

Submission of Sumitomo Electric Industries Ltd in relation to OFGEM Consultation on Electricity Transmission Advanced Procurement Mechanism published on 20 November 2024

This document represents Sumitomo Electric Industries, Ltd's. (SEI's) submission on OFGEM's consultation on establishing an Advanced Procurement Mechanism,

SEI is strongly supportive of OFGEM's goal to assist Transmission Operators in securing the crucial components they need for projects in a timely and cost-effective manner.

We have argued for some time that the United Kingdom's current regulatory settings for procurement for grid components are outdated, pose a barrier to the UK meeting its energy transition goals, and are a competitive disadvantage against other countries who are active in this area.

Due to regulatory risk management, UK transmission operators are pushed to procure HVDC cabling and certain other high-cost components on a project-by-project basis. As a risk management measure, the transmission operators also choose to buy installation at the same time (EPC procurement). As a result, the transmission operators are not able to reserve manufacturing capacity on a multi-project basis.

The result is that UK transmission operators cannot take a strategic approach to ensuring that the UK has enough cabling for the transition. This exacerbates shortages, making the transition more costly, and puts the Government's 2030 clean power mission at risk.

In our area of HVDC cables – components that are critical for the energy transition – there is already a global shortage and intense competition between countries to lock down supply. The UK's outdated procurement approach aggravates these problems.

This is expected to increase prices for procurement and contribute to project delays, which in turn will result in higher prices for UK electricity consumers.

Importantly, other countries are attracting supply chain investments and are securing long-term supplies for critical components in short supply.

Germany, for instance, has a more mature process, albeit also imperfect, to allow transmission operators to reserve capacity, resulting in many investors and suppliers. SEI specifically is investing in underground HVDC cable production in Germany, and their longer-term approach to long-term procurement was a contributing factor in that investment decision.

This competitive disadvantage in regulation is not just a threat to the UK's ability to procure components – but it is a threat to the UK's stated ambition of building local supply chains and creating the jobs and economic and environmental benefits that follow.

For Tier 2 and 3 suppliers of these components to establish themselves in the UK, they require a steady, guaranteed pipeline of work from Tier 1 suppliers. But without the ability to rely on reserved

capacity, it is challenging and involves significant risk for Tier 1 suppliers to establish themselves in the UK.

This is a contributing factor in the UK today, being one of only two G7 countries without domestic manufacturing capability for HVDC cables.

As a world leading supplier of components necessary for the energy transition, SEI has unique insight in this area.

SEI is undertaking a significant investment in the United Kingdom that is focused on supply of high voltage cables to the offshore wind sector, and to the grid connections that will support offshore wind generation.

In May 2024, site work began on SEI's £350 million subsea cable manufacturing facility at Port of Nigg, Scotland, which will be SEI's first UK factory and the UK's first HVDC cable factory (Port of Nigg). Port of Nigg is set for commissioning in 2026.

SEI's responses to this consultation reflect real-world observations of the challenges involved in making this kind of investment – the barriers the United Kingdom's current regulatory approaches put in the way, and the limits the current system puts on SEI's ability to deliver the kind of green supply chain the United Kingdom wants to develop.

SEI is supportive of Advanced Procurement

SEI is very supportive of the Advanced Procurement Mechanism proposal but has specific suggestions for its implementation.

If APM, in the future, allows TOs to procure in advance for multiple projects (coupled with common product standards and specifications for UK projects) this would allow investors such as SEI, and its potential subcontractors, to leverage the future potential of the UK market. We believe this proposal will unlock new investment, create jobs in the United Kingdom and speed up the energy transition.

We think there is no time to waste. There is significant risk that the UK misses out on the opportunity to turn the large forecast increase in renewables – especially offshore wind – investment over the coming decade into a largescale local supply chain. If the UK doesn't act quickly, the supply chains for this industry will be built elsewhere, and the UK will also miss out on reserving capacity that will be taken by other countries – to the detriment of the clean power mission.

The UK must act to counter the effect of the long-term decision making in Germany, which is attracting substantial investments, including from SEI (in that case for underground HVDC cables).

The APM proposal does not on its own lead to early procurement

Two issues have been flagged by our customers that indicate that the APM mechanism would not on its own lead to early procurement and therefore a greater certainty for suppliers such as SEI and our sub suppliers.

First, some transmission operators have pointed out that while the APM scheme would allow them to advance funds ahead of projects being allocated, the APM proposal does not address the fundamental

issue of **risk inherent in taking early procurement decisions before projects have been allocated** to the transmission operators.

In essence the operators are arguing that while they may be allowed to advance money, there is no certainty that they will ultimately require the product being procured.

This is an issue that the German model has resolved, and which in the UK context could be addressed in one of two ways:

One solution would be for the regulator to give the transmission operators some long-term **assurance as to the overall volume of projects**¹ that they will be allocated over the coming 10 to 15 year period. While not allocating individual projects to transmission operators, or giving guarantees that individual projects would go forward, the regulator's assurance that there will be a defined demand might give the transmission operator the comfort required to engage in and commit balance sheet resources to APM procurement.

In other words, by the regulator giving an assurance of overall volume of **grid projects that at a minimum will be allocated** to each transmission operator, the transmission operator would no longer have the risk of procuring materials without a project to allocate such purchases to.

A second way to address the risk that transmission operators see in making early APM procurement decisions would be to **accelerate allocation of grid projects to transmission operators before the details of such grid projects has been fully settled**. This is largely how the German model works; transmission operators know that they will receive a list of projects, but do not know the routing or indeed have assurance that all of the projects allocated will be executed. However, by knowing that they will have a given number of projects, they are able to secure a significant portion of the supplies required for a period of up to 15 years.

Allowing APM procurement for supply constrained products, and not for related unconstrained services and products, may require adjustment for project integration risk.

One feature of the UK market is the extensive offshore grid connections and the practice of procuring materials and services as a single EPC package. SEI is a significant supplier of EPC services in the offshore HVDC market and has delivered several such projects in the UK.

It is indisputable that offshore grid installation, and therefore integration of the product and services components on a grid project, involves a higher risk profile than onshore grid connections. As a result, the market practice is for the transmission operators to procure the cable and offshore installation services as a single package.

While HVDC cables are, just as transformers and HVDC converter stations, supply constrained products for which APM may be suitable, then installation services will differ depending on the project and may or may not be supply constrained depending on the installation time horizon.

¹ This may require OFGEM to modify its practice, as has been explained to us, of linking forecast volumes to specific forecasts as to projects being allocated. We are not familiar with the details of this practice so defer to the transmission operators on this point.

Under the APM proposal, as published, such services may not meet the standards of fungibility or supply constraint to qualify for APM procurement. It may indeed not even be possible to define the required installation services at the time of APM if the local conditions of a future project are not known.

Therefore, if APM is to be allowed for certain products, and not for other products or services which normally are procured as a whole, then it seems reasonable for the regulator to allow the transmission operator to undertake additional risk at the time of integrating the early procurement products with a more complete product and service package closer to the project execution date.

This can be addressed, for instance, by allowing the transmission operator to transfer the integration risk from a supplier to the transmission operator and developer e.g. by allowing the transmission operator to compensate a third-party integrator for the financial risk on “marrying” early procured products with later procured services.

If the regulator is to successfully address the challenge of supply constraint products in a rapidly expanding market with deadlines for projects, it is difficult to see how it can avoid addressing the risk of integration of products and services later in the project cycle.

Fungibility of procured products will de-risk the APM scheme.

The issue of fungibility of products eligible for APM will probably differ from product type to product type. The assessment of fungibility, and therefore solutions, for the APM mechanism may therefore differ depending on the product.

We understand, for instance, that converter stations may not be fungible, or only fungible to a very limited extent. For HVDC cable, however, it is possible for such products to be fungible if the industry adopts common specifications or common product standards.²

In such a case cable produced for one project can be used for any project, and product procured for one product could be transferred to another product project if the original project is cancelled or delayed. Because of this, HVDC cable can also to a certain extent be pre-produced and stored for later use.

If, where feasible given product characteristics, the **APM mechanism is paired with common specifications for supply constrained products**, this should in our view significantly reduce the risk associated with APM. With common product specifications, advanced procured products can be reassigned to another project, or even to another customer.

We note that common specifications will not mean that HVDC cable products become entirely fungible in the sense that products of different suppliers can be combined.

In the past, when Mass Impregnated (MI) cables were the norm for HVDC projects, cables produced by different suppliers could be jointed (connected) with relative ease. This is, however, no longer the case with modern XLPE technology. Each supplier has different XLPE insulation material and technology which prevents jointability with other companies' cables.

² We understand that there have been steps towards standardisation of HVDC cable needs by the UK transmission operators, but note that in the three most recent ASTI tenders there remain significant variations in the definition of the cables required to be bid.

Overcoming this would involve addressing joint R&D by the manufacturers, which on its own would raise compliance concerns (coordination on product innovation and product standardisation) and issues of sharing proprietary information and technology to develop a “universal joint” for DC XLPE. The benefits of such standardisation are however significant.

Should a customer be entitled to terminate or delay delivery under an APM procurement contract?

APM is primarily intended to provide suppliers with long-term contractual certainty such that they will commit to long-term investments and long-term sub supply agreements that enable the creation of a multi-tier supply chain.

It follows that contracts entered into, and the termination indemnities or guarantees provided for, under the APM scheme, should not as a rule be undermined by subsequent demand changes.

Nonetheless, early procurement prior to the allocation of grid projects will involve a degree of uncertainty as to the size, execution and timing of individual projects. Transmission operators may therefore require some flexibility in contracts.

In designing flexibility elements for the APM scheme, the regulator will want to ensure that flexibility features do not undermine the goals of giving investment certainty for the supplier. Flexibility features may vary depending on whether termination of an order would allow the supplier to dispose of the available capacity by other means.

For instance, where a liquid or spot market exists for a given product, the APM scheme may allow for termination with penalties that ensure that the supplier achieves the expected contribution margins through a secondary resale of the capacity, possibly combined with termination indemnities.

However, for products (such as HVDC cables) where the demand is “chunky”, so that late cancellations and resulting empty production slots cannot be filled, the scheme should ensure that the supplier achieves the compensation required to reach the intended return on investment.

Should joint procurement by transmission operators be encouraged?

The consultation mentions the possibility that “in the longer term we want to explore the potential to adapt the APM to allow TOs to develop a joint order book so that they can provide additional economies of scale and longer-term signals to the market.”

We agree that this may indeed be necessary to further derisk long term decisions and add much needed capacity to Transmission Operators procurement – reflecting the reality of a rapidly changing market with the urgent need for grid buildout.

We note however that for such joint procurement to take place, the regulator will need to have in place mechanisms to ensure the avoidance of monopsony effects (which in turn may act as a disincentive to supply chain investments in the UK).

Appendix 1 Consultation Questions

Q1. Do you agree with our proposal to introduce the Advanced Procurement Mechanism to address supply chain constraints faced by the transmission Owners?

Yes, we welcome the boldness of this proposal and strongly support the aim of supporting Transmission Operators in securing the crucial components they need for projects in a timely and cost-effective manner.

As noted above, we have some specific feedback on the implementation of the scheme.

For SEI in particular the issue of multiple delays in, and piecemeal (project by project) procurement has been identified as one factor that is holding back investment in Tier 1 manufacturing of capacity constrained products (such as subsea HVDC cables) and as a result preventing the establishment of a UK supply chain (Tier 2 and below suppliers).

If APM can allow TOs to procure in advance for multiple projects (possibly with some flexibility as to exact products and cancellation rights) this would allow investors such as SEI, and its potential subcontractors, to assess the future potential of the UK market and commit investments.

SEI considers that such a mechanism should be in place in 2025 so that the UK does not lag other countries in securing supply chain investments. As a comparison, the long-term decision making in Germany is attracting substantial investments, including from SEI (in that case for underground HVDC cables). There is no time to waste.

Q2. Do you agree with our proposed framework for evaluating eligibility?

SEI has reviewed the proposals at points 2.5 to 2.8 and do not have comments. SEI cannot comment on the individual tests as it is not familiar with the level of reporting normally required by transmission operators.

As it may be difficult for transmission operators to prove a supply shortage relative to a defined counterfactual, OFGEM may find it useful conduct external third party evaluations of the market similar to what DESNZ did with the Baringa Consulting report referred to above. This may complement the Joint Report referred to in 2.17.

Q3. Do you agree with how we have defined supply chain constraints?

Yes, as regards HVDC underground and offshore cables specifically, there is a global shortage of these crucial components, as evidenced in the recent report for the Department of Energy Security and Net Zero by Baringa Consulting.

This is probably also the case for many offshore cable installation services but will vary depending on project profile and waters.

SEI cannot comment on other product markets.

Q4. What are your views on which equipment types are most constrained, which are at risk of future constraint, and which are less of a concern, and what are your views on the items we should include within the scope of the APM?

Baringa Consulting's 2024 report for the Department of Energy Security and Net Zero noted offshore wind and offshore transmission were the sectors of the transition most at risk of capacity constraints with some suppliers booked out for several years – and modelling suggests they cannot meet the combined demand from offshore wind, grid, and interconnections.³ HVDC cables and converter stations were the two product groups identified as having the most severe global shortages.

This is confirmed by SEI's own commercial experience.

The main opportunity for relieving supply chain constraints is incentivising investment in the creation of new manufacturing capability – especially here in the UK. To create the right incentives to foster growth, the regulatory system must align purchase commitments to a similar period to the investment horizon. This means giving the market strong visibility

Q5. What are your views on our intention to exclude strategic procurement from the APM and the potential benefits of later expanding the APM to include it?

SEI is not a position to form a judgment on this issue as it requires an understanding of the procurement methods of the transmission operators beyond what is seen by a supplier of one product category.

It would certainly be beneficial to allow transmission operators to procure certain constrained products across multiple projects, and not on a project-by-project basis. See SEI's introductory comments.

Q6. Do you agree with how we have characterised fungible, flexible and bespoke procurement and our proposed treatments of each of these? Do these definitions reflect real world contracting and engineering realities?

Yes, SEI notes that there is already some **standardisation of HVDC cables** but notes that further standardisation at UK level (as a requirement for project approval) would reduce the risk profile of the APM program. We note that at present (including in the three most recent ASTI tenders) there remain significant variations in the definition of the cables required to be bid.

If cable requirements are standardised, where a transmission operator does not need a given capacity, it can be used by another transmission operator.

As we lay out above, if, where feasible given product characteristics, the APM mechanism is paired with common specifications for supply constrained products, this should in our view significantly reduce the risk associated with APM. With common product specifications, advanced procured products can be reassigned to another project, or even to another customer.

³ Baringa UK renewables deployment supply chain readiness study: Executive summary for industry and policymakers (April 2024) at 18. Available at: <https://assets.publishing.service.gov.uk/media/6617b12ed88c988e81b95af8/uk-renewables-deployment-supply-chain-readiness-study-executive-summary.pdf>

In addition to such product standardisation, If OFGEM or transmission operators or an alternative independent body in the UK were to initiate a **joint R&D programme** inviting key HVDC cable suppliers **to develop “universal joints or products” for DC XLPE cabling**, this would provide further flexibility as industry to use the production slots reserved for multiple HVDC cable suppliers.

This will also reduce financial burdens of each supplier and provide for the transmission operators, which could avoid relying on one supplier with a significant value of contract. The goal here is to increase the interoperability between systems of different approved suppliers – allowing greater flexibility and reducing the risk that supply created with one project in mind cannot be used for another project.

If products were standardized and jointable, this would raise additional issues with respect to the risk of integration of several suppliers and service providers in a single EPC contract. See above.

Q7. Do you agree with our proposed approach to funding services contracts through the APM?

Yes, to the extent we understand correctly, this would avoid APM funding two separately constrained products and services (e.g.cable and installation services) in one “basket”.

The current regulatory approach has the consequence of incentivizing transmission operators to procure cabling supply and installation simultaneously. While this may be appropriate in some circumstances it would, as highlighted in the consultation, increase substantially the cost of advance procurement if APM funding were available for constrained products only where these are purchased with non-constrained services.

This is because any regulatory setting that pushes the procurement of installation and cabling together has the perverse effect of reinforcing the effects of unrelated market shortages. At present, OFGEM review of project costs tends to incentivise TOs to transfer all possible financial risks of a project to the suppliers, the TOs are therefore incentivised to bundle de facto unrelated (which may be separately supply constrained OR unconstrained) products and procure them from a single source.

Thus, while there may be availability of one product or service for a given project installation period (e.g., onshore installation services), then for that same slot there may be some shortage another service (the Financial Times has reported vessel shortages for offshore installation until 2032), and no manufacturing capacity of a complementary product at certain times (e.g., HVDC cables).⁴

This bundles two constrained products in a single procurement exercise, limiting flexibility, raising costs, and restricting market access for specialized providers who may excel in one area but not the other, effectively reducing the number of potential suppliers and driving up costs for consumers.

⁴ Richard Millard “Will there be enough cables for the energy transition?” Financial Times (30 July 2023). Available at <https://www.ft.com/content/c88c0c6d-c4b2-4c16-9b51-7b8beed88d75>.

Also, by forcing the transmission operators to procure all three together (on an EPCI – manufacture and install – basis), the transmission operators is effectively paying a premium for the constrained product on the combined value of all products and services. This is accentuated where multiple products and services are bundled, and there is shortage in several of those sectors in years to come (but not necessarily at the same time).

The reliance on EPCI by public or public franchise utilities is not common outside of the European region²³ and may, for the reasons set out above, delay projects (timing is driven by the most constrained product or service) and drive overall costs up. Also, it is uncertain to have the effect of reducing overall cost for the utility even in an unconstrained market as the supplier - which must supply products and services that it buys in and most integrate - will add a significant risk premium to its price before offering to include products or service that are outside of its core business.

By avoiding this "double bottleneck" the overall cost of APM should reduce, with some (lesser) increase in integration risk at the level of the project implementer. If this can be addressed, then APM will have the result of allowing TOs to get better prices, and likely better service, on both cable supply and cable installation.

Q8. Do you agree with our rationale for using a UIOLI mechanism for the majority of APM expenditure, rather than other regulatory tools?

SEI is not well positioned to have a view on the financial methods that would allow APM procurement.

The approach at points 3.3 ff appears, however, reasonable. We defer to the transmission operators on how the APM procurement funding fits with their financial needs and risk assessment.

Q9. Do you agree with our proposal for the APM allowance to be capped at 20% of the estimated equipment cost?

For HVDC cables we believe that initial APM funding guarantees could fit within the proposed 20% cap. This may differ for other product categories.

As noted above, because of chunkiness of demand for HVDC cables the APM guarantees (payments) to suppliers would need to be non-cancellable. Industry standard (and what SEI has come across in other jurisdictions) is to include a "percentage plus costs incurred to date" clause to deal with cancellations. At a later stage in a project, when costs for preparing production have been incurred and contractual payments have started to flow, the total amount retained by the supplier, could therefore exceed 20% even if the initial APM commitment was capped at 20%

Various factors need to however be considered at the time such as order back log and product type i.e. would we be able to still fill the slot by potentially manufacturing for known orders given product parity. This could lead to a more (or less) severe cancelation condition.

Q10. Do you agree with the use of a re-opener to update the APM in-period?

No further comment. See general comments.

Q11. What are your views on our proposed approach to cost reconciliation?

No further comment. See general comments.

Q12. What are your views on how we should approach in-period updates to the APM?

No further comment. See general comments.

Q13. Do you agree with our proposal regarding retrospective application of the APM?

SEI is supportive of any measure that can secure supply for the UK's expansion aims and address the advantages that other markets in securing products that are in short supply.

Q14. Do you agree that the publication of detailed APM costs and volumes could be commercially detrimental to TOs, and by extension consumers? If so, why?

No comment, except that SEI would warn against any disclosure of costs or contract details that could be used by non-UK competitors of SEI to predict or estimate commercial terms of SEI in exports.