Key design choices to establish an efficient public framework for RES and low-carbon investment which benefits consumers (2)

Key implementation question

Redistribute the costs/
benefits efficiently to
consumers

Key implementation options



- **Robust to consumer switching**
- **Risk of untimely redistribution of costs and benefits:** need for sufficiently granular intervals
- **Risk of dampening price signals** and the incentives to consume in off-peak periods when there is abundant RES and low-carbon generation

- **Robust to consumer switching**
- **Efficient and dynamic redistribution** of costs and benefits to consumers
- Create **additional risks and uncertainty for suppliers** on the costs and benefits to recover and on the balancing of their portfolio.
- **Costs may be allocated to consumers with less price-elastic demand** and raise concerns regarding the fairness of allocation.

- Suppliers/consumers would be able to access **medium-term contracts** (e.g. 1-3 years), through voluntary, open and competitive auctions organised by a central public or private entity.
- **Lower supplier risk exposure** but a **share of the risk on cost recovery and balancing** transferred to the central entity
- **Risk of interference with forward markets**



Key gaps: A need to bring benefits of RES / low-carbon generation more directly to end-consumers while fostering consumer engagement

Retail market ad-hoc intervention across Europe to protect consumers against rising prices

- The high prices seen during the energy crisis have led to **widespread interventions across Member States** to protect consumers
- This shows the **need to better pass on the benefits of renewables and other clean technologies' stable generation costs to consumers**
- However, the **lack of long-term consumer commitment to suppliers conditions their willingness to engage in long-term contracts with generators** – limiting hedging opportunities
- At the same time, a **large share of energy consumers is not engaged in the market**

	Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Poland	Portugal	Romania	Slovenia	Slovakia	Spain	Sweden	United Kingdom
																												
Direct aid for energy costs																												
Tax Relief - Retail																												
Network tariff reductions/exemptions																												
Retail Price Regulation																												

Source: Compass Lexecon analysis, Bruegel as of October 2022