

MEMO

TO: Kevin Hannafin (Viridian)
DATE: 19 April 2018
FROM: Graham Shuttleworth, George Anstey
SUBJECT: Competition and Cost Recovery under the 2019/20 T-1 Capacity Auction Parameters

1. Introduction

The SEM Committee recently published a Consultation Paper on the design of the Capacity Remuneration Mechanism (CRM) for the upcoming auction for delivery in 2019/20.¹ This consultation updates the proposals following the application for state aid approval from the European Commission. Viridian asked us to review the Consultation Paper in the light of our December 2016 report on the prospects for cost recovery under the I-SEM rules proposed at that time.² We have taken account of the revised rules adopted by the SEM Committee,³ and also of the conditions for state aid approval listed by the European Commission.⁴

This memorandum proceeds as follows:

- Section 2 sets out our main conclusions from our December 2016 report on the prospects for cost recovery, for ease of reference;
- Section 3 explains the implications for cost recovery of two substantive and subsequent changes to the design of the Unit Specific Price Cap: (1) the ability to bid in a proportion of unavoidable future investment in capacity market auctions both before and after that investment is undertaken and (2) a margin of error surrounding estimates of Net Going Forward Costs; and
- Section 4 reviews the European Commission's state aid decision and draws out its repeated references to insufficient locational signals in the I-SEM design.

Developments since December 2016 have done nothing to change our overall conclusion that the I-SEM imposed a set of bidding constraints on plants likely to be constrained on that systematically denied cost recovery and would lead to inefficient market outcomes.

¹ SEM Committee (2018), "Capacity Remuneration Mechanism (CRM) State Aid Update, 2019/20 T-1 Capacity Auction Parameters and Enduring Storage De-rating Methodology", Consultation Paper, (SEM-18-009), 13 March 2018.

² NERA (2016), "Competition and Cost Recovery under the I-SEM Bidding Rules", A Report for Viridian, 16 December 2016.

³ In particular, we have reviewed the following documents in preparing this memorandum: SEM Committee (2017), "Complex Bid Offer Controls in the I-SEM Balancing Market" Decision Paper, (SEM-17-020), 7 April 2017. SEM Committee (2017), "Capacity Remuneration Mechanism Parameters and Auction Timings", Decision Paper, (SEM-17-022), 10 April 2017. SEM Committee (2017), "Capacity Remuneration Mechanism Information Paper on USPC Application Process", Information Paper, (SEM-17-090), 30 November 2017.

⁴ European Commission (2017), "State aid No. SA.44464 (2017/N) – Ireland: Irish Capacity Mechanism", November 2017.

The revised rules surrounding Unavoidable Future Investment (UFI) still imply that some efficient future costs will go unrecovered. The rules allow generators to recover UFI costs over a period no shorter than five years (with a few exceptions) and no longer than ten years.⁵ However, generators needing to undertake UFI but with costs below the New Capacity Investment Rate Threshold (NCIRT) are only eligible for capacity contracts with a single-year duration. Generators face the risk of failing to win capacity contracts for each of the years necessary to recover their UFI costs. This risk is commensurately greater for generators constrained on by the system operator in the capacity market. These generators take risk not only over their relative position in the market-wide merit order but also over whether constraints will endure for the full period necessary to recover their UFI costs. Preventing generators facing UFI costs from recovering them in a single year and excluding them from signing multi-year agreements distorts investment towards new plant able to sign multi-year agreements which are potentially more costly.

The SEM Committee explicitly linked the ten per cent margin on top of estimates of Net Going Forward Costs to likely estimation error (and exposure to uncovered Reliability Option Difference Payments at least for the first auction).⁶ A margin of ten per cent explicitly linked to recovering other costs and risks does nothing to provide a systematic prospect of recovering costs already sunk.

The European Commission's comments further reinforce the need for the SEM Committee to adjust market rules to provide locational signals for investment in order to meet the conditions for state aid approval.

2. Our Conclusions on Cost Recovery in I-SEM in December 2016

In our December 2016 report, we reached the following conclusions (paragraph numbering added for convenience):

- (1) "In the abstract model of perfect competition, equilibrium prices are simultaneously equal to marginal costs and average costs of production. In practice, few if any markets are perfectly competitive and many markets take time to equilibrate. Therefore:
 - prices that deviate from strict definitions of short run marginal costs can be consistent with competitive behaviour (see section 2).
- (2) The SEM Committee has a duty to promote competition. Whilst most competition authorities and regulators consider competition to be a *process*, the SEM Committee's proposals for market power mitigation in the energy and capacity markets seek instead to

⁵ The exceptions are where: "There is a clear external factor driving a shorter life, such as emissions limits; The unit is more than 40 years old, in which case recovery will be allowed in 1 year; The applicant provides a clearly evidenced reason for a shorter period". SEM Committee (2017), "Capacity Remuneration Mechanism Information Paper on USPC Application Process", Information Paper, (SEM-17-090), 30 November 2017, paras 2.2.11 and 2.2.13.

⁶ SEM Committee (2017), "Capacity Remuneration Mechanism Information Paper on USPC Application Process", Information Paper, (SEM-17-090), 30 November 2017, para 2.2.2.

impose the SEM Committee's view of the competitive market *outcome*, at least for constrained-on plant. The information used to define this outcome will always be imperfect, which will distort the result, but in any case:

- the SEM Committee has chosen to apply a market outcome based on a flawed interpretation of the theoretical ideal of perfect competition, which is not even applicable to sectors with long run, irreversible investments (see section 3).

(3) Relying on the short-run outcomes of stylised perfectly competitive markets, the SEM Committee proposes that market participants should bid no higher than their marginal costs of production in the capacity market – as represented by the SEM Committee's own definition of that cost, NGFC. Plants that are constrained on will be subject to the same constraint in both capacity and energy markets and will be paid what they bid. The SEM Committee's rules therefore explicitly forbid certain existing plants to recover any sunk costs of investment. However, no regime that regulates continual investment can disallow the recovery of sunk costs on principle, since the cost of any investment allowed at time T ("today") and carried out at time T+1 ("tomorrow") would have to be disallowed as a new sunk cost from time T+2 ("the day after tomorrow"). Treating the same costs inconsistently at different times undermines the credibility of the regime and destroys incentives for long term investment. Such rules do not represent pricing behaviour in a competitive market either, and can never produce an efficient outcome.

- Although the SEM Committee tries to justify its proposals with reference to rules in other jurisdictions, in practice the regulators of other markets do not impose such severe restrictions on the recovery of capital costs across *all* the markets in which market participants operate. (In the I-SEM, some generators operate largely, or even solely, in constrained markets, where the proposed restrictions are tightest. These generators provide a useful test case, since the proposed rules must maintain incentives to invest and generate even in these conditions.)

(4) Hence:

- the theory of perfect competition provides no basis for the SEM Committee's proposals because perfect competition cannot exist in markets where long-lived, irreversible investments are made with imperfect information;
- in real world conditions, competition authorities promote competition by helping the competitive *process* to reveal competitive market outcomes, rather than by imposing a particular *outcome*; and
- international precedents offer no support for the specific form of capacity market price controls currently proposed for the I-SEM, because other markets offer greater flexibility, rely on *ex post* scrutiny, and do not deny total cost recovery (see section 4).

(5) In the I-SEM, capacity market choices will be distorted towards expensive new capacity, because the SEM Committee's proposals would prevent existing plant from including the

capital cost of refurbishments in capacity market bids, except in the year when they are incurred, whilst allowing new entrants to obtain longer term contracts. The reasons for making this distinction within an industry of continual, long-lived investment are weak. The distinction itself is therefore a difference in treatment that lacks any objective justification. In some cases, low cost existing capacity will be replaced by more expensive new capacity, just because it is able to obtain a long term contract. Such choices would be inefficient and the possibility of delays in construction would put security of supply at risk. In summary:

- offering longer-term contracts to some bidders, but not others, is a difference in treatment that lacks any objective justification, and distorts competition;
- in some cases, existing plants that would be cheap to refurbish would close, and be replaced by more expensive new plants with long term contracts; and
- such outcomes would be inefficient. Moreover, any delay in the construction of the expensive new plant would put security of supply at risk (see section 5).

(6) Overall, therefore, we conclude that the SEM Committee’s current proposals for the capacity auction would be detrimental to consumers’ interests.”

3. Subsequent Changes Do Not Affect Our Conclusions

As highlighted in paragraph (3) above, the proposed rules denied the owners of some existing capacity any reasonable opportunity to recover their costs, which would have adverse consequences for efficiency and consumer interests. After the consultation in 2016, the SEM Committee decided to make two changes to the rules defining the “Unit Specific Price Cap” (USPC), i.e. the maximum price that an existing capacity resource (i.e. generator or demand side unit) may bid into any CRM auction. These changes published in April 2017 were as follows:⁷

- (1) Any existing generator making refurbishment/upgrade investment (which is below the threshold to qualify as new capacity) may include “a proportion of unavoidable future investment” in its USPC;
- (2) The figure for “Net Going Forward Costs” (NGFC) included in a USPC may include a margin of (up to) 10 per cent for “NGFC estimation uncertainty”. The SEM Committee subsequently explained that this margin also covered the “expected value of a generator’s exposure to uncovered Reliability Option Difference Payments”, without making any adjustment to the level of the margin.⁸

⁷ SEM Committee (2017), “Capacity Remuneration Mechanism - Parameters and Auction Timings: Decision Paper”, SEM-17-022, paragraphs 6.3.45 and 6.3.90.

⁸ SEM Committee (2017), “Capacity Remuneration Mechanism Information Paper on USPC Application Process”, Information Paper, (SEM-17-090), 30 November 2017, para 2.2.2.

Read in conjunction with the SEM Committee's subsequent Information Paper,⁹ these changes do not affect the conclusions we reached in 2016, because they merely adjust the definition of the future avoidable costs ("Net Going Forward Costs") of existing plant, without lifting the cap on bid prices high enough to provide a reasonable opportunity for cost recovery.

3.1. I-SEM Rules Will Only Allow a Proportion of *Future* Investment Costs

The first change permits inclusion of "a proportion" of qualifying investment costs in capacity market bids.

In our December 2016 report, we explained that capacity whose refurbishment costs are substantial but not high enough to reach the New Capacity Investment Rate Threshold (NCIRT) would have to recover its costs through one-year contracts. In doing-so, it would face a severe problem:

- "Plant that is about to embark on a refurbishment might try to recover all the "going forward" (i.e. future) costs of the refurbishment in a single auction year, when the costs are incurred. However, that policy would make its bid so high as to be unlikely to be accepted, when compared with new capacity that can spread its costs over ten years.
- In any year *after* such investments have been made, existing capacity would be required by the SEM Committee's proposed capacity auction rules to bid a price that only includes its NGFC and that excludes the (by then) sunk costs of refurbishment."¹⁰

The rules therefore inhibited efficient investment by existing plant and distorted investment towards new build plant that could sign long term contracts and amortise investment costs over multiple years. This distortion would result in an inefficient pattern of investment to the detriment of consumers.

The SEM Committee made two revisions to the draft rules prevailing in December 2016 analysed above:

- Firstly, the rules preclude generators from bidding all of their UFI costs into a single capacity market auction. As a result, the current rules eliminate even the slim prospect of recovering its investment costs through a one-year contract referred to in the first bullet above.
- Secondly, the SEM Committee has clarified that generators may bid a proportion of UFI costs into future auctions, even after those costs are sunk, provided that proportion is approved by the SEM Committee. The premise of the second bullet set out above, that generators would be unable to bid sunk costs into future auctions, therefore no longer applies.

⁹ SEM Committee (2017), "Capacity Remuneration Mechanism Information Paper on USPC Application Process", Information Paper, (SEM-17-090), 30 November 2017.

¹⁰ NERA (2016), "Competition and Cost Recovery under the I-SEM Bidding Rules", A Report for Viridian, 16 December 2016, section 5.2, page 10.

However, neither of these revisions will result in a level playing field which provides equal incentives for investment in new and existing plant and resolves the inefficiency we identified in December 2016.

Under the revised rules, the SEM Committee will allow generators applying for a Unit Specific Price Cap (USPC) to include UFI costs in their capacity market bids in separate auctions over an “appropriate period... up to a maximum of 10 years”.¹¹ The SEM Committee will determine the length of the “appropriate period” and will not generally allow generators to recover UFI costs over a period shorter than five years.¹² In other words, most generators applying for a USPC will only be able to bid in a proportion of between ten and twenty per cent of their UFI costs in any given year.

These rules present a problem for generators facing UFI costs: being able to include costs within capacity market bids offers no guarantee of recovery of those costs. Generators undertaking UFI but with costs below the New Capacity Investment Rate Threshold (NCIRT) will continue to be eligible for capacity contracts only of a single-year’s duration. As a result, a generator may win a contract in the first capacity auction whilst including up to 20 per cent of its UFI costs in its bid; the same generator may fail to win a contract in any subsequent auction at prices that would recover the remaining 80 per cent of its UFI costs.

This risk of failing to recover UFI costs is present even for efficient investments that are in end-users’ collective interest. It is also commensurately greater for generators constrained on by the system operator in the capacity market. These generators take risk not only over their relative position in the market-wide merit order but also over whether constraints will endure for the full period necessary to recover their UFI costs. Preventing generators facing UFI costs from recovering them in a single year and excluding them from signing multi-year agreements distorts investment towards new plant able to sign multi-year agreements which are potentially more costly for consumers.

3.2. Error Margin on top of NGFC Does Not Allow Sunk Cost Recovery

The SEM Committee intends the second change to cover likely errors in under-estimating NGFC (and exposure to Reliability Option Difference Payments at least for the first auction).¹³

¹¹ SEM Committee (2017), “Capacity Remuneration Mechanism Information Paper on USPC Application Process”, Information Paper, (SEM-17-090), 30 November 2017, para 2.2.11.

¹² The exceptions are where: “There is a clear external factor driving a shorter life, such as emissions limits; The unit is more than 40 years old, in which case recovery will be allowed in 1 year; The applicant provides a clearly evidenced reason for a shorter period”. SEM Committee (2017), “Capacity Remuneration Mechanism Information Paper on USPC Application Process”, Information Paper, (SEM-17-090), 30 November 2017, paras 2.2.11 and 2.2.13.

¹³ The SEM-C says at several that the 10 margin allowance on NGFC is intended to cover “estimation uncertainty”. SEM Committee (2017), “Capacity Remuneration Mechanism - Parameters and Auction Timings: Decision Paper”, SEM-17-022, p.6, and paras 6.3.45, 6.3.76 and 6.3.88. The SEM Committee subsequently stated that this 10 per cent margin also covered

The SEM Committee originally intended the 10 per cent allowance to cover estimation uncertainty surrounding NGFC alone. It only subsequently stated that the allowance also covered exposure to Reliability Option Difference Payments, without increasing the level of the allowance.¹⁴ Unless the estimation uncertainty surrounding NGFC had fallen by exactly the amount (or greater) between the Decision Paper released in April and the Information Paper in November 2017 (or indeed that the allowance was set at the wrong level in the first place), the inclusion of Reliability Option Difference Payments within this allowance itself prevents cost recovery even of forward-looking costs.

In any case, the addition of a 10 per cent allowance to compensate for other categories of costs and risks (underestimation of NGFC and Reliability Option Difference Payments) does not provide any systematic opportunity to recover costs that are unavoidable (i.e. sunk). The regulator may underestimate NGFC by less than 10 per cent in any given year which would create an opportunity to incorporate some sunk costs into bids. However, there is no guarantee that any such headroom will be present in practice or sufficient to recover sunk costs as and when it arises.

Indeed, the SEM Committee is of the same view as we are that allowing a ten per cent margin on NGFC does not offer a prospect of sunk cost recovery. In the same document in which it decided to include an allowance of 10 per cent on NGFC, the SEM Committee explicitly confirms that its decision does not provide any allowance for sunk costs.¹⁵ Its position is that the prospect of infra-marginal rent resulting from the pay-as-clear auction format allows for the recovery of sunk costs:

"Some existing generators may not be able to bid at a level that covers their total costs, including sunk costs. However, that does not mean that the SEM Committee is denying them the opportunity to earn their total costs back, since their bids will not necessarily set the clearing price, and in-merit bids are paid-as-clear."¹⁶

The logic set out by the SEM Committee does not apply to out-of-merit generators who are constrained on and paid as bid. These generators have no prospect of recovering sunk costs, despite being needed by ultimate customers in I-SEM (or else the system operator would not constrain them on). The SEM Committee itself recognises that a problem remains over the potential for sunk cost recovery for constrained on plant due to the double (energy and capacity) price caps they may face. Instead of dealing with the failure of the energy and capacity markets to

exposure to RO difference payments. SEM Committee (2017), "Capacity Remuneration Mechanism Information Paper on USPC Application Process", Information Paper, (SEM-17-090), 30 November 2017, para 2.2.2.

¹⁴ SEM Committee (2017), "Capacity Remuneration Mechanism Information Paper on USPC Application Process", Information Paper, (SEM-17-090), 30 November 2017, para 2.2.2.

¹⁵ SEM Committee (2017), "Capacity Remuneration Mechanism - Parameters and Auction Timings: Decision Paper", SEM-17-022, p. 6 (re: Net CONE), paras 6.3.43, 6.3.47- 70, and the whole of Appendix D.

¹⁶ SEM Committee (2017), "Capacity Remuneration Mechanism - Parameters and Auction Timings: Decision Paper", SEM-17-022, Appendix D, para A.2.20.

offer the prospect of cost recovery for out-of-merit plant needed by the system, the SEM Committee notes a need to consider an "additional mechanism to address particular local security of supply concerns."¹⁷

Whatever the theoretical arguments for a 10 per cent allowance for the uncertainty of estimating NGFC, this allowance is small in comparison with the margin allowed to new capacity. New capacity may bid at prices up to 1.5 times the SEM Committee's estimate of total new entry costs ("Net CONE"). Net CONE is the equivalent concept of NGFC for new plant. The SEM Committee's proposed price cap of 1.5 times Net CONE is therefore equivalent to a margin for underestimation of NGFC of 50 per cent.

3.3. The Existing Rules May Discriminate Against Existing Plant without Objective Economic Justification

Whether the I-SEM rules are discriminatory against existing plant in constrained areas as a matter of law is a legal rather than purely economic question.

Nonetheless, from an economic perspective we can observe that the bidding rules for existing capacity in constrained areas are more restrictive than capacity which is a new entrant or in unconstrained areas. Those rules for constrained on plant include (1) price caps for energy and capacity markets (2) the pay-as-bid structure in both energy and capacity markets, (3) the exclusion of sunk costs from energy and capacity market bids and (4) restrictions over the recovery of future investment costs in capacity market bids. In combination, those rules may systematically deny a reasonable prospect of cost recovery for existing capacity in constrained areas. The alleged justification for imposing different restrictions on bidding behaviour – that constrained on plant do not face competition - is not generally true: in practice, plant behind constraints may compete to receive capacity contracts or indeed to be constrained on by the system operator in the energy market. Accordingly, the SEM Committee has no basis for imposing price and bidding caps at the level of forward-looking costs in all markets for all constrained on plant.

Aside from the arguments for different price caps based an alleged lack of competition, the SEM Committee argued in its Decision Paper on CRM parameters in 2017 that precedent from the British market supported its view that the restrictions on bidding behaviour under I-SEM are non-discriminatory.¹⁸ The SEM Committee's analysis on this point is misleading: the rules in the British market provide no support for the SEM Committee's position.

Market participants in Great Britain face different bidding rules depending on whether they are existing capacity or new entrants. As a default position, existing capacity that wishes to bid at a

¹⁷ SEM Committee (2017), "Capacity Remuneration Mechanism - Parameters and Auction Timings: Decision Paper", SEM-17-022, Appendix D, para A.2.25-A.2.27.

¹⁸ SEM Committee (2017), "Capacity Remuneration Mechanism - Parameters and Auction Timings: Decision Paper", (SEM-17-022), para 6.3.69.

price above the “price taker” threshold of £25/kW must submit a “price maker memorandum”. In that memorandum, the market participant declares that, according to its own assessment, it believes that a Capacity Market Unit has Net Going Forward Costs in excess of the price taker threshold. Ofgem collects information on costs from all such existing generators that want to bid above the price taker threshold. Ofgem only investigates bid prices on a *case by case* basis *when/if auction outcomes require it* and market participants who have obtained price maker status are not tied to bidding a particular price imposed by the regulator. In Great Britain, therefore, there is no presumption that price caps must be imposed on certain generators and not others, unlike under the proposed rules of the I-SEM. Comparing Great Britain with the I-SEM merely highlights the prejudicial nature of the proposed CRM rules for the I-SEM.

3.4. Implications for Our Conclusions

In the light of the consultation, the SEM Committee revised the definition of future avoidable costs used to set NGFC and the USPC. However, these revised rules allow existing capacity no additional scope to compete normally, e.g. by raising bid prices in conditions of scarcity to signal the value of its capacity and to incentivise investment by others. Moreover, the revised rules still imply that some future costs may go unrecovered and this risk of under-recovery borne by existing but not entrant plant will deter efficient investment. It is possible that the RAs believe these rules will lower the cost of procuring capacity (and related services) from existing capacity. However, that is a false hope. Faced with the inability to recover future costs at existing capacity, potential investors will choose to close it, rather than to sell its capacity at a loss, potentially forcing the TSO to select new capacity at higher cost. Our conclusions on cost recovery, as listed in paragraphs (3) and (5) above, therefore remain valid.

Collectively, the rules result in the prospect of cost recovery for existing capacity required by end-customers in constrained areas being materially worse than new entrants in otherwise similar positions. The SEM Committee’s justifications for the difference in treatment are not objective from an economic standpoint or supported by precedent from the British capacity market cited by the SEM Committee.

4. Support for Our Conclusions from the European Commission

In the Consultation Paper, The SEM Committee notes that the European Commission (EC) only granted state aid approval for the CRM auction rules subject to commitments given by relevant government departments to address the EC’s concerns over:

- Auction Design Format and Locational Constraints;
- “Cross-border” capacity i.e. capacity located outside the island of Ireland; and
- Equitable treatment of DSUs.

Of these concerns, locational constraints are most directly related to our conclusions on the impact of price caps on cost recovery. Price caps in the energy market apply only to capacity that is deemed to be “constrained on”, i.e. operating within an import-constrained part of the electricity

network. Price caps in the capacity market apply in principle to all plant in the system but affect plant in constrained areas differently. Plant in the wider I-SEM market receive the marginal value of their capacity (at least as expressed by the capacity market demand curve) and have the prospect of infra-marginal rent even if their prices are capped. Plant that are constrained on by the system operator in the capacity market, however, are paid as bid at capped prices.

4.1. EC Comments on Locational Signals

The EC commented on the need to enhance locational incentives as a condition of state aid approval. According to the Consultation Paper,

“The EC stressed the importance of market reforms to improve locational signals, including reforms to the ancillary service market, as well as other potential reforms previously noted by the SEM Committee such as a review of GTUoS and TLAfs.”¹⁹

The EC also noted that the authorities²⁰ had agreed that market prices should reflect the locational value of *capacity*.²¹ The EC commented that, while the CRM will be implemented alongside the I-SEM, the extent to which both changes can secure the future of plants in shortage areas is uncertain:

“...the immediate effect on existing operators in the market [in shortage areas] is uncertain with respect to their revenue streams (energy payments, system services, availability) all of which affect their commercial decisions as to whether to stay in the market.”²²

The EC noted the importance of locational signals for incentivising generation and transmission capacity in areas of constraints. The EC therefore raised concerns about the I-SEM, specifically that the market does not send locational signals to remunerate plant in temporarily constrained areas, and that “locationally important plants appear to not be able to monetise their locational value in the energy-only market”. These concerns echo our conclusions that the proposed pricing rules for existing capacity in constrained locations do not reflect competitive market pricing (Paragraphs (1) to (4) above), and that they will diminish the efficiency of outcomes (Paragraph (5)).

The EC correctly identifies locational needs and constraints as a problem requiring a solution based on locational signals. Moreover, the EC mentions its concern about the lack of locational signals

¹⁹ SEM Committee (2018), “Capacity Remuneration Mechanism (CRM) State Aid Update, 2019/20 T-1 Capacity Auction Parameters and Enduring Storage De-rating Methodology”, 13 March 2018, page 10.

²⁰ The regulatory authorities of the Republic of Ireland and Northern Ireland.

²¹ European Commission (2017), “State aid No. SA.44464 (2017/N) – Ireland: Irish Capacity Mechanism”, 24 November 2017, paragraph 157.

²² European Commission (2017), “State aid No. SA.44464 (2017/N) – Ireland: Irish Capacity Mechanism”, 24 November 2017, paragraph 157.

for temporary constraints. It would be wrong to assume that constraints in the current network can be ignored because they are merely temporary and will soon disappear (or migrate to another part of the network). According to the EC, temporary constraints require a locational signal just as much as long-lived or permanent constraints.

Indeed, it may even be efficient to retain some constraints around areas of high demand, if the additional payments to capacity within the constrained area would be cheaper than the cost of expanding the transmission network. Expanding transmission capacity may not eliminate a constraint, if it leaves areas of high demand exposed to the risk of a failure in the network; generation capacity located near to areas of high demand may still be valuable, to support system reliability.²³

These statements by the European Commission support our conclusions that the current proposals for energy and capacity pricing in the I-SEM fall some way short of competitive market pricing, in particular because locationally important plants will be unable “to monetise their locational value”.

4.2. Market-Wide Demand Curve for CRM Auction

The Consultation Paper confirms the use of a single, market-wide demand curve in the CRM capacity auctions, with separate arrangements defining the minimum quantity of capacity to be procured within constrained areas.²⁴ These proposals do not provide the locational signals favoured by the European Commission. In general, winners in the capacity auction will be awarded the price bid by the marginal plant, whilst any existing capacity within a constrained area that is awarded a Capacity contract (i.e. a Reliability Option) will only be paid the price it bid. This set of auction rules prevents existing capacity in valuable locations from “monetising” (i.e. earning) its locational value.

As we mentioned in our December 2016 report, US electricity markets sometimes limit energy and capacity bid prices in a manner similar to that proposed for the I-SEM, but they also allow the market prices for energy and capacity (a) to differ by zone (or node) and (b) to be set by the marginal bid within each zone.²⁵ As a result, inframarginal units can earn some inframarginal rents, as a contribution towards past investment costs, as in any competitive market.

²³ The European Commission notes that “without the additional capacity the reliability standard might not be met on a regional level”. European Commission (2017), “State aid No. SA.44464 (2017/N) – Ireland: Irish Capacity Mechanism”, November 2017, paragraph 152.

²⁴ SEM (2018), “Capacity Remuneration Mechanism (CRM) State Aid Update, 2019/20 T-1 Capacity Auction Parameters and Enduring Storage De-rating Methodology”, 13 March 2018, sections 5.1 and 5.2.

²⁵ NERA (2016), “Competition and Cost Recovery under the I-SEM Bidding Rules”, A Report for Viridian, 16 December 2016, section 4.4, page 8.

In comparison, the proposed I-SEM rules for energy and capacity pricing within constrained areas remain more restrictive, and operate unlike any competitive market. Therefore, they still do not meet the EC's requirement to provide locational signals in energy and capacity markets.

4.3. Implications for Our Conclusions

The absence of locational signals based on competitive market processes will cause inefficient investment in and use of existing generation capacity, which may actually exacerbate network constraints (a form of dynamic inefficiency).

The SEM Committee's revised rules do not provide sufficient incentives to deliver capacity in constrained locations. "Constrained-on" plants still cannot recover their (past or future) investment costs under the proposed pricing rules for energy and capacity, let alone any additional revenue for the value of capacity located in a constrained area. The revised rules do not therefore address the need for locational signals raised by the EC, and all of the conclusions we reached in December 2016 still apply.