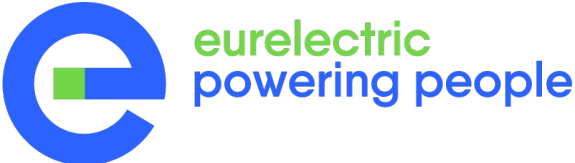


A MARKET FIT FOR NET-ZERO POWER SYSTEM

EURELECTRIC'S FLAGSHIP STUDY



Introduction to Compass Lexecon

Our services for the energy sector

Policy and Regulation

- Market design
- Design of infrastructure access regulations
- Design of economic infrastructure regulations
- Third Party Access regulation definition

M&A and Due Diligence

- Target screening
- Commercial Due Diligence
- Regulatory Due Diligence
- Financial Due Diligence

Strategy

- Overall strategy
- Regulatory strategy
- Marketing strategy

Competition Economics & State Aid

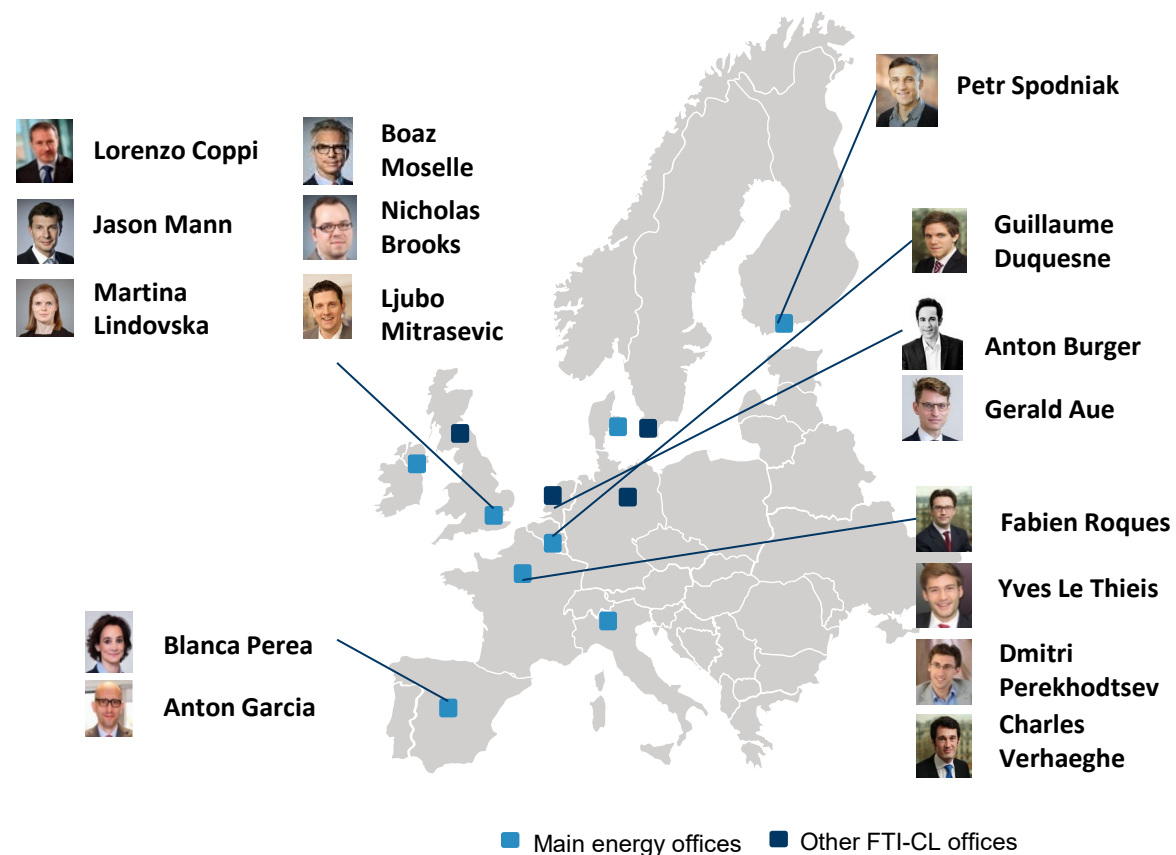
- Abuse of dominant position, Antitrust
- Merger control
- State Aid compliance of support scheme

Disputes

- Expertise in Price Review, Hardship, Force Majeure disputes
- Expertise in construction disputes

Senior energy experts in Europe

CL's senior energy experts are supported by a team of 50+ experienced consultants.

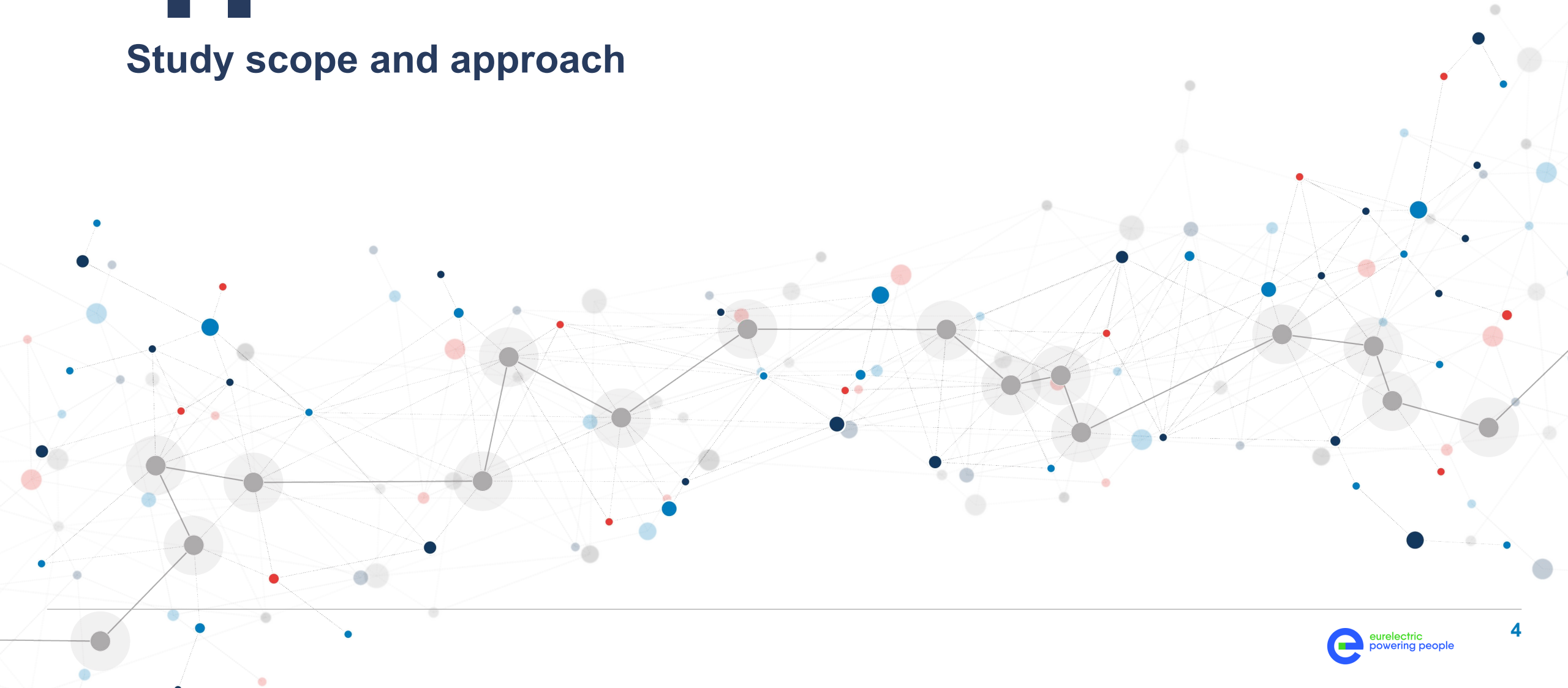


Content

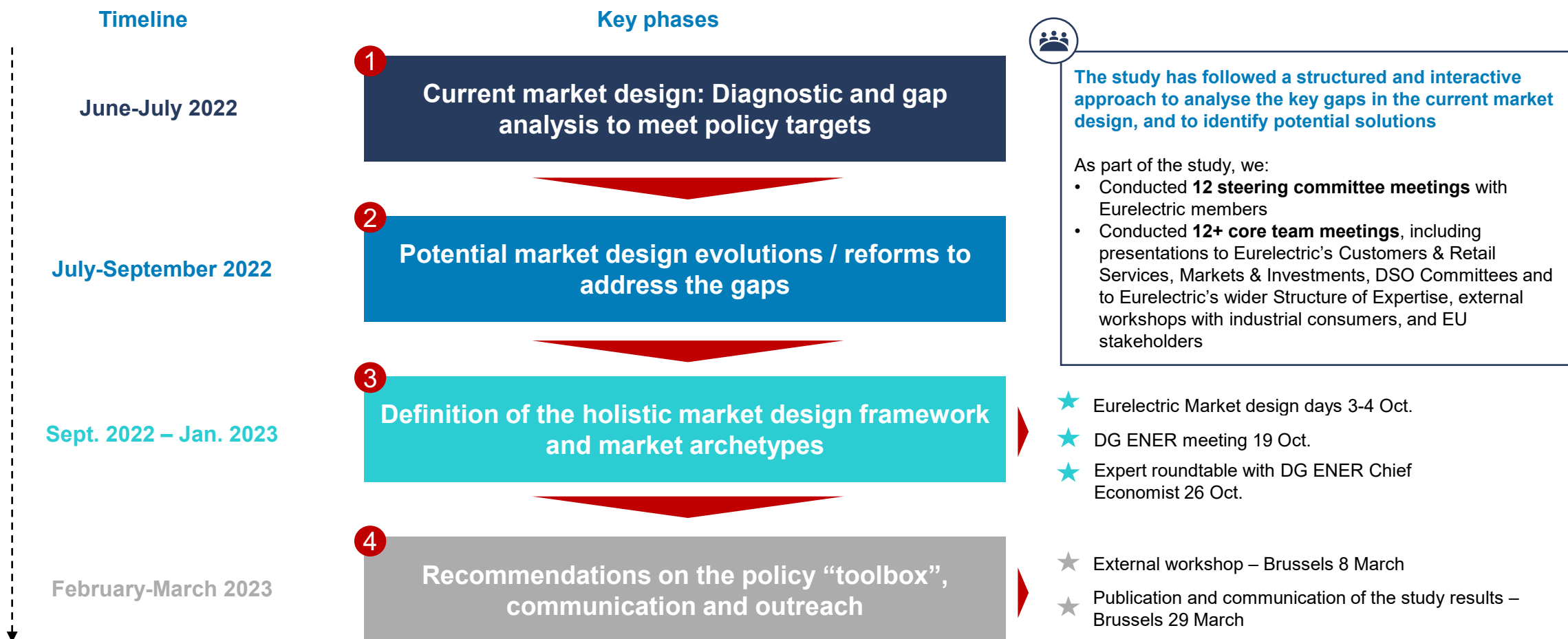
- Study scope and approach
- Gap analysis and key market design principles
- Overview of policy recommendations
 - A framework to identify and satisfy the evolving system needs
 - An investment framework underpinned by enhanced long-term hedging / contracting opportunities
 - A consumer contracting and engagement framework
- Annex – Detailed policy recommendations

1.

Study scope and approach

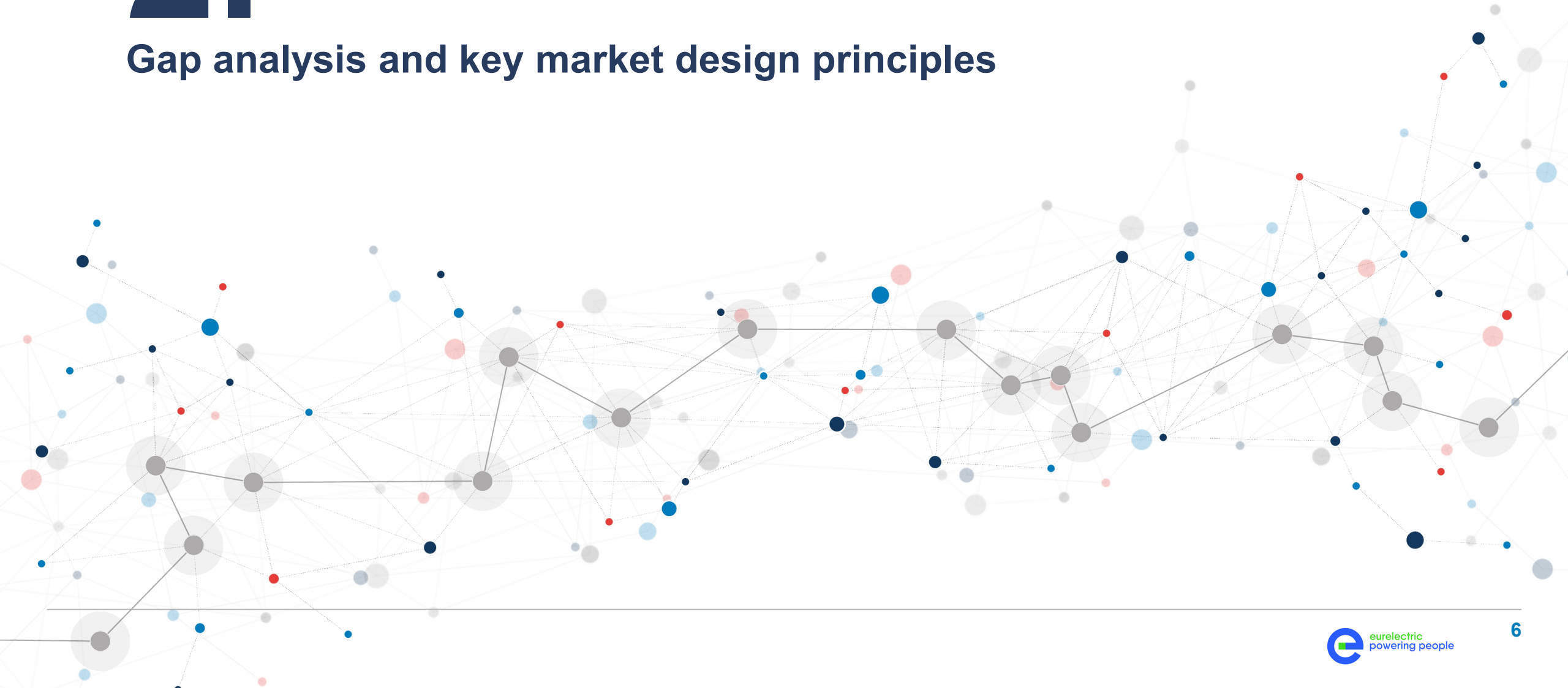


Study overview: a 4-phase approach



2.

Gap analysis and key market design principles

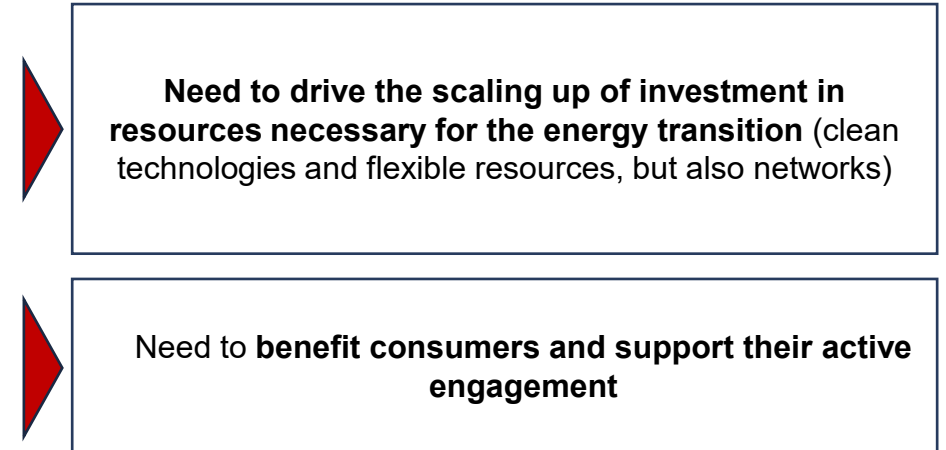


The EU integrated market ensures an efficient functioning of the power system but needs to be complemented to address policy objectives

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



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

Further development of forward markets and long-term contracting can benefit consumers and support investment in clean technology



Benefit consumers and support their active engagement.

- **A large share of energy consumers is not engaged in the market** e.g. due to the lack of information or awareness of risks and opportunities, retail pricing structure, barriers to the development of explicit demand-side response (DSR) or policy interventions distorting consumer price signals
- **The energy crisis shows the need to better protect consumers** by passing on the benefits of clean technologies' stable generation costs to consumers
- In their vast majority, **residential consumers currently do not have commitments with their suppliers beyond 1-3 years**. This limits the ability of suppliers to hedge on their behalf

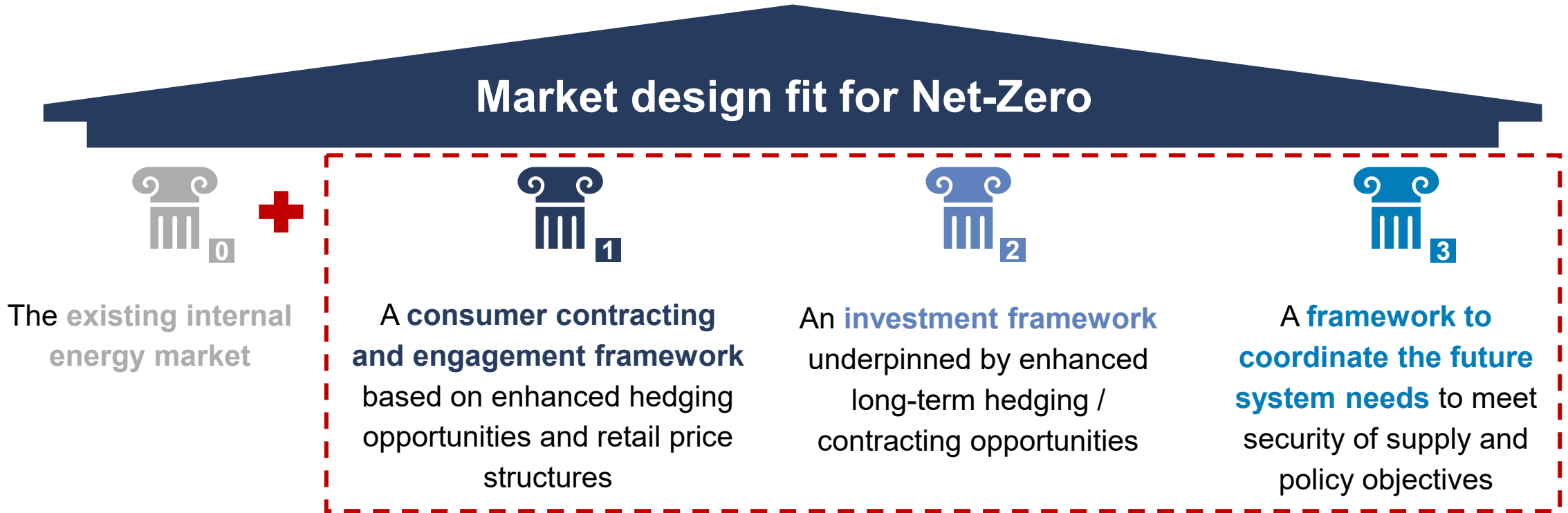


Enable the deployment of the resources necessary for the energy transition

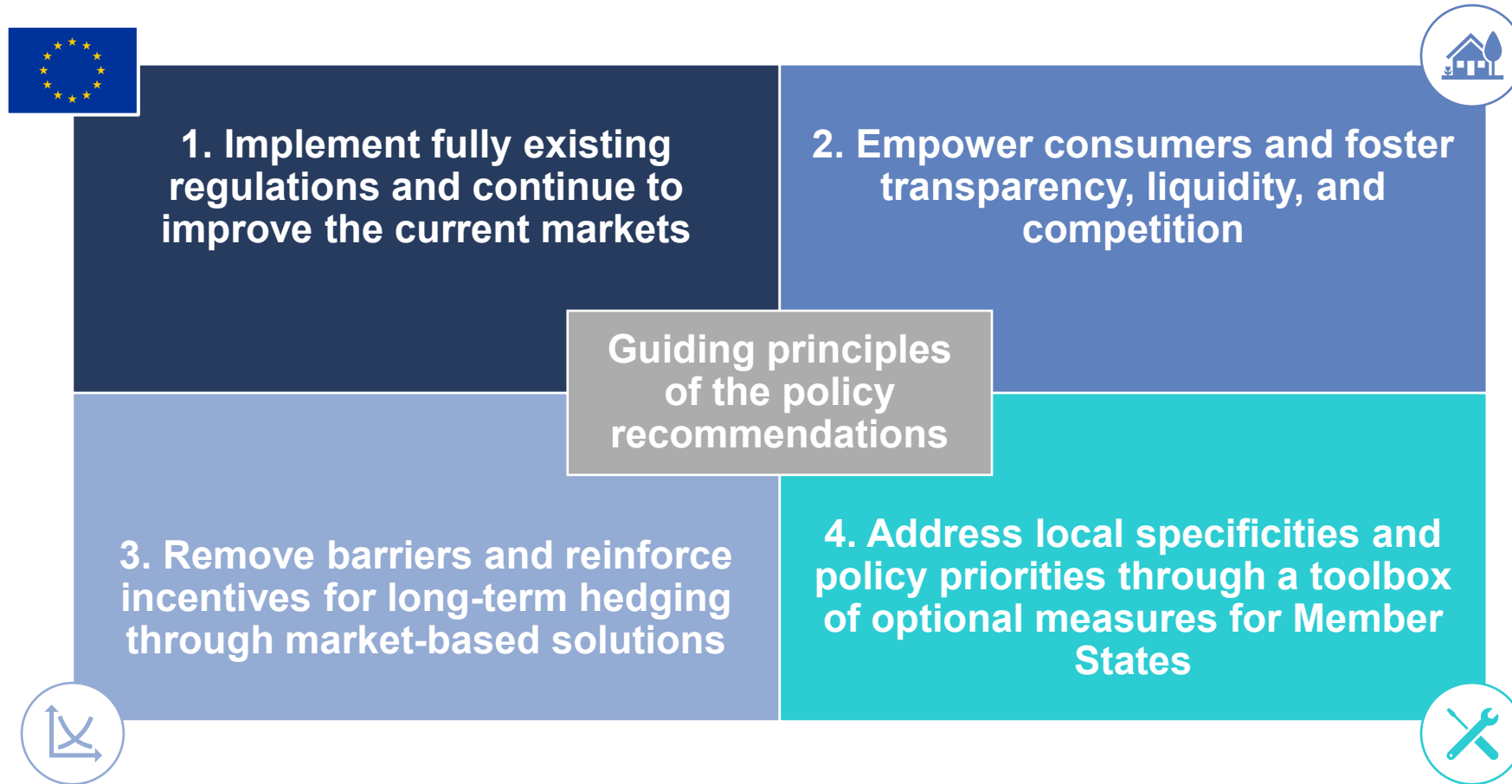
- **Need for a long-term vision with a holistic cross-sector perspective of the system needs to coordinate substantial investments** within a short timeframe across the power sector, related infrastructures and end uses which are electrifying
- Energy-only **markets alone may not provide adequate investment signals** to secure electricity supplies and reach policy objectives
- **An investment framework** combining enhanced **private long term contracting opportunities and public de-risking schemes** is necessary to fast track the deployment of the resources necessary for the energy transition (clean technologies and flexible resources, but also networks)



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

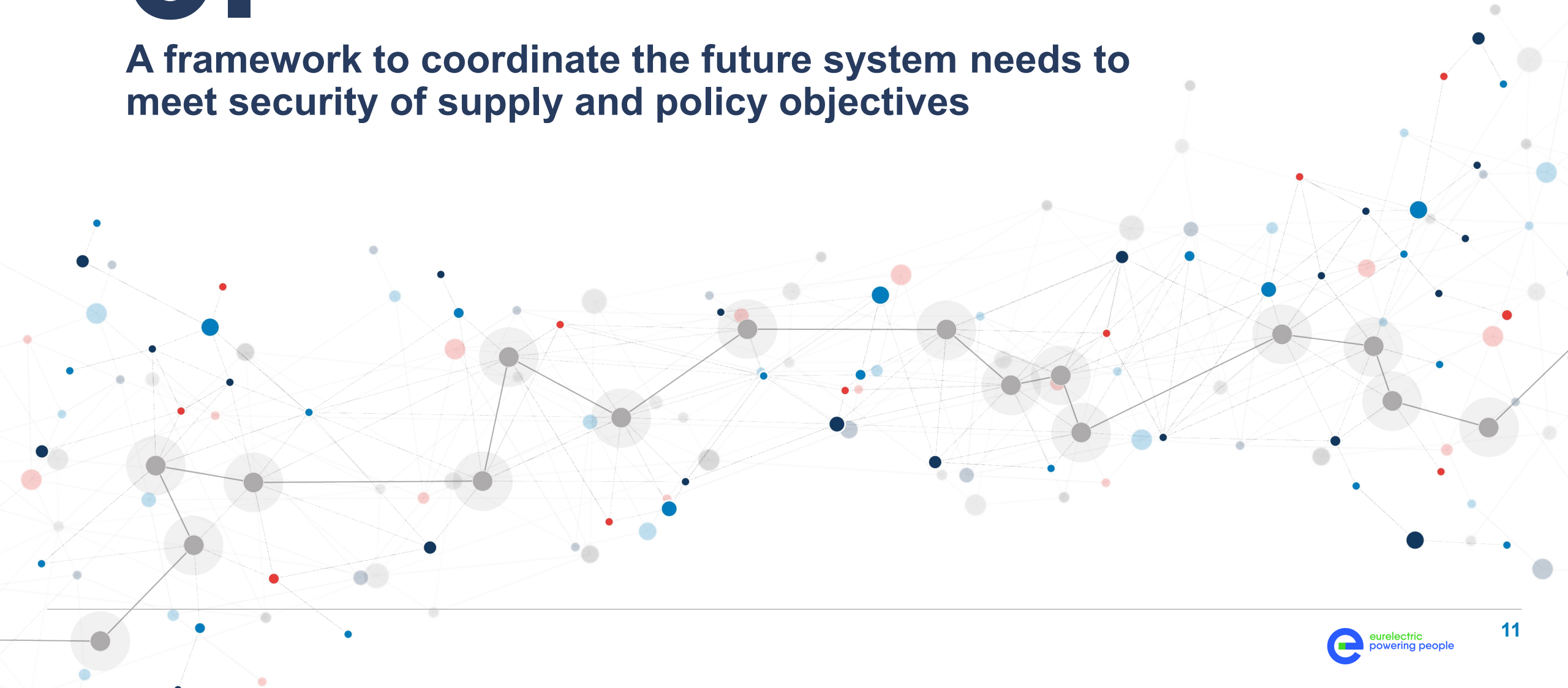


Guiding principles of the policy recommendations



3.

A framework to coordinate the future system needs to meet security of supply and policy objectives



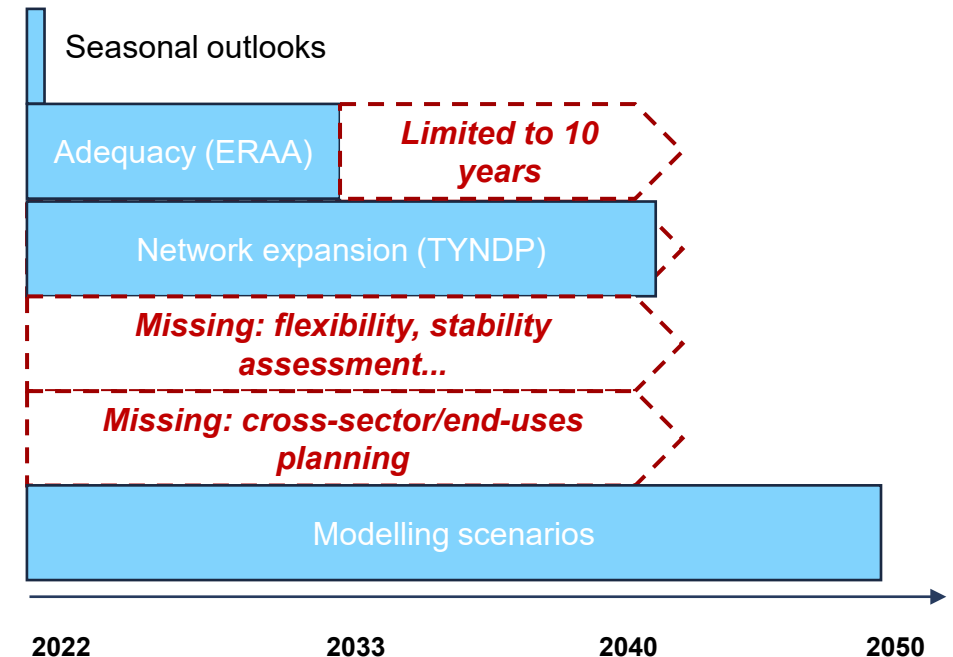


Key gaps with the current European framework for the identification of system needs to ensure security of supply

System needs assessment needs to be further improved

- **Broaden focus of EU / national planning instruments**
 - Current instruments focussed on 1) [network expansion \(TYNDP\)](#) and 2) [adequacy \(ERAA\)](#)
 - Limited assessment of the different system needs, in particular flexibility (long-term, short-term) and stability issues
- **Time horizon needs to be extended to map challenges on path towards net-zero**
 - Need to provide visibility for market participants and network operators
 - Allow timely investments and dimension networks fit for the future power system
- **Whole energy system perspective needed to assess synergies across sectors**
 - Fastrack ENTSOE and ENTSOG joint initiative for a multi-sectorial Planning Support only across gas / electricity and add H2
 - Include demand-side contribution (electrification of transport, industry, buildings, H2).

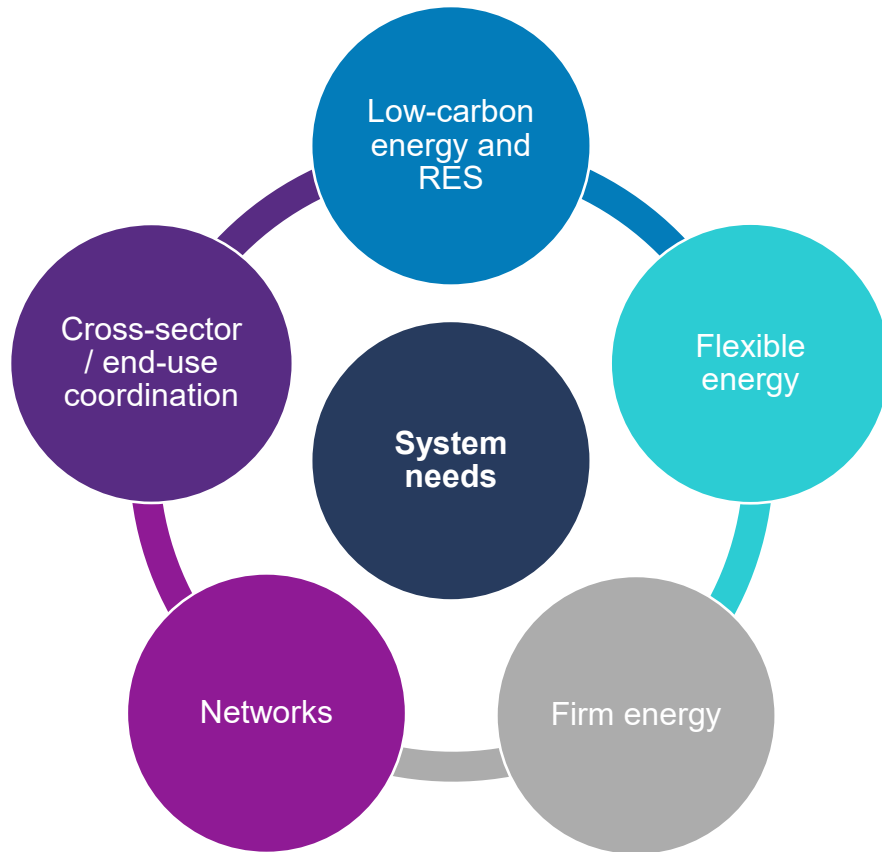
Limitations to current power system planning studies¹





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** of electricity system needs assessment
- **Include a cross-sector assessment** in system needs assessment
- **Extend the time horizon** of system needs assessment to move away from a **too incremental approach** and allow to **anticipate investments in networks and optimise their dimensioning**

2 Methodology

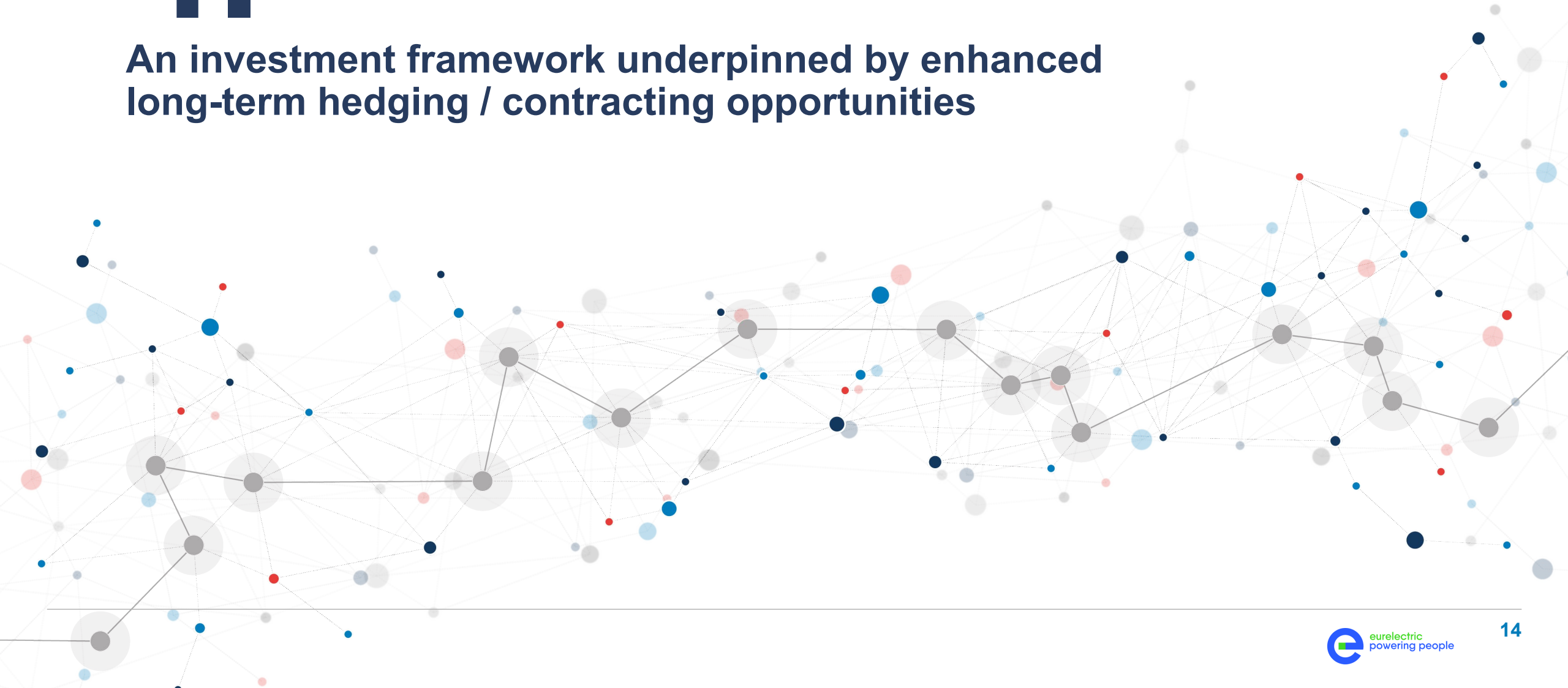
- **Develop EU-wide guidelines** for the methodology on EU-wide, regional and national system needs assessment
- **Assess systematically the economic viability** for all resources
- **Stress test the resilience of the energy system** through an enhanced analysis of extreme events in the system needs assessment

3 Governance

- Define a **governance framework** with clear responsibilities on the development of the methodology, adequate **cooperation with distribution**, through cooperation with the EU DSO entity and **improved stakeholder engagement**

4.

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

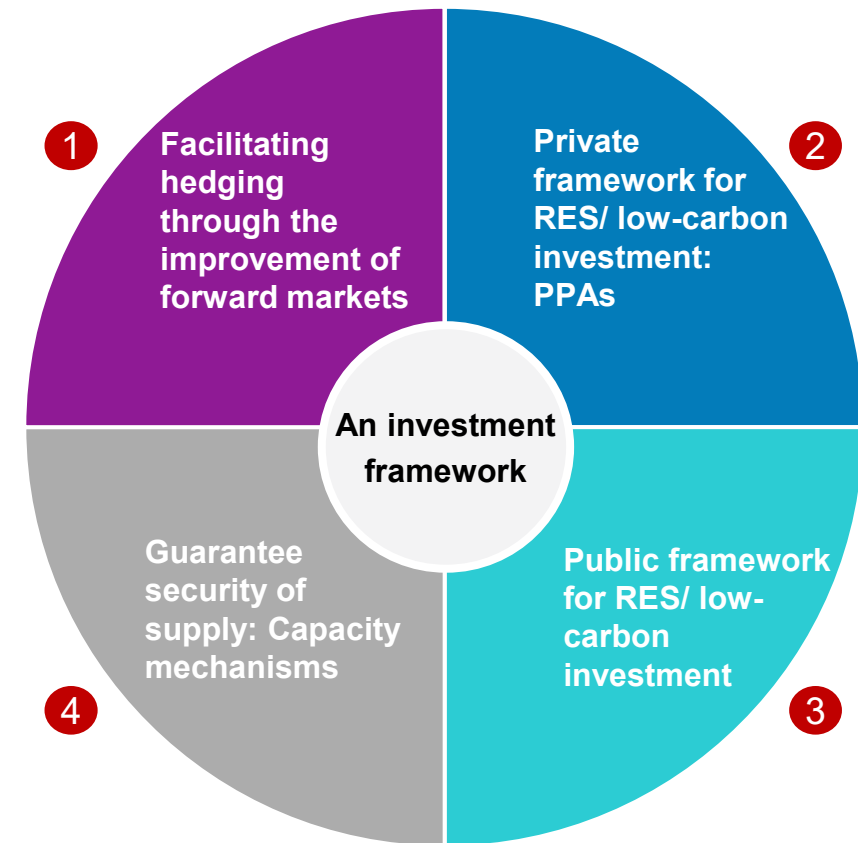




An investment framework underpinned by enhanced long-term hedging / contracting opportunities

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

There are currently **restrictions as to what can be posted as collateral** on exchanges




Volume of LTTRs allocated by TSOs for cross-border hedging is **too low and only limited to a year**

Regulatory interventions increase uncertainties which can affect forward market liquidity and forward contract prices

Forward power markets lack liquid products to hedge beyond 2-3 years

Recommendations

Remove barriers to forward market hedging

-  **Ease collateral regulations in forward markets, through a change in the EU Regulations**, by widening the types of collateral accepted
-  **Facilitate hedging opportunities across borders for forward market** through a change in EU Regulations
-  **Make regulatory frameworks stable**

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

-  **Explore voluntary mechanisms for market makers** in forward markets to stimulate liquidity up to 7-10 years





Key gaps: An investment framework to support capital-intensive large-scale investment in clean technologies and flexible resources

The EU decarbonisation ambition requires a step up in power sector investments

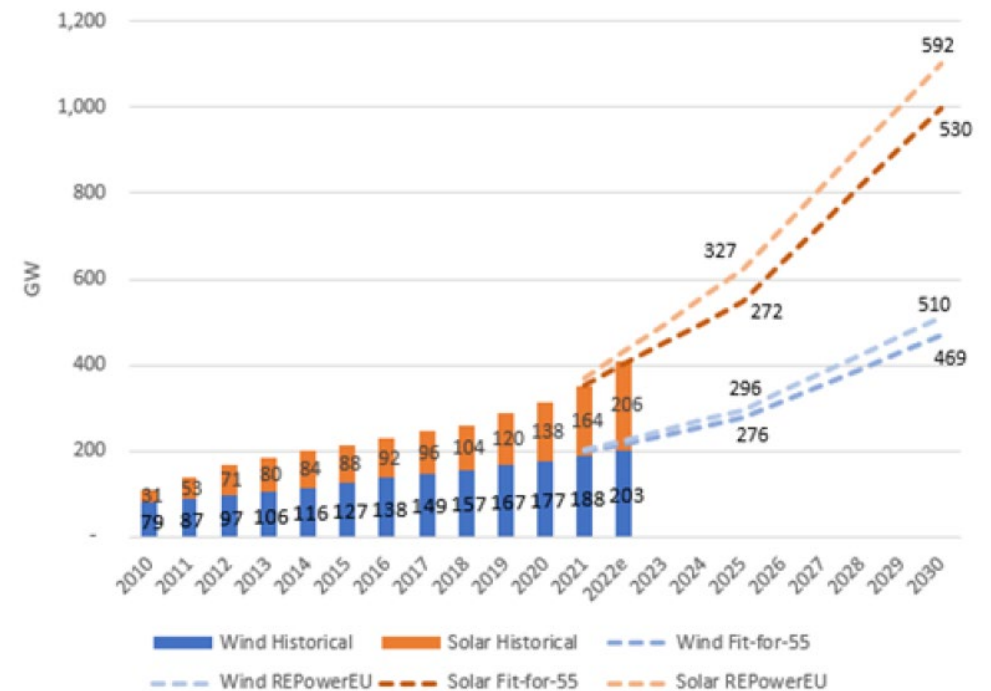
- REPowerEU alone requires €300bn of investments by 2030, in addition to the Fit-for-55 investments*
- The European Commission estimates that a total of €583.8bn investment in the electricity grid will be necessary by 2030*
 - REPowerEU increased investment needs by €29.4bn in power networks, and €10bn for storage over the decade

Market based de-risking schemes will be needed to achieve EU ambitions

- Growing shares of publicly supported assets with variable generation will increase market risks (cannibalisation, low liquidity in forward markets)
- De-risking schemes awarded through competitive processes should be designed to have the least distortions possible on the short term markets

An enhanced and more consistent investment framework is needed that will articulate a growing role for private long-term contracts with a continuation of public de-risking arrangements where necessary

Volume of RES installed capacity in the EU, and projection of RES to reach 'Fit-for-55' and 'REPowerEU' targets

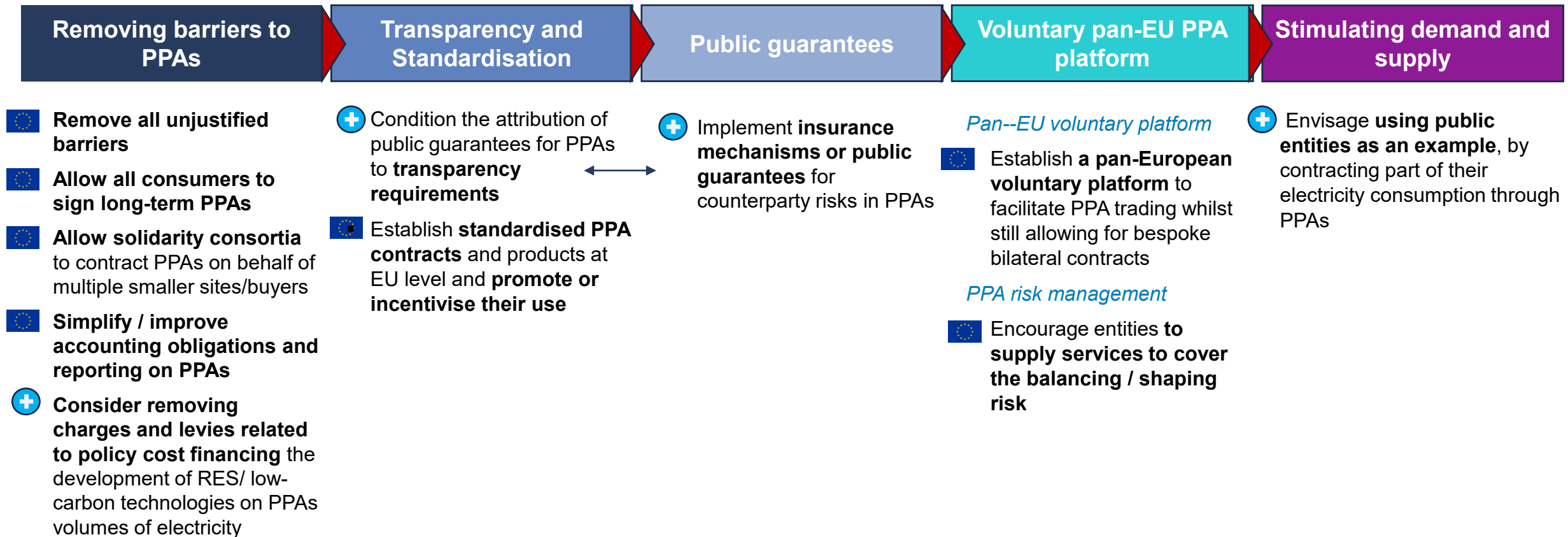


Source: European Commission (2023) Commission staff working document - Reform of Electricity Market Design.



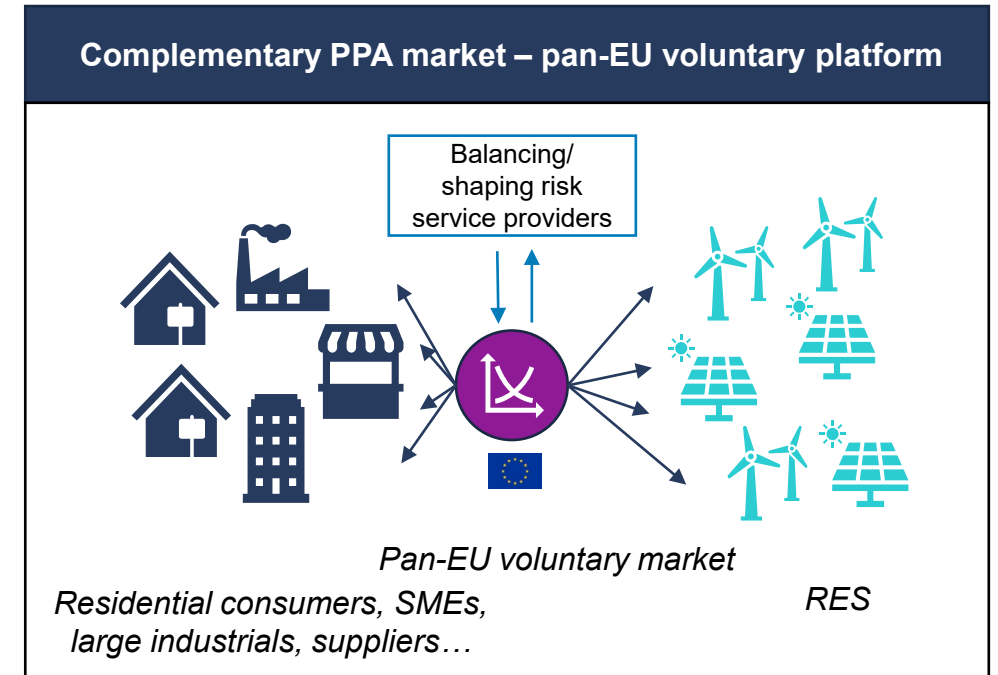
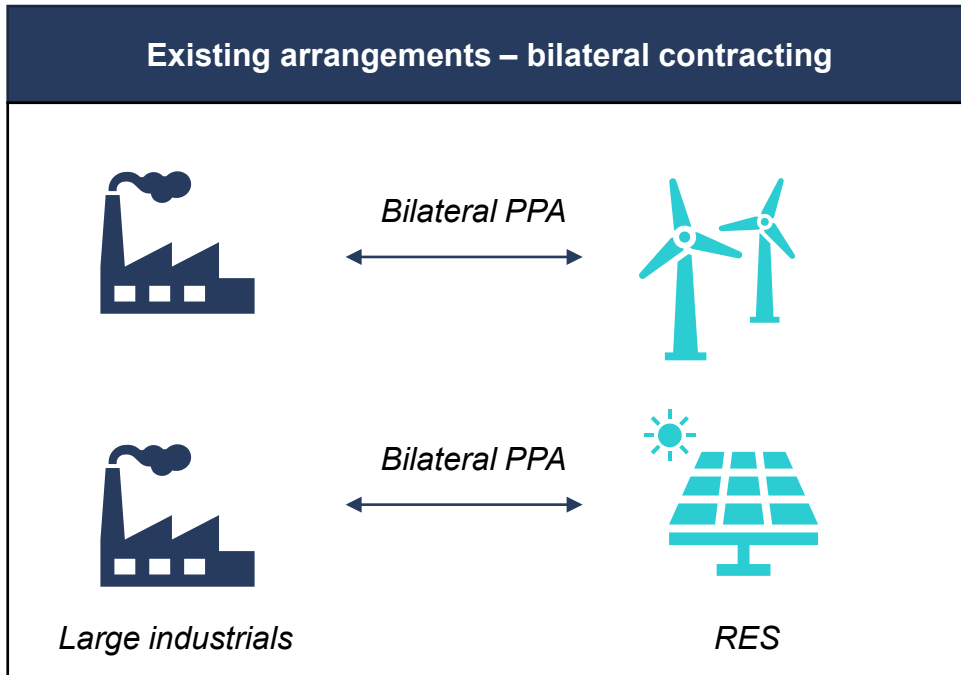
Key recommendations to establish a private framework for RES and low-carbon investment: Power Purchase Agreements

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





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



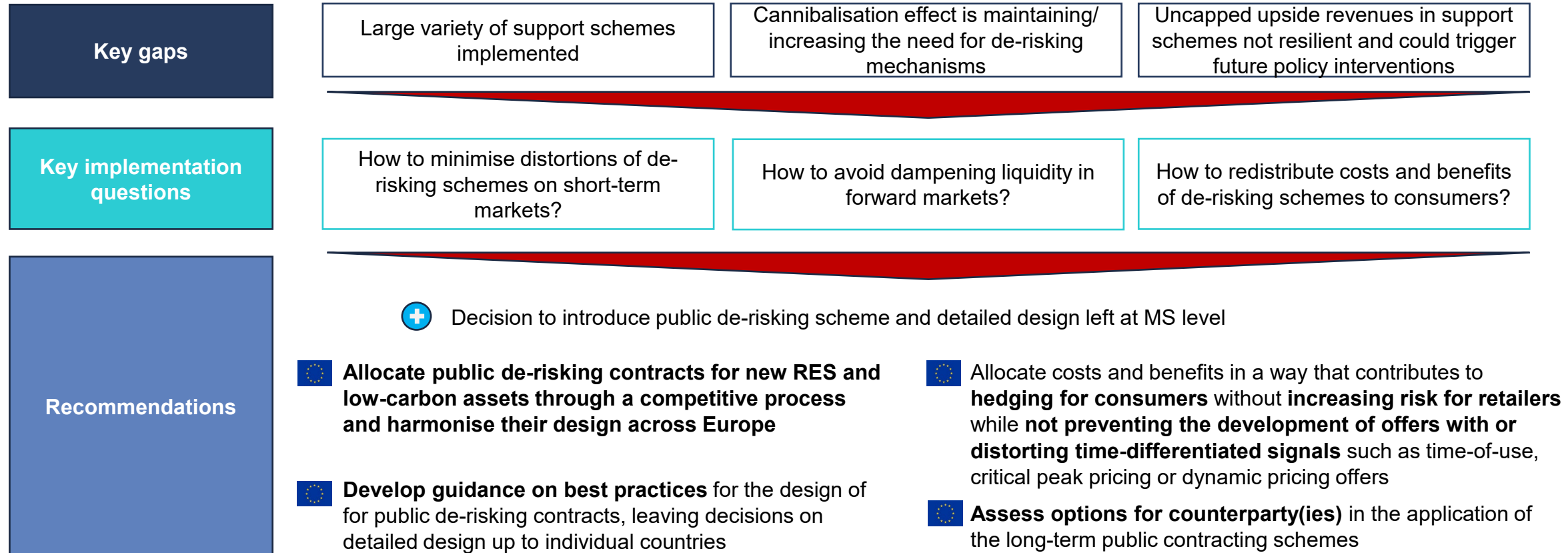
The voluntary platform would:

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





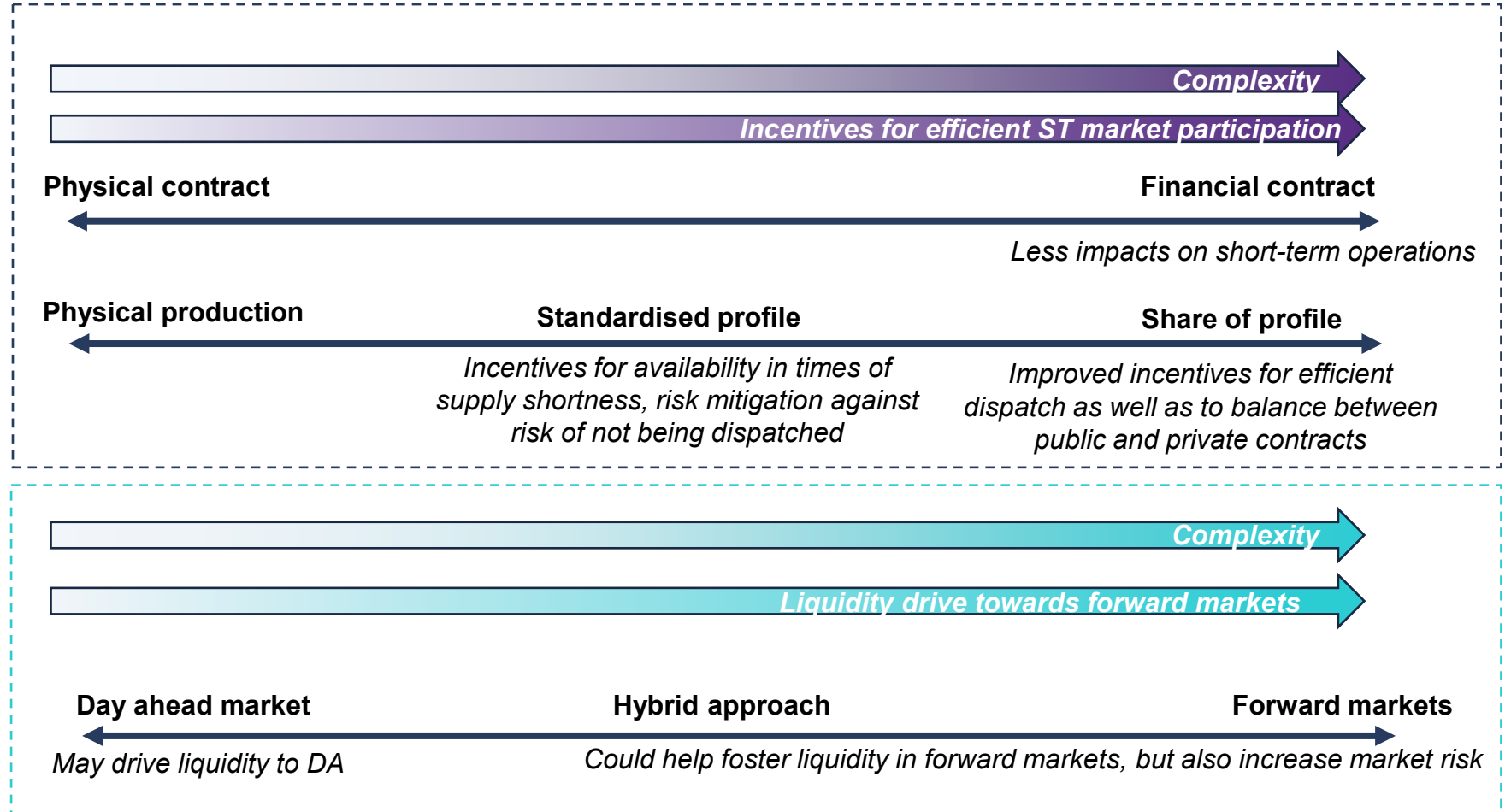
Key design choices to establish an efficient public framework for RES and low-carbon investment which benefits consumers (1)

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

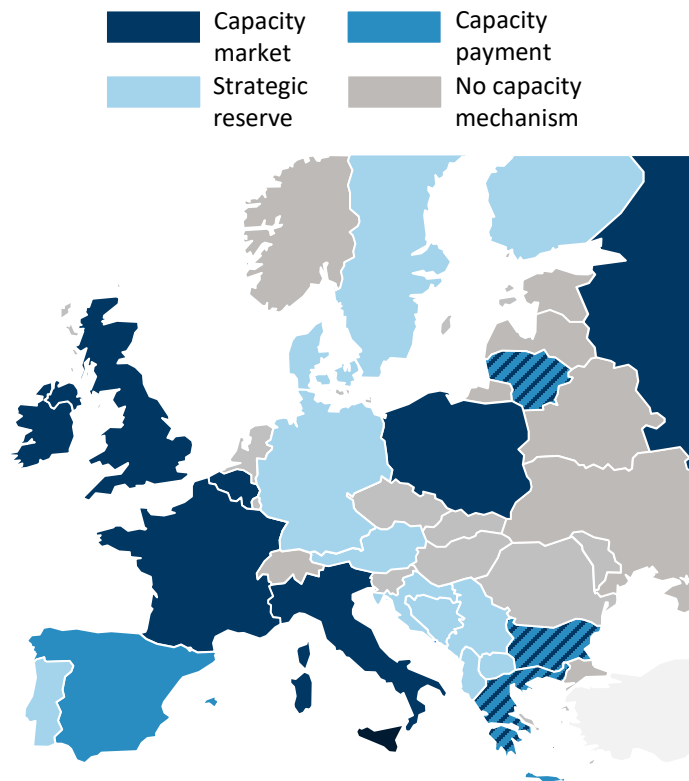
- **Robust to consumer switching**
- **Efficient and dynamic redistribution** of costs and benefits to consumers
- Create **additional risks and uncertainty for suppliers** on the costs and benefits to recover and on the balancing of their portfolio.
- **Costs may be allocated to consumers with less 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: Capacity mechanisms are not a full part of the current market design framework, leading to uncertainty for investors and heterogeneity

Capacity mechanisms in Europe



No common vision at EU level on market design and how to ensure security of supply

- EU power markets have been historically based on the energy-only market design model but ...

... **many countries have deemed necessary to introduce capacity mechanisms** to support investment, and to provide the politically desired level of security ...

... leading to a **patchwork of approaches**, with limited harmonisation and creating hurdles to efficient cross-border participation

- **State aid clearance is** required through a complex and uncertain process ...

... which has not yet fostered strong harmonisation and coordination ...

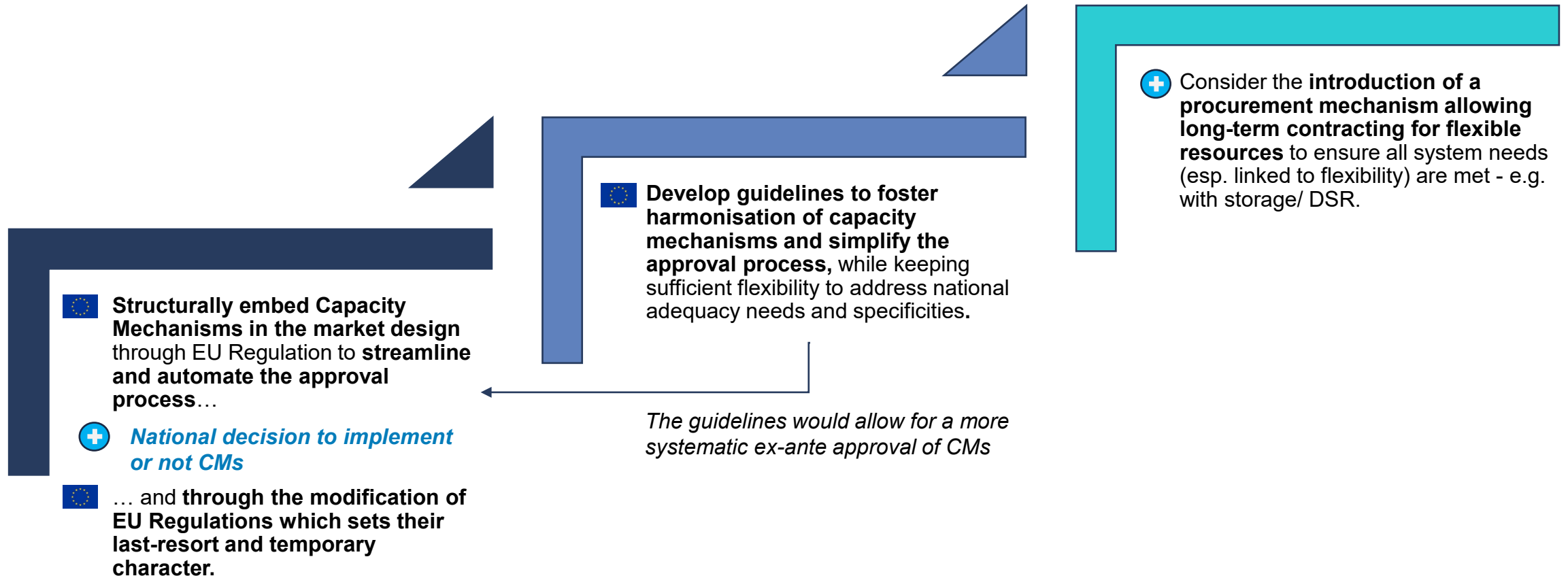
... **only allowing capacity mechanisms as last-resort and temporary measures** creating uncertainties for the business case of new investment decisions

The state aid clearance process creates regulatory uncertainty and capacity mechanisms are perceived as temporary rather than a structural part of the market design



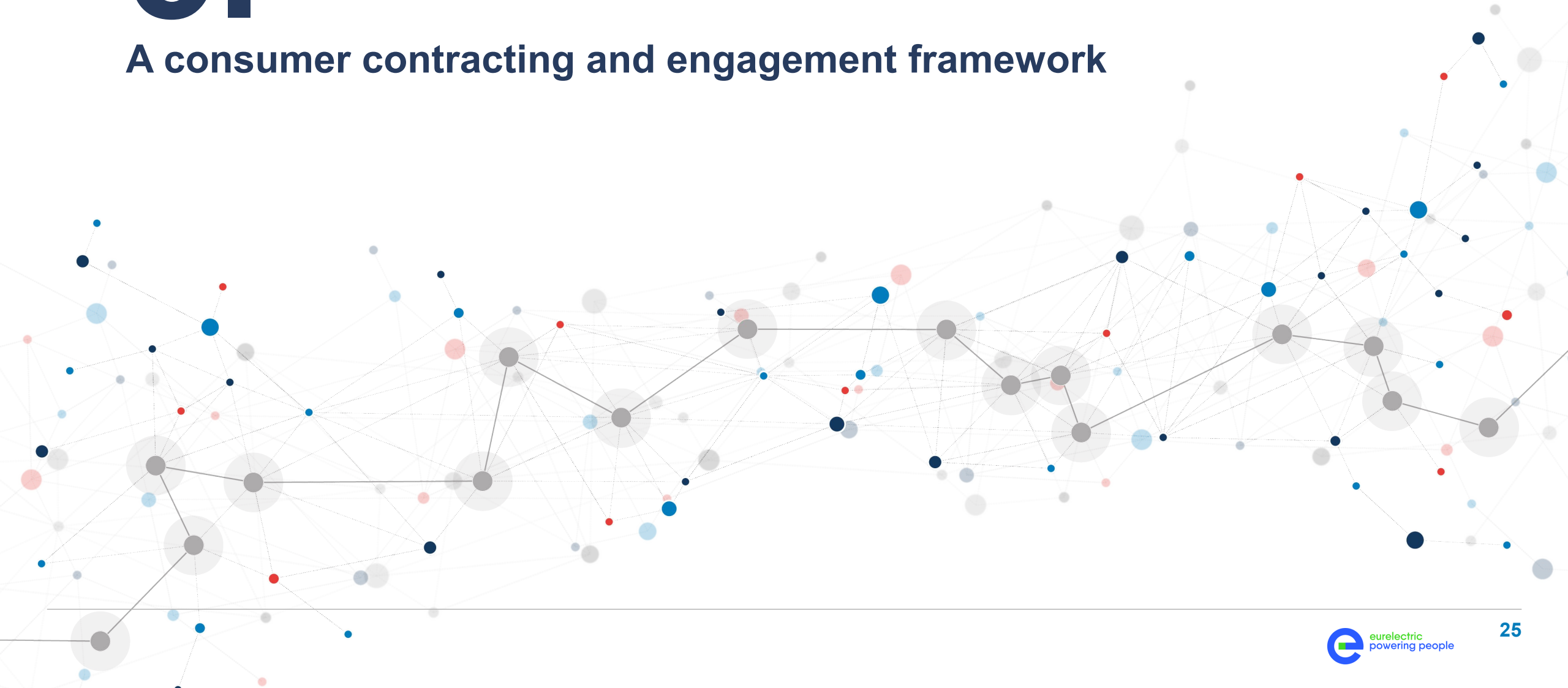
Key recommendations to guarantee security of supply: Capacity Mechanisms

The power market design should evolve to include market-wide capacity mechanisms as a core part of the market design to ensure security of supply, and the process of approval should be streamlined



5.

A consumer contracting and engagement framework





Allow consumers to hedge efficiently through a **enhanced contracting and engagement framework** combined with **efficient price signals**

- An enhanced consumer contracting framework could **bring the benefits of renewable energy sources (RES) and low-carbon generation more directly to consumers...**

...while still providing efficient short-term signals fostering active demand participation in short-term markets.

- 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



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

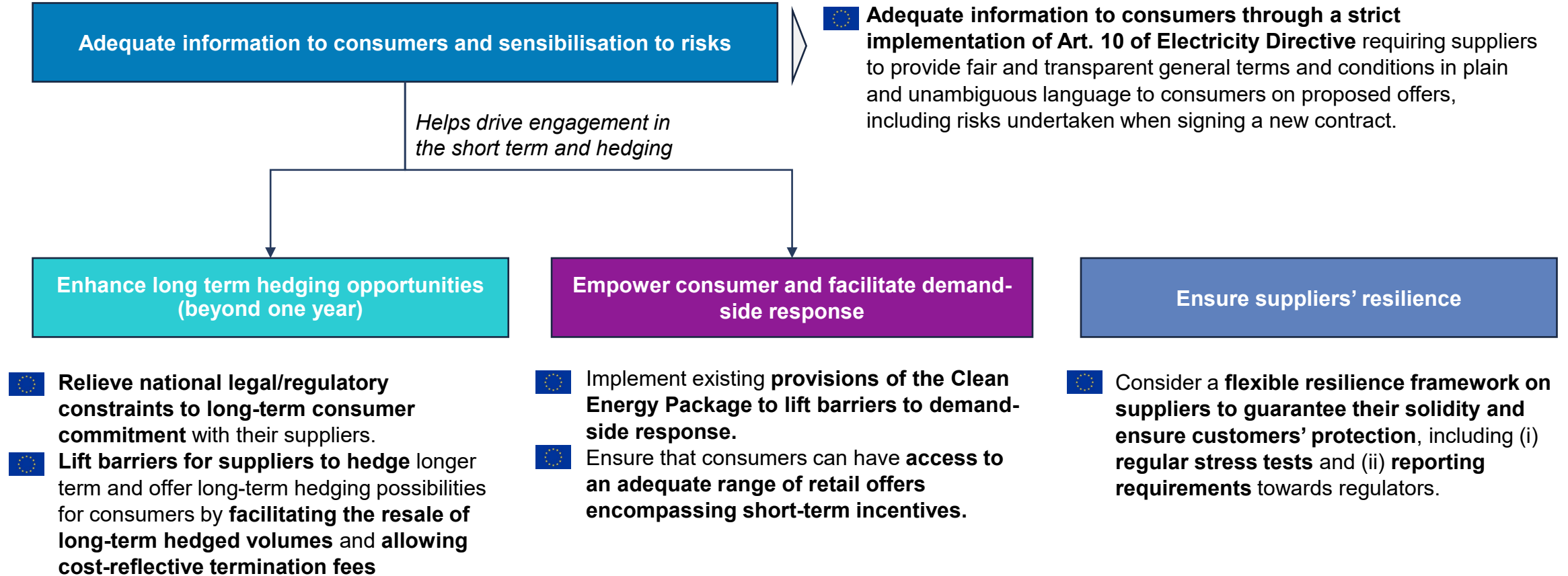
- The high prices seen during the energy crisis have led to **widespread interventions across Member States** to protect consumers
- This shows the **need to better pass on the benefits of renewables and other clean technologies' stable generation costs to consumers**
- However, the **lack of long-term 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



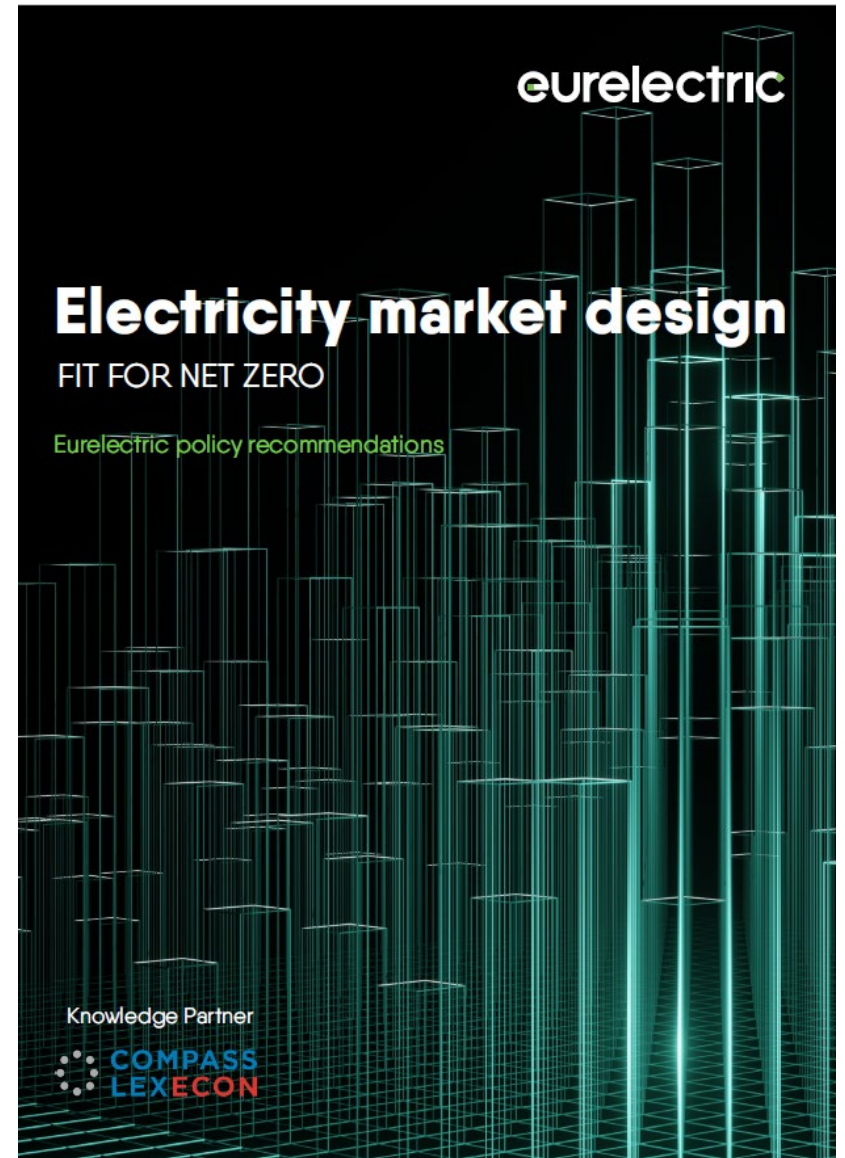
Key recommendations to establish an enhanced long-term contracting framework



Thank you for your attention

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

[Accessible here](#)



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6.

Annex - Detailed recommendations

6.1 - A framework to identify and satisfy the evolving system needs

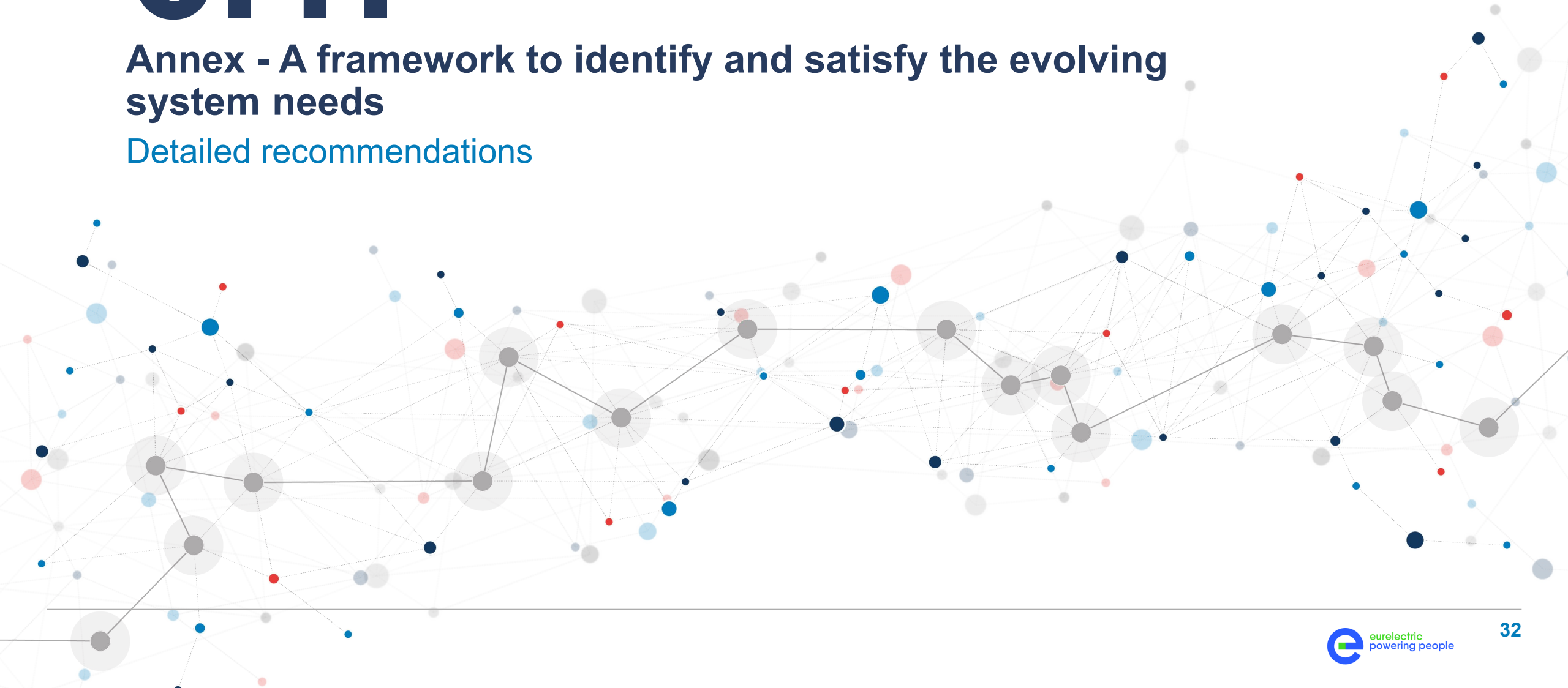
6.2 - An investment framework

6.3 - A consumer protection and engagement framework

6.1.

Annex - A framework to identify and satisfy the evolving system needs

Detailed recommendations





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

| | |
|---------------------------|--|
| <p>Scope</p> | <ul style="list-style-type: none"> • Based on the NECPs, different forward looking EU power system studies (TYNDP, ERAA) are carried out. These studies have a narrow focus covering only partially the different system needs, such as flexibility (long- or short-term) or system stability. They may lack more detailed information on network constraints to provide robust adequacy assessment • These studies often lack a comprehensive assessment from a whole energy system perspective. For example, power and gas system synergies are not fully assessed in network expansion studies. In addition, demand-side contributions to the energy system, like those associated with the electrification of transport, industry and buildings, or electrolyzers, are not fully captured in current studies. • Moreover, these studies have a different time horizon, and often do not provide a long-term perspective on the evolution of system needs. While network expansion studies have a timeframe of 20 years, adequacy studies are limited to 10 years. The scenarios underpinning current studies extend to 2050, but they are limited to high level narratives to coordinate actions at pan-European level, and to provide information to policymakers and stakeholders to support decision-making. |
| <p>Methodology</p> | <ul style="list-style-type: none"> • The current methodologies need to be enhanced to reflect the evolution of the power system operational challenges. These improvements to the methodology for the system needs assessment require an EU harmonised approach at principle-level, underpinned by EU guidelines |
| <p>Governance</p> | <ul style="list-style-type: none"> • Currently, system needs assessments are conducted relatively in-silo across gas and electricity • Coordination across distribution and transmission is still limited for system planning, including at EU level. • More generally, stakeholder involvement could improve in the governance of system needs assessment across Europe. Current processes already include stakeholder consultations and account for views across the industry. Yet, greater transparency around system needs assessment methodologies, results and data used would help industry peer-review and continuous improvement of such studies. |



Key recommendations to enhance the system planning framework – Scope of the system needs assessment (1)

Overview of recommendations

Key considerations for implementation

Widen the scope of electricity system needs assessment in EU legislation to:

- go beyond the network expansion and capacity adequacy covered in ERAA/ TYNDP,
- bring more consistency, and
- encompass the different system needs, including network needs, adequacy and flexibility.

As a first step, develop a more granular definition of the system attributes that will be valuable in the future power system. These attributes include:

1. **Firm capacity:** or the dispatchable generation, demand-side flexibility or storage to ensure adequacy between available generation and residual load at peak (after subtraction of variable generation).
 2. **Flexible capacity:** or the extent to which capacities in a power system can modify their electricity production or consumption in response to variability of the system state, expected or otherwise.
- **To perform this system needs assessment at regional and European levels, inputs from national levels should be provided on the basis of adequate cooperation between TSOs and DSOs** to encourage consistency and properly take into account distributed resources as well as system-relevant distribution networks' constraints (if any).
 - **Moreover, this assessment should be sufficiently detailed**, for instance considering possible restrictions or outages on cross-zonal interconnections, congestions, etc.
 - Otherwise, national assessments will need to provide a higher level of details, risking inconsistencies and inefficient coordination at EU level
 - Lastly, the system needs assessment should **not be too much bottom-up driven or too incremental** and should consider the **possibility and the relevance to develop an EU overlay grid** (or a supergrid) and to **anticipate investments** in networks and **optimise their dimensioning** taking into account the long-term needs.





Key recommendations to enhance the system planning framework – Scope of the system needs assessment (2)

Overview of recommendations

Key considerations for implementation

 Include a cross-sector assessment in long-term system needs assessment

- The assessment should include the **potential consumption and flexibility contributions** of the **industrial, buildings** and **transport** sectors that electrify as well as the development of **hydrogen** and more broadly of **renewable and low-carbon gases**.

 Extend the time horizon of system needs assessment

- **Extend the time horizon of system needs assessment** to a timeframe aligned with decarbonisation objectives, reflecting the key policy targets and milestones such as 2040 and 2050.





Key recommendations to enhance the system planning framework – Methodology for the system needs assessment

Overview of recommendations

Key considerations for implementation

Develop EU-wide guidelines for the methodology on EU-wide, regional and national system needs assessment

Assess systematically the economic viability for the different types of resources in the system needs assessment

Stress test the resilience of the energy system

- The EU guidelines would be in line with the system needs assessment recommendations. These harmonised principles would **differentiate the types of system needs** but should leave room to **ensure that a system needs assessment at national level can be specific enough** to cover all potential issues and needs at that level and to assess specific local needs through TSO/DSO cooperation.
- **This could be based on an enhanced ERAA Economic Viability Assessment (EVA) methodology.** This includes:
 - **The enhancement to the current methodology:** inclusion of the effects of climate change in the climate years used in the ERAA , expansion to include key technologies of the energy transitions, such as batteries, hydro plants, electrolysers, and demand response, and estimation and integration of potential revenues across the (economic) lifetime of the relevant assets.
 - **The application of the EVA methodology to cover other system needs,** while ensuring the robustness, quality, and relevance of the EVA analysis (cf. computation time constraints): ideally, the EVA shall also need to ensure the viability of resources to meet wider system needs beyond adequacy. The economic viability should also be assessed taking into account all sources of revenues, as providing system services also provides other sources of income to energy resources. This aligns with the wider definition of system needs.
- The resilience of the energy system should be stress tested **through an enhanced analysis of extreme events in the system needs assessment.**
- For instance, **testing the impacts of specific extreme climate events or of structural assumptions** (e.g. expected availability of firm capacities) on the system would help complement methodologies measuring the likelihood of extreme events occurring.





Key recommendations to enhance the system planning framework – Governance

Overview of recommendations

Key considerations for implementation



Review the governance arrangements to conduct the system needs assessment

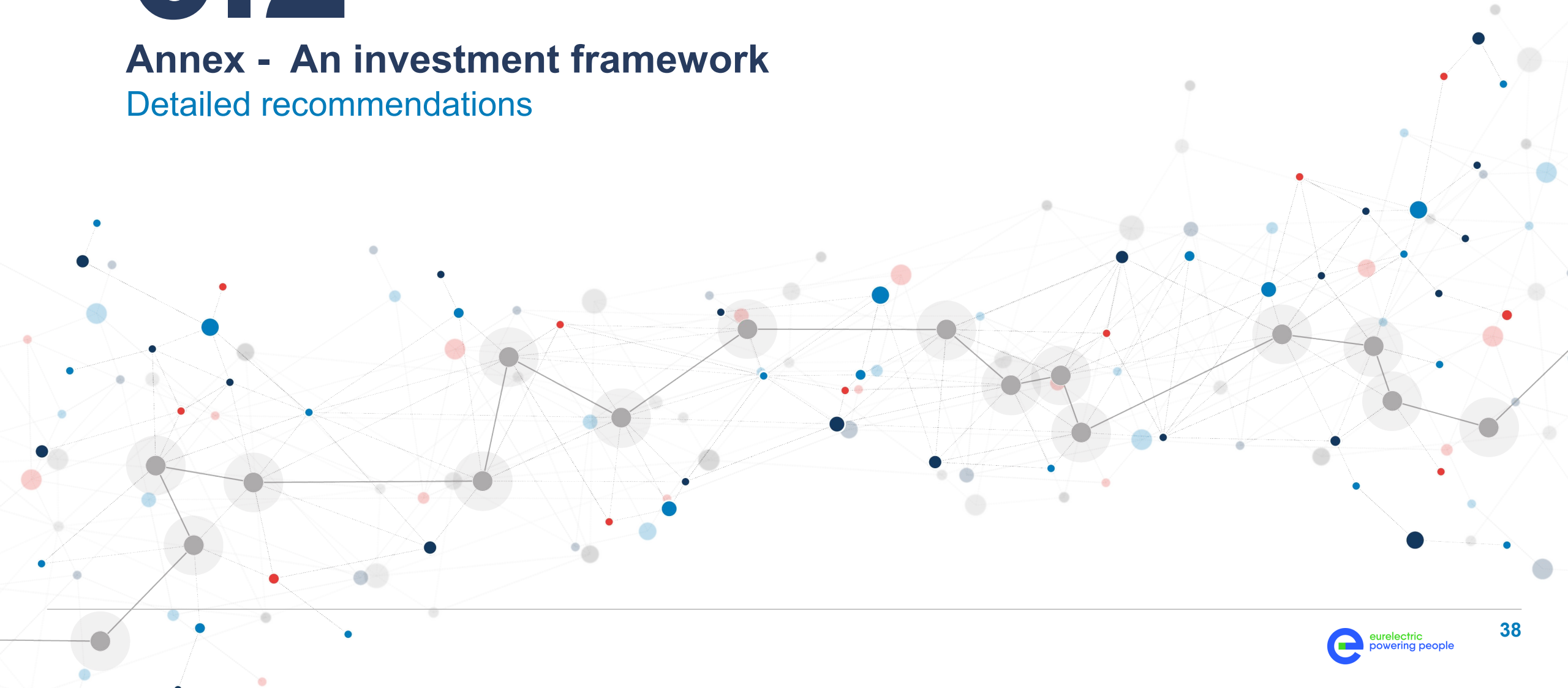
In particular:

- Assign the responsibility of the development of the system needs assessment methodology and coordination of the assessment to ENTSOE/ ENTSOG upon validation of ACER and oversight of the European Commission.
- Define a governance framework for cross-sector system needs' assessment, underpinned by a coordinating entity overseeing the process. As a first step, coordination can build upon the current ENTSOE-ENTSOG cross-sector coordination.
 - Cooperation with the entity in charge of H2 system planning, e.g. the ENNOH , should be implemented to ensure consistency of planning exercises across electricity, gas and H2.
- Ensure adequate cooperation with distribution, through cooperation with the EU DSO entity, as DSOs should start carrying out their own prospective assessments, to ensure consistency of planning exercises and adequate assessment of decentralised resources.
- Improve stakeholder engagement, including DSOs, as well as in the industrial, buildings and transport sectors which electrify, through extended stakeholder consultations and stakeholder group meetings.
 - Improve transparency on methodologies, assumptions, and justifications, for a better inclusion of stakeholders in the system needs assessment process. For example, a common integrated database and modelling platform could be implemented to enhance transparency of economic viability assessments.



6.2

Annex - An investment framework Detailed recommendations

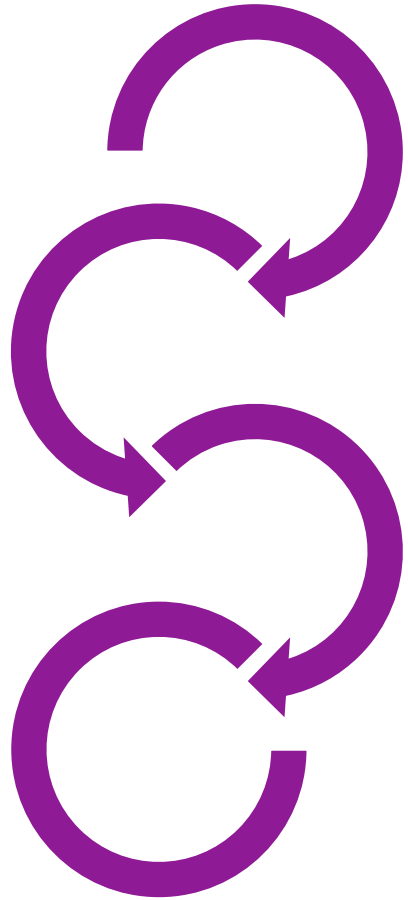




Key gaps: Better liquidity is needed for the market to function efficiently and to improve risk hedging in the forward market

There are currently barriers for participants to hedge on forward markets.

- **The time horizon of forward markets is insufficient to support investment.**
 - There is low demand for long-term forward hedging from suppliers, due to uncertainties on their long-term consumer portfolio.
 - As a result, forward power markets lack liquid products to hedge beyond 2-3 years – even in bidding zones with mature forward markets.
 - Moreover, the volume of long-term transmission rights (LTTRs) allocated by TSOs for cross-border hedging is too low and their duration is limited to a year, limiting long-term hedging possibilities.
- **Renewables under support schemes usually have no incentive to hedge in the forward market**, especially when the support they receive is linked to day-ahead prices.
 - The design of these schemes could be adapted to provide some incentives for producers to hedge in forward markets.
- **Collateral requirements are a barrier to hedging in forward markets for producers, consumers, and suppliers.**
 - Collateral requirements act as a barrier to entry for market players and reduce the overall share of hedged volumes on forward markets. There are currently restrictions as to what can be posted as collateral on exchanges.
- **Regulatory interventions increase uncertainties which can affect forward market liquidity.**
 - They can potentially affect the spot market price and, hence, the value of the forward contracts (i.e., the Iberian Mechanism, the cap on inframarginal rents). We first recommend removing barriers to hedging in forward markets.
 - Measures through the consumer engagement and protection framework could also stimulate demand for long-term hedging. Market makers could also be considered to actively drive liquidity on these markets.





Key recommendations to facilitate hedging through the improvement of forward markets (1)

Overview of recommendations

Key considerations for implementation



Ease collateral regulations in forward markets, through a change in the EU Regulations



- **Widening the types of collateral accepted is needed to ease collateral requirements**, such as non-collateralized bank guarantees, or accepting underlying electricity production, customer contracts or emissions trading scheme's permits as collateral.
- **The Commission Delegated Regulation (EU) 2022/2311 introducing temporary emergency measures on collateral requirements is not sufficient** as it helps to only alleviate the liquidity pressure of around 15% of the energy market participants.
- **A structural and wider solution should be addressed through the ongoing European Market Infrastructure Regulation (EMIR) review process:** the collateral accepted by central clearing counterparties (CCPs) for either bank guarantees, or public entity guarantees should be accessible for the wider energy clearing industry rather than just for non-financial energy counterparties that are clearing members.



Make regulatory frameworks stable



- **Regulatory uncertainty undermines investors' confidence in markets, hedging opportunities and ends in lack of investments.** In this regard, revenue caps on existing inframarginal production must be ended.





Key recommendations to facilitate hedging through the improvement of forward markets (2)

Overview of recommendations

Key considerations for implementation



Recommended changes in EU regulation include:

- Increasing long-term cross-border capacity volumes offered by TSOs through more efficient capacity calculation and adequate investment where needed.
- Keeping the optionality of LTTRs as it is used by market participants to properly hedge their underlying risks and exposures and hence contribute to higher liquidity. Obligations will not interest market participants and will be detrimental to forward market liquidity.
- Allocating LTTR products with maturities to match at least forward market product maturities, *a minima* introducing 3-year tenor LTTR. Longer tenors could be envisaged to enable cross-border PPAs.
- Investigating the possibility to increase the frequency of auctions for LTTR products. Details on the granularity of products and frequency of auctions should be carefully assessed and consulted with market participants. Any change of allocation design must be carefully assessed through cost-benefit analysis and added value proven.
- Facilitating secondary trading, e.g. having power exchanges easing the exchange of LTTRs between market participants at a price agreed between them (commercial transaction).





Key recommendations to facilitate hedging through the improvement of forward markets (3)

Overview of recommendations

Key considerations for implementation



Explore voluntary mechanisms for market makers in forward markets to stimulate liquidity up to 7-10 years

- These market making services should be contracted through a **market-based process**, with **voluntary** participation.
- The selected entity performing the market making function would have the obligation to **post a minimum volume of buy and sell orders for selected standard products**, with a **maximum bid-ask spread** to increase liquidity.
- In exchange for this service, **the market maker would be remunerated with a competitively-set fee** through the tender for the attribution of its function, for instance charged through network tariffs.
- **The implementation practicalities should however be carefully analysed.**





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

There is currently a range of **legal/regulatory, informational, and economic barriers** for the broader uptake of corporate PPAs.

- The Electricity Market Regulation and the Renewable Energy Directive already address a number of regulatory and policy barriers previously identified. However, **these measures are not always implemented in all member states and legal barriers may remain**
- **Credit worthiness is a major barrier across most sectors** where many organisations have appropriate energy footprint for PPAs but are not rated by any major credit rating agency.
- **The complexity of negotiating PPAs** acts as a barrier which slows entry into the market by less sophisticated off-takers.
- **There is a lack of long-term hedging products to address imbalance costs, or counterparty defaults with PPAs.** There is therefore a risk which could deter entering into such agreements. To mitigate risks, there is a lack of possibilities to trade PPA contracts on a secondary market.

Standardisation of PPA contracts and product profiles

- **It would have a dual effect, both lowering the transaction costs across contracting parties and enabling secondary trading of contracts during their lifetime.** The latter would reduce the risks of signing such long-term contracts, as they could be resold more easily should the situation of one of the parties change.
- **Creating standard contracts and an exchange platform for PPAs** would be the first steps in lowering transaction costs with ready-made contractual agreements and liquidity pooling
- Yet, the creation of standard contracts or voluntary platforms with standard contracts do not guarantee their use. To create the necessary conditions for secondary trading opportunities limiting the risks faced, standardisation of contracts could be directly incentivised

More direct measures could be implemented to drive demand and supply for PPAs. To do so, there is a range of potential measures that should be left to the discretion of Member States.



Key recommendations to establish a private framework for RES and low-carbon investment: Power Purchase Agreements (1)


Overview of recommendations

Key considerations for implementation

 **Mandate Member States through EU legislation to remove all unjustified barriers to PPAs**




- **Lifting any remaining barriers to PPAs is a ‘no-regret’ action** to strengthen long-term contracting in the current market design. These barriers often stem from national legislations.

 **Analyse accounting obligations on PPAs, simplify reporting for financial PPAs and provide guidance to companies on their reporting**



- This recommendation aims to **make sure accounting obligations are not a barrier for companies to enter into PPAs.**
- Indeed, under EU standards, financial PPAs are required to be reported as derivatives that are revalued according to the market. Such revaluation can lead to movements in profit and loss statement for energy intensive companies.
 - In the US, Generally Accepted Accounting Principles (GAAP) reporting rules are simpler and financial PPAs are more popular.

 **Allow all consumers to sign long-term PPAs and remove legal constraints preventing them to enter such contracts**




- This includes smaller consumers or public consumers: smaller players still face barriers to sign PPAs and, in some countries, public purchase rules may prevent public entities from engaging in long-term PPAs for their own electricity consumption.
- Moreover, these parties may not be allowed or may face difficulties to pool together and sign joint PPAs through a consortium – such as transaction costs and higher counterparty risks due to the higher number of counterparties




Key recommendations to establish a private framework for RES and low-carbon investment: Power Purchase Agreements (2)

Overview of recommendations

Key considerations for implementation

 Ensure solidarity consortia to contract PPAs on behalf of multiple smaller sites/buyers and the mutualisation of PPA risks are allowed

 Consider removing charges and levies related to policy cost

- With a **multi-buyer PPAs through corporate consortia**, the consortium could sign PPAs on behalf of numerous sites/ consumers (that would not be able individually to negotiate PPAs) and would be jointly responsible for the contract.
 - As a result, it **could include a solidarity mechanism** in case one of the buyers' defaults. In addition, these arrangements reduce the counterparty risk for developers through the diversification of buyers.
 - To do so, standard PPA contracts adapted to consortia could be elaborated. This could even be considered for the purpose of collective self-generation models.
-
- **Removing charges and levies related to policy costs to finance the development of RES and low-carbon technologies** on the volumes of electricity acquired by consumers through PPAs (physical or financial) with RES and low-carbon generators would level the field between PPAs and public de-risking schemes.
 - **The right preconditions need to be defined** to ensure that the concerned PPAs are not only complementary to public de-risking schemes for a given asset but fully contribute to its financing.



Key recommendations to establish a private framework for RES and low-carbon investment: Power Purchase Agreements (3)

Overview of recommendations

Key considerations for implementation

+ Introduce public guarantees or insurance mechanisms for counterparty risks in PPAs

+ Condition the attribution of public guarantees for PPAs to transparency requirements

Should Member States decide to introduce such measures, different options could be envisaged, potentially subject to State aid approval. As is already in place in Spain and Norway, Member States could establish insurance mechanisms or provide public guarantees that consumers could request when signing PPAs across Europe:

- **Insurance mechanisms or public guarantees** could be provided to smaller parties, retailers or consortia of smaller buyers, to broaden the off-taker base of PPAs, and/or to large consumers.
- An insurance mechanism could be introduced, for instance through the pan-EU voluntary platform, also part of recommendations on PPAs.
- Alternatively, public funds could offer guarantees to (i) generators, protecting them against an off-taker default, and (ii) the banks or other lenders securing repayment of loans taken out to prepay part of the PPA.
 - **These guarantees have a cost**, however, as the public entity is undertaking a risk on behalf of generators and/ or lenders.
- If such insurance mechanisms or public guarantees were offered, this would need to be done in a way that **minimises competitive distortions**. As the market matures further, the need of a public guarantee may be reconsidered.
- Increasing information transparency of PPAs on price, volume types, and key characteristics involved would help market participants develop new PPAs by acting as a reference model.
- This **information could be provided to the regulators and published in an aggregated form on the pan-European voluntary platform** developed as part of Recommendation



Key recommendations to establish a private framework for RES and low-carbon investment: Power Purchase Agreements (4)

Overview of recommendations

Key considerations for implementation

Establish standardised PPA contracts and products at EU level and promote or incentivise their use

- This could be **built on existing work to develop standardised PPA contracts**, like the standard EFET Corporate PPA contract.
- **EU Guidelines** could set out some of **the principles guiding the drafting of these contracts** and the design of the products. Standardisation could also apply to the product design and profile. This would facilitate negotiation of PPAs, including for smaller or less informed consumers, as well as their secondary trading.
- **These standard contracts must not be imposed**, as they may be adapted to any situations or specific needs, but their use should be promoted or incentivised. As an example of an incentive, the attribution of public guarantees could be subject to standard contractual clauses.

Establish a pan-European voluntary platform to facilitate PPA trading

- The interest of such a platform could be confirmed through a **more detailed assessment and the consultation of the market**. The platform would first facilitate supply and demand to meet more easily.
- This platform would **provide standard contractual arrangements for PPAs**, to facilitate secondary trading over the lifetime of such contracts if necessary.
- This arrangement would also allow the platform operator to **act as a central counterparty to PPA contracts**, potentially backed by public guarantees.
- The **voluntary nature of this platform** would still allow for bespoke contractual arrangements outside of the platform if required by some market participants.





Key recommendations to establish a private framework for RES and low-carbon investment: Power Purchase Agreements (5)


Overview of recommendations

Key considerations for implementation

 Encourage entities to supply services to cover the balancing / shaping risk against remuneration under the long term



- These entities (e.g. suppliers, generators, flexibility providers or PPA aggregators) could sell a **set of standardised financial derivatives** with different time horizons **designed to hedge the shaping and balancing risks for typical wind or solar profiles in a given zone.**
 - To facilitate this, market operators, such as the PPA platform operator, could offer a trading place for such products and define their standard features in consultation with market participants.
- **These entities could also offer balancing / shaping services to the PPA parties** to complement outputs to meet PPA profiles, which could be backed up by flexible resources such as storage or demand-side response.
 - As market participants signing a PPA are still exposed to balancing / shaping risks, this recommendation aims to foster market parties to offer and potentially to standardise hedging instruments and balancing / shaping services, and reduce transaction costs.

 Envisage using public entities as an example, by contracting part of their electricity consumption through PPAs



- **Member States could decide to impose a minimum level of PPA supply for the public sector's consumption.** As a large consumer, procuring electricity for public sector use through PPAs would stimulate demand for such contracts with renewables.
- Developing government contracts can also improve the standardisation of PPAs by setting reference contracts for public sector demand and beyond.



Key gaps with the public framework for RES and low-carbon investment

There is currently a wide variety of support schemes implemented in Member States

- **Support schemes are evolving into contracting schemes to de-risk investment** in RES and low-carbon technologies, to meet the increased renewable energy targets at the lowest costs for society, and considering the cost reduction of these technologies

The allocation of public de-risking schemes' costs and benefits should be treated adequately to ensure their efficiency

- The large share of RES development is mostly based on technologies with **low variable costs**, as well as variable and correlated generation.
- **This could lead to a 'cannibalisation' effect**, meaning that the development of these technologies would dampen prices at which they would be able to sell their electricity, therefore maintaining or even increasing the need for de-risking mechanisms.
- **The costs of public de-risking schemes, together with grid costs, could represent a large share of the consumers' bills.**

The optimal designs of contracting schemes for new assets, adapted to the different considered RES and low-carbon technologies, should be identified to reduce current market distortions, and contribute to protecting consumers

- **The contracting framework could be based on a contract for difference design.** For instance, two-sided contracts for difference (CfDs) design help protect consumers and have been increasingly used across Europe.
- The use of these two-sided CfDs could avoid ex-post interventions of governments, especially in countries where the need to further protect consumers is likely to appear.
- **However, these are not the only schemes that could be envisaged** and could be adequate. E.g., for capital-intensive technologies with long construction times, schemes based on the definition of the remuneration of an asset base could be considered.

Public de-risking schemes for new assets could also bring the benefits of long-term contracting to consumers.

- However, **these can create market distortions** for which the costs increase with the penetration of renewables.
- The energy crisis has shown that renewable support schemes with **uncapped upside revenues** in the case of high prices **may not be resilient and could trigger future policy interventions.**



Key recommendations to establish a public framework for RES and low-carbon investment (1)

Overview of recommendations



Allocate public de-risking contracts for new RES and low-carbon assets through a competitive process and harmonise their design across Europe



Develop guidance on best practices for the design of public de-risking contracts, leaving decisions on detailed design up to individual countries



Key considerations for implementation

- Allocate public de-risking contracts **using market-based tenders**
- The EU legislation should also specify that the **participation in these tenders should not be mandatory** to allow for market-driven investments
- **Exemptions from the competitive allocation process could be allowed** for specific capacities for instance, such as small-scale distributed resources or in the absence of potential competition
- **A toolbox approach can be taken on the design of support schemes across Member States**, to increase harmonisation of de-risking schemes across Europe while leaving freedom to Member States on their implementation.
 - This would help minimise market distortions where possible and align EU countries on best practices.
- For instance, these schemes could be based on (two-sided) contracts for difference, but different options are possible for the implementation of schemes to de-risk RES and low-carbon investments.
- For CfDs, the design should consider the following points:
 - Product type
 - Energy profile
 - Time horizon
 - Technological specificity
 - Counterparty
 - Efficient system incentives
 - Reference market(s)
 - Contractual conditions, including termination

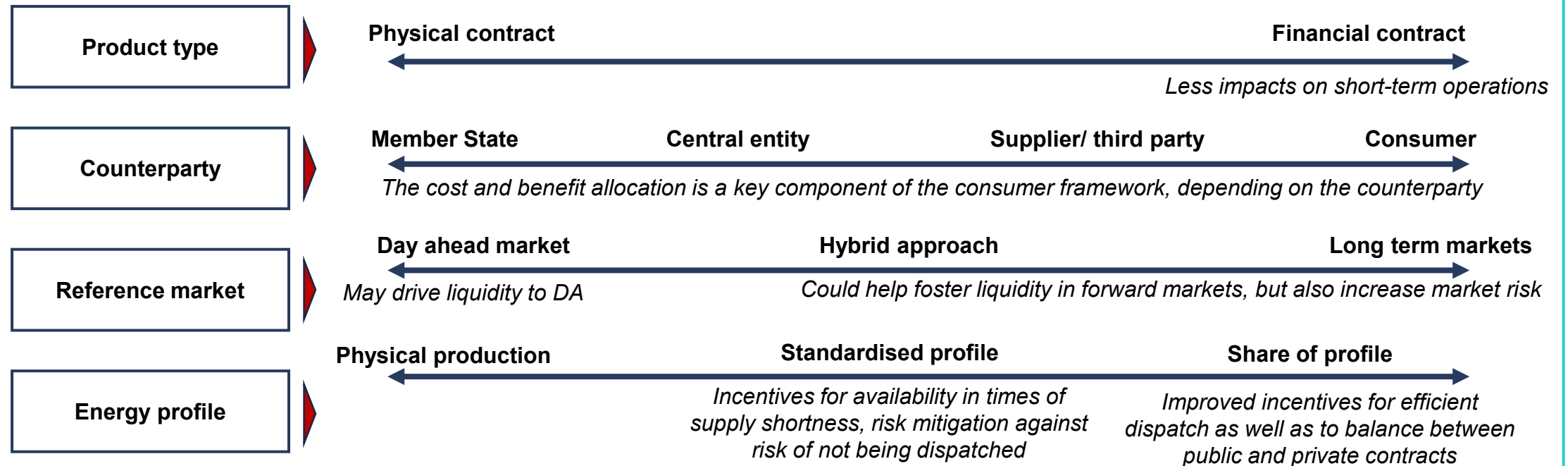




Key design choices to establish adequate frameworks for RES and low-carbon investment - Guidance for the design of public de-risking contracts

Develop guidance on best practices for the design of for public de-risking contracts, leaving decisions on detailed design up to individual countries

As regards CfDs (although some general principles would also be applicable potentially to other schemes), the design should consider the following points:



Other key dimensions include: time horizon, technology specificity, efficient system incentives, contractual conditions, termination conditions, etc.





Key recommendations to establish a public framework for RES and low-carbon investment (2)

Overview of recommendations



Assess which options for counterparty(ies) in the application of the long-term public contracting schemes would be the most suitable

Key considerations for implementation

- This assessment should consider in particular their **impacts on price signals** and **incentives for consumers**, the **fair allocation of risks** and the **impacts on suppliers and the interplay with the retail market**.
- **Several options are possible to design the implementation of these schemes**, which all present advantages and disadvantages. The list below is not exhaustive and does not include the many different solutions Member States have in addition to electricity market regulation when it comes to financing public measures and decisions.
- Some examples are, however, listed to illustrate some of the possible options:
 - ① **Long-term contract carried out on behalf of consumers, with costs and benefits allocated** either across all consumers or to a subset **through levies or charges embedded in grid tariffs**.
 - ② **Long-term de-risking schemes carried out on behalf of consumers, with costs and benefits allocated through suppliers**. The costs or benefits generated by the contract in a given period could be distributed across suppliers, for instance proportionally to their customers' load during that period. The suppliers would then pass on the costs or benefits to their consumers
 - ③ **Resale to suppliers/consumers via centralised auctions of long-term contract slices**. Suppliers/consumers would be able to access medium-term contracts (1-3 years for example), through voluntary, open, and competitive auctions organised by a central public or private entity.
 - This central entity would source this electricity by acting as counterparty to long-term contracts with RES and low-carbon sources through tenders. These long-term contracts would then be broken down into shorter contracts and auctioned to the suppliers or consumers.





Key design choices to establish adequate frameworks for RES and low-carbon investment - The allocation of the costs and benefits

1

Long-term contract carried out on behalf of consumers, with costs and benefits allocated either across all consumers or to a subset **through levies or charges embedded in grid tariff**

- **Alleviates some of the risks linked to the switching** of consumers across suppliers
- However, the costs and benefits should be allocated at **sufficiently granular intervals**, to avoid fiscal issues and inefficiencies with lagged payments.
- **If not done properly, this allocation could dampen price signals.** It should not distort the ratio between peak and off-peak prices or the incentives to consume in off-peak periods when there is abundant RES and low-carbon generation
- If costs and benefits are allocated **in long intervals**, then suppliers and their consumers could face risks due to the **asynchronous nature of market costs and public de-risking schemes**

2

Long-term de-risking schemes carried out on behalf of consumers, with **costs and benefits allocated through suppliers**

- The costs/ benefits distribution across suppliers, for instance **proportionally to their customers' load** - then passed to their consumers.
- This **alleviates some of the risks linked to the switching** of consumers across suppliers.
- Suppliers would be able to combine these costs and benefits with the rest of their sourcing costs in a dynamic way
- However, it **may create uncertainty on the costs and benefits** to recover and on the balancing of the suppliers' portfolio.
- **Costs may be allocated to consumers with less price-elastic demand** and raise concerns regarding the fairness of allocation.

3

Long-term de-risking schemes carried out on behalf of consumers with **resale to suppliers/consumers via centralised auctions of long-term contract slices**

- This option **reduces the supplier risk exposure** with long-term contracts and would level the field – but a **share of the risk is transferred to the central entity**
- **Voluntary participation in the competitive auctions could also create an additional risk** that the volumes contracted on the long-term are not bought by suppliers/consumers
- **Risk of interference with forward markets**



Key recommendations to establish a public framework for RES and low-carbon investment (3)

Overview of recommendations



In the case of option **1** :

Allocate the costs and benefits of public de-risking schemes for new investments in a way that contributes to hedging for consumers without increasing the risk for retailers while not preventing the development of offers with or distorting time-differentiated signals

Key considerations for implementation

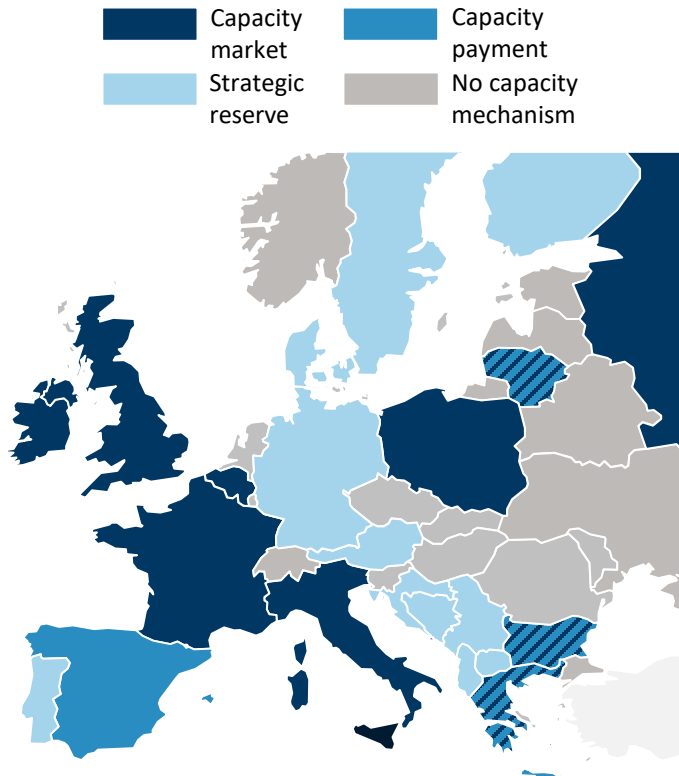
- **The costs and benefits of public de-risking schemes for new investments should be passed through to retailers and consumers in a proportionate and non-discriminatory way**, and may exclude, under certain conditions, volumes sourced through PPAs.
- The allocation **could be proportional to the overall consumption**, the **consumption during tighter periods**, the **subscribed capacity**, through a **fixed component**, or through a **combination of these possibilities**; however, all these approaches have pros and cons
 - For instance, an allocation proportional to the consumption could be deemed equitable but dampen price signals (reducing the ratio between peak and off-peak prices) and incentives to electrification.
 - Conversely, a purely fixed component would limit negative impact on incentives but could raise acceptability issues, especially for smaller consumers.
- Even if the allocation of the costs and benefits are based on consumption, **there is a variety of available approaches to preserve** the ability for suppliers to provide price signals to consumers
- Alternatively, costs and benefits could also be allocated to consumers **through fixed rebates or fixed fees** (over a given period, e.g., a month or a year) so that actual consumption can still be exposed to short-term signals.
- The **allocation to consumers should be dynamic, i.e., updated on a regular basis**, so that the benefits – usually linked to high prices in the market – may be distributed to consumers to balance an increase in prices due to these high prices, and vice versa.
 - This way, consumers may benefit from stable costs of RES and low-carbon technologies.





Key gaps: Capacity mechanisms are not a full part of the current market design framework, leading to uncertainty for investors and heterogeneity

Capacity mechanisms in Europe



- **Today, power markets in the EU are based on the Energy-Only market design model** where day ahead marginal pricing ensures efficient dispatch and contributes (to some extent) to providing investment signals.
- **Many countries already have deemed it necessary to introduce capacity mechanisms** to provide the desired level of security of supply and to support investment to do so. Targeted support schemes are also considered or implemented on storage and demand-side response.
 - **These mechanisms are heterogeneous across Europe**, but most involve some form of long-term contracts. **State aid approval is required** for the introduction of capacity mechanisms: it aims to ensure these mechanisms are proportionate to their goal in terms of security of supply, but the current state aid framework can also create uncertainty on capacity mechanisms stability.
 - Moreover, **current legislation defines them as temporary additions** to the energy-only market model and as a last-resort measure to address security of supply concerns.
- **Simplifying procedures for a more systematic ex-ante approval of CMs would incorporate these mechanisms directly into the market design.** To do so, the approval process should be based on pre-defined guidelines.
- As the security of supply issue becomes more complex with growing shares of variable generation, **the system needs will no longer be one dimension and focussed on capacity adequacy.**
 - Ensuring adequate investment in firm and flexible technologies will be necessary to maintain security of supply. If the system needs assessment identifies additional needs for flexible capacities, such as ramping constraints or inertia, which would unlikely be covered, adequate procurement procedures may need to be established.



Key recommendations to guarantee security of supply: Capacity Mechanisms (1)


Overview of recommendations

 Structurally embed Capacity Mechanisms in the market design

 Develop guidelines to:

- foster harmonisation of capacity mechanisms, and
- simplify the approval process,
- while keeping sufficient flexibility to address national adequacy needs and specificities.

Key considerations for implementation

- Capacity Mechanisms should be embedded through:
 1. A **change in EU legislation and regulations to streamline and automate the approval process** if design requirements are met.
 -  **EU member states could decide whether to implement capacity mechanisms**
 1. The **modification of EU legislation and regulations which set their last-resort and temporary character.**
- As CMs would be an integrated part of the market design, **they should no longer be seen as a last resort and temporary solution**, which may deter investments to ensure adequacy and security of supply.
- **Specify measures to ensure that these mechanisms are competitive, market-wide and technologically open**, remunerating all – existing and new – capacities (including DSR and storage) based of their respective contribution to system needs.
- **Provide for long-term contracts** to be awarded as the outcome of the capacity mechanisms, to new-built plants, DSR or storage or for major refurbishment works of existing plants. Different standard duration of the long-term contracts could be accessible based on objective criteria such as the level of investments and other eligible costs.
- **Specify measures to ensure that these mechanisms should have an efficient interface with energy markets.** Their rules should avoid distorting energy markets, such as with eligibility criteria or activation rules.
 - In addition, the design could integrate features to hedge consumers against price spikes, e.g. through reliability options. However, modalities of implementation should be carefully analysed as they may not be adapted to all technologies, particularly storage.





Key recommendations to guarantee security of supply: Capacity Mechanisms (2)

Overview of recommendations

Key considerations for implementation



Consider the introduction of a procurement mechanism allowing long-term contracting for flexible resources

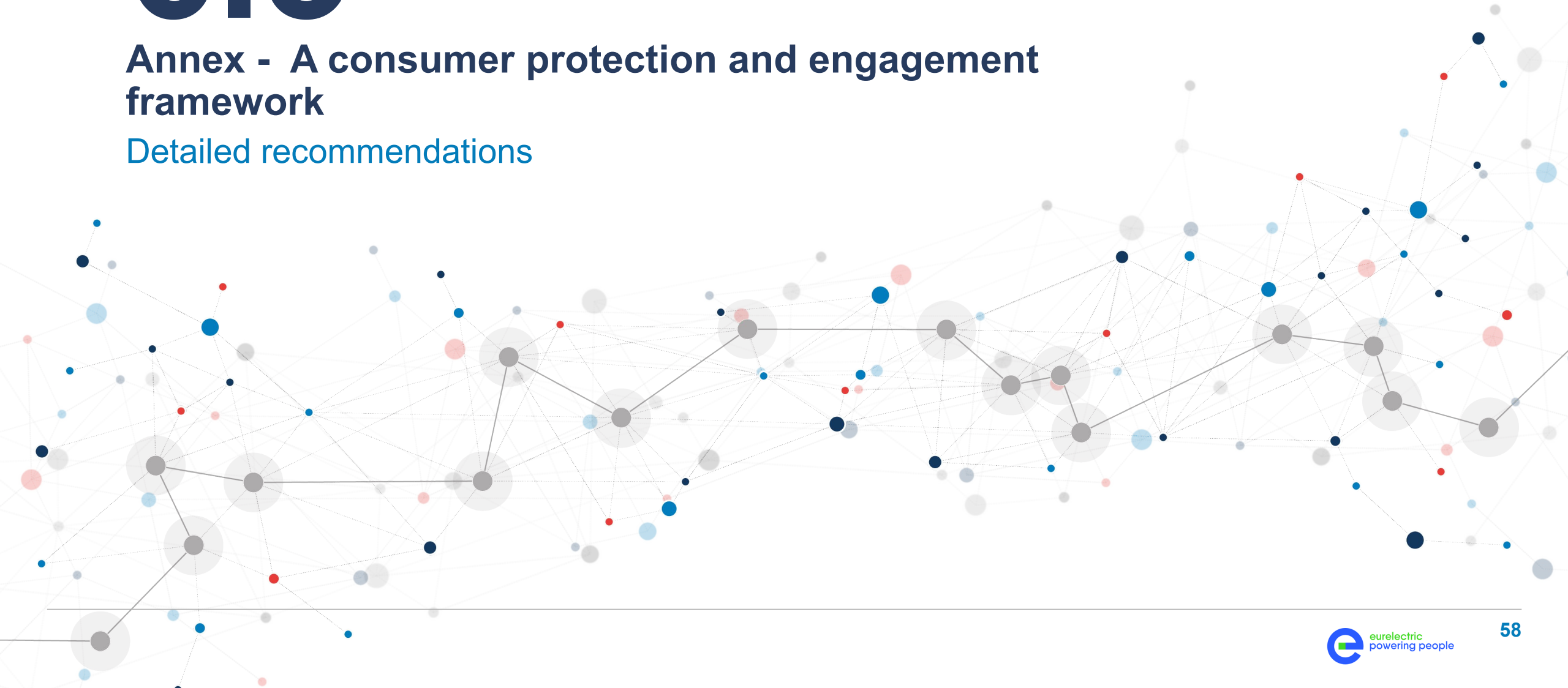
- This would **ensure adequate supply of the different system needs** (linked to flexibility) if there would be a risk that such needs would not be met.
- **This would not replace the procurement of short-term operational reserves** that currently values the flexibility of resources for quick adjustments of generation/consumption levels but would aim to guarantee that available resources are technically able to provide all system needs.
- **Such mechanisms could be further analysed to complement the traditional capacity mechanisms** and could either be separate or combined into a multi-product 'capability mechanism'. In such a case, they should be technologically open.



6.3

Annex - A consumer protection and engagement framework

Detailed recommendations





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

There is typically a mismatch between the timeframe for hedging between consumers/ suppliers and producers.

- Whereas **generators need to secure part of their revenues over 10-15 years or longer** to make necessary investments bankable, consumers tend not to hedge or enter into long-term contracts – except some specific, larger consumers –
- **Suppliers usually do not hedge beyond 1-3 years** in the absence of long-term commitment of their customers.

The removal of regulatory barriers to long-term contracting for consumers and the introduction of an enhanced and liquid long-term contracting framework serves as one way for consumers to directly receive the benefits from less volatile energy costs.

- This is possible while **still providing efficient short-term signals fostering active demand participation in short-term markets.**
- **Different consumers have different characteristics**, different capabilities, different risk profiles, etc.
 - There is no ‘one-size-fits-all’ solution, and several options should be made available, from which informed consumers can chose freely, to ensure a resilient and efficient market design.

The need to intervene to foster hedging and the types of measures differs depending on consumers.

- i. **Larger consumers:** large consumers may have an interest in long-term hedging and contracting, through their supplier or not, but sometimes find it difficult to do so, depending on their national circumstances.
 - For these users, interventions should focus on the removal of existing barriers to long-term contracts and the improvement of forward markets to facilitate their self-protection.
- ii. **Smaller consumers:** there are a variety of small consumer profiles, and the consumer protection framework should recognise these differences.
 - While some may be better informed and may choose knowingly to be exposed to market risks, seeking to use their flexibility to respond to price signals and optimise their bills, some may lack information, interest, or means (time, financially, technically) to respond to price signals or hedge.



Key recommendations to establish an enhanced long-term contracting framework - Adequate information to consumers and sensibilisation to risks

Overview of recommendations

Key considerations for implementation

Ensure adequate information to consumers through a strict implementation of Art. 10 of Electricity Directive

- **Art. 10 of Electricity Directive requires suppliers to provide fair and transparent general terms and conditions** in plain and unambiguous language to consumers on proposed offers, including risks undertaken when signing a new contract.
- **Improving consumers' awareness and access to information** could drive engagement on the short term, as well as hedging. **Didactic information and increasing 'energy literacy'** could drive aggregated PPAs across small users for instance.
- In addition, there is a **potential to better inform consumers on long-term investment into the energy transition**. For example, rooftop solar panels hedge against short term prices through direct electricity production.
- Finally, consumers **may take substantial risks embedded in the contractual arrangements. They should therefore be adequately informed**





Key recommendations to establish an enhanced long-term contracting framework - Suppliers' resilience

Overview of recommendations

Key considerations for implementation



Consider a **flexible resilience framework on suppliers to guarantee their solidity and ensure customers' protection**, including:

- i. **regular stress tests**, and
- ii. **reporting requirements** towards regulators.



- NRAs would be able to **check suppliers' resilience** against market shocks either through **financial robustness, through risk hedging** in consistency with the risks taken depending on the structure of their portfolios and customers' retail price or other means.
 - For instance, consumers opting for dynamic pricing may not require hedging, while consumers with fixed prices would.
- **A prerequisite of this resilience framework is to ensure that barriers to long-term hedging and supply in forward markets are addressed.**
 - To do so, Member States could envisage to define such a framework in suppliers' license conditions or in the regulation.
- **Developing guidance at EU level would be useful to facilitate harmonisation of processes and methodologies across Member States** and account for the fact that suppliers may be present in various jurisdictions.





Key recommendations to establish an enhanced long-term contracting framework - Enhance hedging opportunities (1)

Overview of recommendations

Relieve national legal/regulatory constraints to long-term consumer commitment with their suppliers.

Lift barriers for suppliers to hedge longer term and offer long-term hedging possibilities for consumers

Key considerations for implementation

- This mostly concerns smaller consumers. This includes:
 1. **constraints to the signing of long-term retail contracts** (which would also include PPAs), **in national legislation** (e.g. Czech Republic or Spain), **or**
 2. **in some cases, a too strict application of the competition law**, as well as
 3. **provisions that impede adequate modalities to protect both consumers and suppliers**, for instance in case of early termination on both sides on both sides of the contract.

- This also mostly concerns smaller consumers. **To hedge over the long run, suppliers need some assurance that they do not over-procure electricity if their portfolio's consumption decreases.** Long-term assurance of consumer commitment would unlock retail offers based on consumer loyalty.
- **Facilitate the resale of long-term hedged volumes** by making forward markets more liquid and improving LTTR allocation (*NB: while covering the volume risk of consumer switching, suppliers would still bear substantial price risk*).
- **Allow cost-reflective termination fees/ other mechanisms for consumers to compensate their previous supplier for hedging costs.** This fee could be determined according to a regulated methodology or determined freely by the supplier before signing its initial contract with the customer.
 - Another approach that could be investigated would be to allow for the new supplier to pay the termination fees on behalf of the consumer to the former one in case of early termination of the initial contract by the consumers.
 - In both cases, regulatory monitoring could be implemented to foster consumer trust. Such termination fees must be in place in case suppliers would have the obligation to offer fixed price contracts.

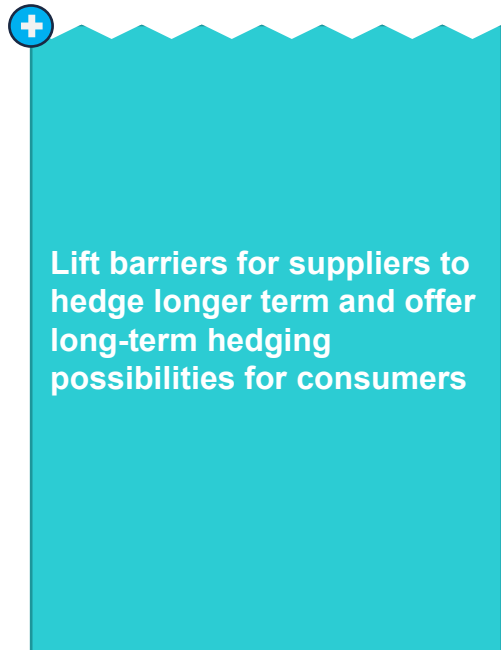




Key recommendations to establish an enhanced long-term contracting framework - Enhance hedging opportunities (2)

Overview of recommendations

Key considerations for implementation



(continued)

- **To go further, some member states could decide to protect particular consumer segments against market price volatility.** To do so, they could implement de-risking contracts, for instance through specific contracting schemes.
 - **This could be delegated to suppliers through competitive auctions, and not lead to a single buyer model.**
 - For instance, the so-called ‘affordability options’* could protect consumers against sustained price spikes and remove the need for intervention seen during the current crisis.
 - However, **they raise a number of implementation questions**, especially to set the adequate level of the option activation, to define counterparties and to recover costs.
 - Should they be considered, they should be contracted in a market-based way and preventing any distortions in competition.

*An affordability option is a financial product hedging consumers against too high price spikes, aiming to guarantee that the price paid by consumers remains under a certain threshold, to avoid affordability issues.






Key recommendations to establish an enhanced long-term contracting framework - Empower consumers and facilitate DSR

Overview of recommendations

 Implement existing provisions of the Clean Energy Package to lift barriers to demand-side response

 Ensure that consumers can have access to an adequate range of retail offers encompassing short-term incentives

Key considerations for implementation

In addition to completing the smart meter roll out, **allow consumers and aggregators to participate in all market segments**. The key enablers for greater consumer engagement should be put in place, to allow consumer who wish and can actively participate in the energy system. This includes:

- The full implementation of related measures foreseen in the Clean Energy Package: Articles 13, 15, 17 and 32 of the Electricity Directive already address the rights of aggregation and demand response participation in the market. Before considering additional legislation, we feel the Commission should focus on ensuring the proper transposition, implementation, and enforcement of the existing Articles.
 - The sharing of good practice between Member States to facilitate an efficient implementation and foster harmonisation across the EU.
 - The removal of barriers to DSR, where relevant, by enabling DSR participation in all electricity market segments and CRMs. This includes the removal of either explicit or implicit barriers to their participation
 - **It is worth noting that reforms are already underway** with respect to removing barriers to DSR. In December 2022, ACER submitted draft framework guideline on a new network code on demand response to the European Commission as an additional step towards the implementation of binding EU rules.
- Thanks to the roll-out of smart meters (and respective data access), **short-term incentives could be introduced in various ways**, such as time-of-use tariffs, critical peak pricing, dynamic pricing, and dynamic rebates.
 - **NRAs could monitor the market for available choices** also regarding the types of retail offers and whether there are any regulatory barriers that hinder retailers to offer new products.

