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National Grid ESO Stability Market: Stage II – WP1

20th September 2022

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EXPERT GROUP SESSION ON EXAM QUESTIONS 1-4 WITHIN WP1

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Agenda

1. Background
2. Discussion points
3. Annex

CONTEXT, AIMS OF THE PROJECT AND MEETING

Aim of the meeting is to give an overview on the project, present and discuss AFRY analysis & recommendations on core 'exam questions' of WP1

CONTEXT

- NG ESO has the ambition to operate a zero-carbon grid. The potential for renewables in GB is vast, but this has an impact on the requirements for system stability services due to the stability characteristics of these technologies
- To date, NG ESO uses a suite of tools called balancing arrangements, which include a complex set of nested marketplaces (e.g. Stability Pathfinder, Balancing Market)
- During Project Phase 1, ESO requested AFRY to presents recommendations for a high-level design of potential stability market arrangements
- AFRY has carried the evaluation of possible market design models and provided a desired design option, supported by final recommendations

AIMS OF THE PROJECT

- Starting from the outcomes of Project Phase 1, for Phase 2 AFRY has been requested to deepen the analysis on specific exam questions related to the proposed design model
- The identified exam questions have been split in Work Packages (WPs) on a priority level basis:
  - **WP1 (focus of today):** key design questions, related to the involvement of TOs and the eligibility rules for units
  - WP2: further eligibility and contract design questions (e.g. depreciation of TO assets, treatment of OFTOs)
  - WP3: definition of the procurement strategy

AIMS OF TODAY MEETING

- Present project overview
- Present results of AFRY analysis and recommendations for first four Exam Questions included in **Work Package 1**
- Open discussion with industry experts and ESO on the presented Exam Questions and related recommendations

NG: National Grid; GB: Great Britain; WP: Work Package

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EXAM QUESTIONS OF WP1 IN SCOPE OF TODAY

The Expert Group session will focus on WP1 'exam questions' related to the involvement of TOs and eligibility of plants in the Stability Markets

Topics	Exam Questions	
1. TOs' involvement	*1.a What are the key considerations for treatment of the TO assets?*	*1.b What is the role of the TO in the LT market?*
2. Eligibility rules	*2.a Can existing capability enter the LT market?*	*2.b How do we enforce the selective eligibility for the ST market? Open to all providers? Are there unintended consequences?*

TO: Transmission Owner; LT: Long-Term; ST: Short-Term; WP: Work Package

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2. Discussion points
   - 2.1 TOs' involvement
   - 2.2 Eligibility rules
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1. TOs' involvement

POSSIBLE ROLES FOR TOs WITHIN THE NEW STABILITY MARKET

TOs would theoretically be able to play different (and multiple) roles, as network planning facilitator, competitive and/or last resort provider

POSSIBLE ROLES FOR TOs WITHIN LONG TERM MARKET

NETWORK PLANNING FACILITATOR

- Assess the feasible connection points to be reserved for the awarded providers, providing view of the site location, available connection dates and infrastructure costs[1]
- Support technical feasibility assessments of proposed solutions

COMPETITIVE PROVIDER

- Offer solutions within the new Stability Market through the two alternative regimes with two very different participation options:
  - *Indirect participation (counterfactual regime)*: as for the Stability Pathfinders
  - *Direct participation (fully competitive regime)*: as for the Early Competition Plan

LAST RESORT PROVIDER

- ESO would request the commissioning of the required capability for stability directly to TOs, in case of commercial provision being insufficient to meet stability needs
- Design and assessment of the solutions would be carried out by ESO in cooperation with TOs
- Availability programs for the designated solutions would be indicated by the ESO
- Solutions built by TOs will follow a regulated RAB based payment approach

1. Similarly to what already envisaged by Pathfinders - Phase 3 | LT: Long-Term; TO: Transmission Owner; RAB: Regulated Asset Base

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TOs' PARTICIPATION ROUTE IN PREVIOUS STABILITY PATHFINDER AND ESO'S VIEW FOR ECP

The choice behind TOs' involvement in Pathfinders and ECP was mainly driven by the nature of participants and complexity of procurement scheme

	PROCUREMENT MECHANISMS	
	NOA Stability Pathfinder	**Early Competition Plan** (ESO's view)
Roles adopted by the TO		
How TO assets compete with commercial solutions	**Indirect participation** (counterfactual regime) – TO's cost submission is assessed under a regulated counterfactual approach – The assessment will determine the final TO offers to be compared at a later stage with offers presented by commercial providers under the competitive regime	**Direct participation** (fully competitive regime) – Incumbent TOs participate in the same competitive bidding process along with other commercial participants
Main drivers behind the approach adopted	– One purpose of the Pathfinders was to discover whether commercial providers could offer economic solutions (learning by doing) – To ensure a competitive process for new and innovative products whilst protecting the interest of consumers, ESO wanted to ensure a solution would be delivered by the process to meet the identified needs (by ensuring TO participation) *ESO had no visibility of stability requirements beyond the 10 years assessed and therefore deemed it inappropriate for grid assets to be assessed over their full lifetime (instead focusing on the duration of need for which they had visibility)*	– Direct competition would provide the same timescale and evaluation principles to allow transparency in the comparison between the network solutions – It would be challenging to compare competitive and counterfactual solutions separately during the ITT, design of the solutions, and later stages, before knowing the final costs of the solutions

TO: Transmission Owner; ITT: Invitation to Tender; ECP: Early Competition Plan

Legend

Network Planning Facilitator *Competitive Provider* *Las Resort Provider*

TOs' INVOLVEMENT: SUMMARY OF ANALYSIS

Our thinking on participation models for TOs involves a range of possible categories

Analysis carried out

What roles do we want the TO to play? → **In case eligible, how do we want TO to play the Competitive Provider role?** → **Given the desired role and participation method, what structure do we want the TO to take?**

Possible roles

Network Planning Facilitator
- Assess the feasible connection points to be reserved for the awarded providers
- Support technical feasibility assessments of proposed solutions

Competitive provider
- Offer solutions within the Stability Market through either indirect or direct participation

Last resort provider
- Commissioning of the required capability for stability in case of commercial provision being insufficient to meet stability needs

Participation options

Competitive provider

Indirect participation (**counterfactual** regime)
- TO's cost submission assessed under regulated counterfactual approach
- Assessment will determine final TO offers to be compared at a later stage with offers by commercial providers

Direct participation (**fully competitive** regime)
- TOs participate in the same competitive bidding process along with other commercial participants

TO structures

I) 'Fully regulated body': TO keep the role envisaged as today, owning and managing regulated assets

II) 'Blended risk taker': bidding assets are owned and managed (under non-regulated basis), still under TO's control

III) 'Risk silo': bidding assets are owned and managed (under non-regulated basis) by a third entity, separated from TO's company structure (e.g. as already used for NGV and NGET)

TO: Transmission Owner; NGET: National Grid Electricity Transmission; NGV: National Grid Ventures

Legend → *Alternative options*

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1. TOs' involvement

DESIRED OPTION: PROS AND CONS OF COUNTERFACTUAL ROUTE

Indirect Competitive Provider (Counterfactual route) would be beneficial in terms of simplicity, competitive pressure and achievement of SQSS

A. Counterfactual route

Roles combination	Participation	Structure
The 'Competitor'	*Indirect Participation*	*'Fully regulated body'*

Advantages

- Add competitive pressure on commercial providers by leveraging regulated WACC for TO
- Easier to ensure a sufficient number of solutions offered by TOs, encouraged by their licence obligations to meet SQSS
- Simple route as it fits within current TO price control regime

Disadvantages

- Difficult to ensure a fair comparison with commercial assets (particularly in terms of duration of their obligations)
- Excess competitive pressure could reduce attractiveness of participation of commercial providers in the LT market[1]
- COI (perceived or otherwise) difficult to monitor/enforce
- Does not work very well if there is material cost uncertainty between tendering and construction phase (no credible counterfactual)
- May require compensation/compulsion to ensure TO participation

B. Fully competitive route

Roles combination	Participation	Structure
The 'Competitor'	*Direct Participation*	*'Risk silo'* **OR** *'Blended risk taker'*

Advantages

- Application of the same terms makes easy to compare solutions by incumbent TOs and other competitive providers
- Approach in line (for *'Blended risk taker'*) or *broadly* in line (for *'Risk silo'*) with other early competition eligible projects (reducing administration burden)
- Add competitive pressure on commercial providers by potentially leveraging low regulated WACC for TO (for *'Blended risk taker'*)
- Easier to manage COI through a separate entity, with mitigation measurements (e.g. ringfencing) in place (for *'Risk silo'*)

Disadvantages

- Competitive risk component could lead to higher WACC and so lower competitive pressure compared to indirect participation approach
- COI (perceived or otherwise) difficult to monitor/enforce
- Complex organisational restructuring required for *'Risk Silo'* case
- Under *'Blended risk taker'*, complex adjustments to licence conditions (already ongoing). Under *'Risk silo'*, not bound by licence obligations[2]
- Potential long term implications for TO risk profile under the *'Blended risk taker'* case

1. While in ST high competitive pressure would benefit consumers by reducing costs, under LT this could drop the appetite of commercial participants, resulting in lower level of competition during auctions and so higher bidding prices; 2. Potentially requiring last resort solutions in case of market failure, raising further COI issues | TO: Transmission Owner; WACC: Weighted Average Cost of Capital; SQSS: Security and Quality of Supply Standard; COI: Conflicts of Interests

Legend: *Network Planning Facilitator*; *Competitive Provider*; *Indirect participation*; *Direct participation*; *Fully regulated body*; *Blended risk taker*; *Risk silo*; *Desired option*

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Key challenges deriving from indirect competition of TO assets have already been raised during Project Phase 1

PROJECT PHASE 1 - KEY CHALLENGES DERIVING FROM INDIRECT COMPETITION OF TO ASSETS

Asset lifetime

Under the RAB, a 45-year assumed asset life is used which far exceeds that of envisaged commercial contracts

The latest Pathfinder evaluations assumed 10 years as the counterfactual duration for regulated TO assets

Cost of capital and risk

There exists a comparatively low cost of capital for regulated assets due to the allocation of risk (ultimately, consumers bear risk for regulated TO assets)

Obligations & non-delivery uniformity

Obligations on availability/consequences of non-availability are not uniform between TO RAB assets and commercial solutions (again, consumers ultimately bear risk for TO assets)

Energy cost exposure

*Treatment of energy costs associated with delivery of the service is different between TO RAB and commercial solutions**
**NB licence-lite consultation is under way for commercial assets*

Preferential access to information

Potential for preferential access to information by TO(s)

Preferential access to sites

Preferential access to sites/connections by TO

TO: Transmission Owner: RAB: Regulated Asset Base

TOS' INVOLVEMENT: SUMMARY OF RECOMMENDATIONS

Some considerations have been raised under the desired solution (Counterfactual)

Key recommendations

Alternative models proposed for TOs

	Roles combination	Participation	Structure
A. Counterfactual route	*The 'Competitor'*	*Indirect Participation*	*'Fully regulated body'*
B. Fully competitive route	*The 'Competitor'*	*Direct Participation*	*'Blended risk taker'* / ***Alternatives*** / *'Risk silo'*

Key considerations on Counterfactual Route

- "The idea that the out-of-area TOs are able to compete, meaning that the advantages of TOs bidding competitively are likely to be realised even with the counterfactual model"
- "If an independent subsidiary (controlled by same parent company of TO) already exists, should that participate as solution provider instead of the TO (similar to 'risk silo' approach)?" e.g. NGV/NGET, SP-RE/SPT, SSE-G/SHET
- "The idea that to use the counterfactual route it would be wise to *require* the TO to submit a counterfactual in certain circumstances (and to allow the cost of so doing)" - this fundamentally avoids 'last-resort' role
- "The idea that the counterfactual could be used for "shortfall"[1] but not for opportunistic[2] purchases (thereby minimising administrative burden)"
- "Overall, it seems premature to discourage TO regulated participation until we know that the competitive process is working. We can then seek feedback from participants on the TO counterfactual as a disincentive or otherwise"
- "Current asset assessments for counterfactual include accelerated depreciation of assets with zero assumed residual value as an artificial tilt of the playing field against the regulated option: can we improve on this to save consumers money?"

1. Procuring only the minimum capacity to meet SQSS; 2. Procuring to minimise costs compared to counterfactual (i.e. avoiding more expensive solutions at later timeframes) | TO: Transmission Owner; NGET: National Grid Electricity Transmission; NGV: National Grid Ventures; SP-RE: Scottish Power Renewables; SPT Scottish Power Transmission; SSE-G: SSE Generation; SHET: Scottish Hydro Electric Transmission; SQSS: Security and Quality of Supply Standard

Legend: *Network Planning Facilitator*; *Competitive Provider*; *Indirect participation*; *Direct participation*; *Fully regulated body*; *Blended risk taker*; *Risk silo*; *Desired option*

TOS' INVOLVEMENT: SUMMARY OF KEY ADVANTAGES OF DESIRED SOLUTIONS AND OUTSTANDING QUESTIONS

Along with several advantages, the desired solution will raise open questions to address

Key advantages

Counterfactual route

Roles combination	Participation	Structure
The 'Competitor'	*Indirect Participation*	*'Fully regulated body'*

- Add competitive pressure on commercial providers by leveraging regulated WACC for TO
- Easier to ensure a sufficient number of solutions offered by TOs, encouraged by their licence obligations to meet SQSS
- Simple route as it fits within current TO price control regime

Outstanding questions

The desired solution brings key issues to address:

- *Competition and consumer outcomes:* when ESO compares potential solutions, this must always be with the status quo in mind (are we improving on existing arrangements?). Risk that outcomes are worse than status quo should be mitigated wherever possible[1]
- *Fairness:* no simple methods to compare regulated vs. commercial assets. If there is a perceived advantage by one party over another, this may limit participation interest
- *Management of Conflicts of Interests:* an entity which participates in competition between it's own projects and direct rivals presents COIs that must be managed. Perception of COI can be damaging, even with risk mitigation in place. Careful calibration of incentives and license obligations required. Need to monitor COI and enforce mitigation measurements (e.g. ringfencing)
- *Administrative burden:* administrative burden of potential solutions should be proportional to the problem we are looking to solve. If tender processes are too long and complex, this can reduce the overall benefit for all parties, including TO's and commercial providers

1. Particularly for a service/market in its infancy | TO: Transmission Owner; WACC: Weighted Average Cost of Capital: COI: Conflicts of Interest; SQSS: Security and Quality of Supply Standard

Legend *Network Planning Facilitator* | *Competitive Provider* | *Indirect participation* | *Fully regulated body*

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ELIGIBILITY RULES: SUMMARY OF ANALYSIS

Net procurement through shortfall and opportunistic buying is the desired approach, enabling compliance with SQSS while optimising costs

Analysis carried out

POSSIBLE PROCUREMENT APPROACHES

'Pay for additionalities'
(recommended arrangement for now)

- Treating the stability market as a substitute for BM activity
- Payment principle is to "*pay for action*", rewarding only those providers willing to change their behaviour ('**net procurement**') in order to:
  1. Maintain the incentive to provide stability services
  2. Minimise windfall gains
- Trading strategy can be undertaken under different (and complementary) approaches in all market timeframes:
  - *Shortfall:* procuring only the minimum capacity to meet SQSS
    → ***Principle:*** *buy now before it is too late*
  - *Opportunistic:* procuring to minimise costs compared to counterfactual (i.e. avoiding more expensive solutions at later timeframes)
    → ***Principle:*** *buy when it is cheapest*

'Pay all providers'
(possible arrangement for the future)

- All providers needed to provide stability services receive payments ('**gross procurement**')
- This can be built into expectations for capacity investment/closure decision-making as well as operational planning and dispatch
- It ensures that all providers incentives are aligned and guarantee SQSS. However, paying all the providers indiscriminately may not be efficient in terms of costs for consumers
- AFRY modelling carried out during Project Phase 1 revealed significant extra costs if stability products are procured on a 'gross' basis

BM: Balancing Market; SQSS: Security and Quality of Supply Standard

Legend *Desired option*

ELIGIBILITY RULES: SUMMARY OF RECOMMENDATIONS

Net procurement envisages a selective approach, where providers are selected first according to their characteristics and then payment criteria

Key recommendations

'PAY FOR ADDITIONALITIES'

Selective characteristics

Selection criteria are defined by provider status:

Incremental investment (in LT market):
- All new build plants *(e.g.* ***prior to*** *investment commitment (without* ***other LT contracts****?))*
- **Significant** investment in existing plants to enable or enhance stability provision *(e.g. with min. investment threshold to be defined)*

Incremental capability (in MT and ST markets):
- **Minor** investment in existing plants to enable or enhance stability provision *(e.g. min/max investment threshold to be defined)*
- Plants which are **otherwise expected** to close
- Out of contract capacity e.g. expired Pathfinders (*or* ***TO assets past the RAB period****?*)

Existing capability (in ST market): all other providers not in the first two categories

Selective characteristics take primacy over selective payment

Selective payment

According to its status, providers will be selected for payment within ST market if they fulfil:

Technical conditions to deliver the service at the relevant time: operationally, unit needs to have necessary configuration/activation to provide the stability service

Other constraints*? E.g., plant location, effectiveness*

D-1 indication of intention to meet condition to deliver the service: e.g., no remuneration if service is **expected** to be provided e.g. as a by-product of another committed/ intended activity

ST market preferable procurement route compared to other intraday alternatives: e.g., evaluate possibility to **procure through BM if cheaper**

If compliant with the above criteria (and selective characteristics), units can be procured under complementary ***procurement strategies*** *in all market timeframes:*

Shortfall procurement AND *Opportunistic procurement*

BM: Balancing Market; ST: Short-Term; MT: Mid-Term; LT: Long-Term; SQSS: Security and Quality of Supply Standard; CCGT: Combined Cycle Gas Turbine

NET PROCUREMENT - SELECTIVE ELIGIBILITY APPROACH: SELECTIVE CHARACTERISTIC

Selective eligibility based on providers' status is applied across the different timeframes considering cost efficiency, forecast capabilities, and practicality

	Long term (Y-4)	Mid term (Y-1)	Short term (D-1)
Incremental investment	Can be easily identified as providing additionality to ensure security and to reduce (expected) cost of later procurement	Assets that can deploy quickly should not be excluded from the arrangement *Open point: likely for incremental investment to be contracted for one year only?*	Incremental investments are not expected to rely only on D-1 calls through ST *Open point: since participating in ST only, aren't they existing capability by definition?*
Incremental capability	LT market is intended to fund significant investment: incremental capability can offer in MT and ST markets Counterfactual (LT) cost for incremental capability is difficult to establish	Offers an opportunity for closing providers, plants which are out-of contract (e.g. Pathfinder) and other minor investments in existing plants	Some incremental capability with uncertain availability or operating costs may prefer to access the ST market *Open point: since participating in ST only, aren't they existing capability by definition?*
Existing capability	LT market is intended to fund significant investment: existing capability can use ST Counterfactual (LT) cost for existing capability is difficult to establish	Counterfactual (MT) cost for existing service providers is difficult to establish	Reasonable degree of certainty on costs and counterfactuals in D-1 timeframe. Opportunistic procurement as alternative to BM (or other intra-day) procurement

ST: Short-Term; MT: Mid-Term; LT: Long-Term

Legend Eligible | Ineligible | With open points → Treated as:

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NET PROCUREMENT - SELECTIVE ELIGIBILITY APPROACH: SELECTIVE PAYMENT - ALL MARKETS

After having established eligibility, shortfall and opportunistic strategy will allow to procure the required capacity guaranteeing SQSS and cost efficiency

	Long term (Y-4)[1]	Mid term (Y-1)[1]	Short term (D-1)[1]
Incremental investment	**Shortfall**: minimum required to meet SQSS (taking account of **expected** incremental capability). **Opportunistic**: procure new investment to reduce cost **compared to alternatives** from incremental capability or existing capacity	**Shortfall**: adjustment from LT market procurement to meet SQSS **Opportunistic**: compared to **counterfactual cost** from existing capability (assumes the investment will not be made without contract)	Treated as existing capability: however non-BM providers cannot be accessed in the BM
Incremental capability		**Shortfall**: adjustment from LT market procurement to meet SQSS **Opportunistic**: compared to cost of **counterfactual** from existing capability, or from same provider in case **assumed cheaper** in ST	Treated as existing capability: however non-BM providers cannot be accessed in the BM
Existing capability			**Shortfall:** procurement of gap to achieve total requirements in ST that could not otherwise be realised (e.g. non-BM units) **Opportunistic**: compared to **counterfactual cost** from same or other providers in BM

1. Assuming units eligible under selective payment criteria as well | BM: Balancing Market; ST: Short-Term; MT: Mid-Term; LT: Long-Term; SQSS: Security and Quality of Supply Standard; CCGT: Combined Cycle Gas Turbine

Legend Eligible | Ineligible | With open points | Treated as:

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NET PROCUREMENT - SELECTIVE ELIGIBILITY APPROACH: SELECTIVE PAYMENT - ST MARKET

Eligibility for ST market under selective payment criteria requires a change in behaviour to provide stability services

Selective payment (in ST market)

If units compliant with previous conditions

		Technical conditions to deliver the service at the relevant time	*D-1 indication of intention to meet condition to deliver the service*	*ST market preferable proc. route compared to other ID alternatives*	*Activation through change of behaviour*
Generation/storage units	Synchronous (e.g. CCGT, nuclear)	– To be synchronised (generating >0MW)	– ESO identifies units intended to anyway generate through: – PNs, or – Own forecast – *Other?*	– Evaluate if procurement in SM is cheaper than BM	– Unit instructed to synchronise
	Non-synchronous (e.g. Wind, PV, Battery) with grid-forming	– Grid forming activated – For inertia provision, available to provide energy (from RES plant or battery)	– No info on grid-forming status available to ESO – *Assume they will not otherwise offer capability unless contracted?*[1]	– No routes other than Stability Market[2]	Unit instructed to: – Activate grid-forming – For inertia provision, provide energy (from RES plant or battery)
0MW units	Synchronous (e.g. condensers) and non-synchronous	– To be synchronised/grid forming enabled – For inertia, rotating mass (e.g. flywheel) available to provide energy	– No info on synchronisation/grid forming status available to ESO – *Assume they will not otherwise offer capability unless contracted?*[1]	– No routes other than Stability Market	Unit instructed to: – Synchronise/enable grid forming – For inertia provision, provide energy source through activation of rotating mass

1. Possible exception: if unit is already contracted under Reactive Power LT contract, remuneration for SCL and DVS provision under Stability Market would be denied; 2. Possible exception: in case unit is called in BM and grid-forming activated, it could deliver inertia service as a by-product of energy provision | CCGT: Combined Cycle Gas Turbine; PV: Photovoltaics; RES: Renewable Energy Sources; PN: Physical Notification; SM: Stability Market; TO: Transmission Owner; SCL: Short Circuit Level; DVS: Dynamic Voltage Support; ID: Intra-Day

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POSSIBLE ELIGIBILITY MODELS FOR EXISTING PLANTS IN LONG TERM MARKET

For the Long-Term market, different eligibility scenarios for incremental and existing capability could be investigated

Possible approaches	Providers eligible in LT market	ADVANTAGES	DISADVANTAGES
Selective Exclusion (similar to *'Pay for additionalities'*)		– Most efficient model which avoids paying plants already providing stability services as by-product or through another committed/intended activity, and procures existing plants in MT/ST	– Higher risk of not achieving security standards in later timeframes – Potential reason for some existing plants to close, leading to procurement of more expensive solutions to fill the gap with stability needs
Global Inclusion (similar to *'Pay all providers'*)		– Minimises risks of not achieving security standards at later timeframes – Highest degree level of competition within LT bids – Minimises risks of market distortions, applying the same approach for all participants	– Not efficient in terms of costs for consumers (e.g. some existing plants could be cheaper to procure through MT/ST, windfall gains for some plants from provision of stability in other markets without change in behaviour)
Hybrid approach 1 (*Bid limitations in auctions*)	 Bid limitations in LT auctions (e.g. price cap, price taker approach)	– Limits part of windfall gains of existing plants – Lower risk of not achieving security standards compared to the 'Selective Exclusion' case – Higher competition degree level compared to the 'Selective Exclusion' case	– Price cap to be revised periodically according to evolution of costs (e.g. cost of fuel) – Not the most efficient in terms of costs for consumers for same reasons as the 'Global Inclusion' case
Hybrid approach 2 (*No stackability*)	 Except for plants benefitting from other remuneration mechanisms (e.g. CfD, CM, AS)	– Limits part of windfall gains of existing plants – Lower risk of not achieving security standards compared to the 'Selective Exclusion' case – Higher competition degree level compared to the 'Selective Exclusion' case	– Potentially leading to higher prices (and expenses) in other markets (e.g. higher clearing prices in CM) in case plants are excluded from Stability remuneration – Not the most efficient in terms of costs for consumers for same reasons as the 'Global Inclusion' case

LT: Long-Term; ST: Short-Term; PC: Price Cap; CfD: Contract for Difference; CM: Capacity Market; AS: Ancillary Services

Legend *Incremental investment* | *Incremental capability* | *Existing capability* | *Desired option*

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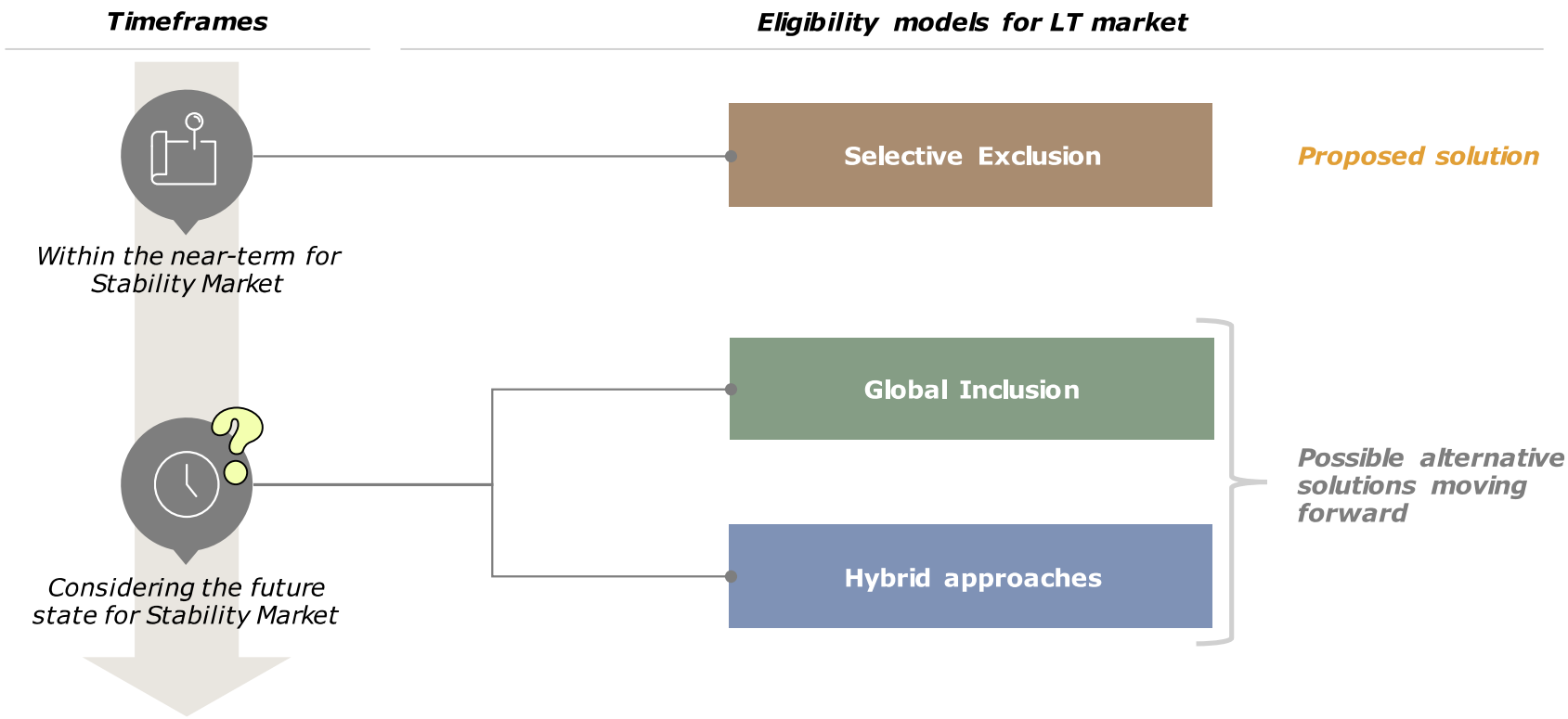
FUTURE ROUTES FOR ELIGIBILITY AFTER ENVISAGED WINDOW

As markets mature, eligibility criteria might widen, aligning long term incentives for existing and new providers without unexpected (windfall) gains



LT: Long-Term

'Pay for additionalities'

ELIGIBILITY RULES: SUMMARY OF KEY ADVANTAGES OF DESIRED SOLUTIONS AND OUTSTANDING QUESTIONS

Along with several advantages, the proposed selective model raises open questions to be addressed

Key advantages

The 'Pay for additionalities' option would allow to:

- Avoid paying plants already providing stability services as a by-product or through another committed/intended activity (minimising windfall gains)
- Have the flexibility to procure solutions in advance/at later stages, when expected to be cheaper, through the opportunistic procurement approach
- Guarantee at the same time the achievement of SQSS through the shortfall procurement approach

Outstanding questions

- *How does ESO practically define incremental investments, incremental capabilities and existing capabilities?*
- *What are the consequences of excluding/including existing providers from LT market?*
- *Are there other constraints (e.g. locational, effectiveness) to be considered within technical conditions?*
- *What is the preferable channel for ESO to identify 'D-1 identification of intentions'? If (pre-final) Physical Notifications is an option for Synchronous units[1], what about other technologies[2]?*

1. e.g. CCGT, Nuclear; 2. e.g. non-synchronous units with grid-forming, synchronous/non-synchronous 0MW units | LT: Long-Term; SQSS: Security and Quality of Supply Standard; CCGT: Combined Cycle Gas Turbine; MT: Mid-Term, ST: Short-Term: BM: Balancing Market; SQSS: Security and Quality of Supply Standard