

**DESNZ Delivering a smart and secure electricity system: implementation**

19 June 2024

---

**Context**

The ADE welcomes the opportunity to respond to DESNZ's consultation on the Smart Secure Electricity Systems Programme.

The ADE is the UK's leading decentralised energy advocate, focused on creating a more cost effective, low-carbon and user-led energy system. The ADE has more than 150 members active across a range of technologies, including both the providers and the users of energy equipment and services. Our members have particular expertise in demand side flexibility and storage, industrial energy including combined heat and power, heat networks and energy efficiency.

**Executive Summary**

As core advocates for demand side flexibility, we support the aims and objectives of the Smart and Secure Electricity Systems programme. Done correctly, this regulatory framework can bolster the legitimacy and necessity of flexibility for the transition to net zero and ensure the deployment of low carbon technologies is done in a way that ensures DSR readiness. Done poorly, it could impede market growth and hamper innovation and regulation alone will not build investor confidence to boost the revenue needed for flexibility. It is incumbent upon Government, the regulator, and system operators to ensure that we are not imposing disproportionate regulation upon the flexibility sector before market access is actually viable.

Working closely with DESNZ, we have spent much of the last eighteen months unravelling what it means to mandate that devices are 'smart' in the context of ESA metering. Devising a regulatory regime where devices cannot actually be rewarded for the service they particularly provide, despite being mandated to be able to provide that service, is untenable and irrational. While cognisant of the cost implications cited, DESNZ must not write regulations with one hand and gut them of effect with the other. The ADE still strongly prefers that ESAs and asset meters be removed from the remit of the MIR through an amendment to Sch 2 so as to place the responsibility of regulating them with the department intended by the Energy Act. The democratically elected legislature had almost two years from the publication of the Energy Security Bill in 2022 to decide what department they wanted to be responsible for regulating ESAs, EVSCPs and their embedded measuring devices. As long as policy and regulatory responsibility for these embedded measuring devices remains with DBT, the will of parliament exercised through the Energy Act is unfulfilled. Rectifying this failure should be a top priority for the Government in the coming months. Further evidence can be read in Appendices 1-4.

We actively support the licensing of load controllers and commend the extensive investigation DESNZ has done into the nuanced business models over the last two years. The fundamental nature of the activities undertaken by energy suppliers and DSRSPs is different. Suppliers are providing customers with an essential service whereas load controllers are providing an optional service. Furthermore, DESNZ seem to have far more concerns within load controller licencing around grid and cyber security than is typical of the supplier licence. Government must clarify

their driving motivation for licensing. Flexibility is neither supply nor generation and therefore should not bear all the responsibilities of both – on customer protection, or grid stability.

On tariff data sharing, we support the Government proposals and encourage cohesion with Ofgem’s work on a Data Sharing Infrastructure and Data Sharing in a Digital Future. Ensuring a high quality of data across suppliers and DSRSPs should be the priority for any solution.

Based on the incoming requirements, which the flexibility sector largely welcomes, Government must turn equal attention to their sole ownership of the National Energy System Operator (NESO)/Independent System Operator and Planner (ISOP), whose market participation rules, lack of cultural transformation, and institutional practices pose some of the greatest challenges to demand side participation in markets. While the SSES team has actively engaged with industry since the proposals for ESA and Load Control Regulation in the Energy Security Bill 2022, we have not seen any comparable engagement from the ISOP team in Government. Considering the unequal scale of transformation, this discrepancy in outreach is highly unusual.

We invite the opportunity to discuss these issues in more detail in the coming months and look forward to continue supporting Government in establishing an ambitious, exportable, and logical approach to demand side flexibility regulation.

## **Overall Evaluation**

Despite generally agreeing with the defined activities that would be licenced under this programme, having more detail on business use cases that would fall under each activity would be highly valuable for industry to understand what is within scope of the licence. Currently this remains unclear, especially when flexibility can be delivered in multiple ways to the end consumer through a variety of third parties and delivery partners. DESNZ also need to clarify that this license does not exclude any organisation from having to fulfil other industry qualifications, such as becoming a BSC party.

Regarding principles of fairness and treatment of the end consumer, the licence ought to align with supplier licence conditions. Given suppliers will need to have both licences, alignment between the two is necessary.

DESNZ need to make a decision in tandem with the sector on how much detail they want regarding on specific consumer protections in the licence, whether they think the licence will replace the need for external compliance schemes, or whether they think there's a place for both licencing and external compliance schemes, such as any compliance scheme that comes about via the HOMEFlex Code of Conduct.

Striking the balance in this licence between the needs of consumers and efforts to not stifle the market at this time is vital.

### **1. Do you agree that activities of DSRSPs should require a load control licence? Please explain your answer.**

In principle we agree with the activities laid out in the consultation, however we would ask for examples of what kinds of business' would come under each activity to provide some clarification on this. It would also be valuable to have examples of different delivery chains of flexibility services, such as the relationship between FSPs and third parties, and how these would fall under each of the activities.

### **2. Do you agree that activities of DSR Load Controllers should require a load control licence? Please explain your answer.**

Yes, we agree with the reasons laid out in the consultation with consideration for the above.

### **3. Do you agree that activities of Large Load Controllers should require a load control licence? Please explain your answer.**

Yes, we agree with the reasons laid out in the consultation and are glad to see the impact of aggregated loads over 300MW impact on the critical national infrastructure are being considered.

### **4. Do you think there should be any further activities that should require a load control licence? Please explain your answer, and expand on any further activities where relevant.**

No.

**5. Do you agree with government's proposal to limit the scope of the licence to certain ESAs for each activity proposed in this chapter? Please explain your answer.**

Yes we agree with the proposals as to which ESAs would fall under the scope of the licence. However, it is of interest that Battery Energy Storage Systems (BESS) are included in the scope of the licence yet are not in scope of the smart mandate in the ESA Regulations section of the consultation.

**6. Do you agree with government's proposal to limit the scope of some of the activities in the licence (consumer contracting for load control and load control below 300MW) to load control for the purposes of DSR? Please explain your answer.**

Yes we agree with this, as we do not see many use cases outside of DSR when consumers would be undertaking this activity, apart from when wanting to change their energy consumption out of personal preference.

**7. Do you agree with Government's proposal for protections around DSR in this licence to cover small non-domestic consumers? Please explain your answer.**

Yes, we agree with this. This should be defined in line with Ofgem's new definition for small business consumers in the supplier licence.

**8. Do you think the scope of DSR protections in the load control licence should extend to larger non-domestic consumers too? Please explain your answer.**

As mentioned in the consultation, 'For energy management in non-domestic settings, there is already an active DSR market, for example turning down demand locally at energy-intensive industrial sites in response to ESO requests. We expect the distributed, automated and remote approach to load control in non-domestic settings will present new opportunities for the electricity system but also new risks. Where a Load Controller is using a remote communications network to communicate with ESAs in non-domestic settings, and these ESAs can control wider energy usage in those settings, then we propose the Load Controller will be within scope of a licence when they can control over 300MW'. This means large non-domestic consumers are already within the scope of the 'Large load controller' licensing. Clarity is needed from DESNZ on this, including what requirements beyond cyber security are going to be imposed for non-domestic consumers.

**9. Do you agree with Government's proposal for licensees to only be responsible for compliance with particular conditions in the licence related to the activity or activities they carry out? Please explain your answer.**

We agree with the differences regarding cyber security, in particular, between DSR Load Controllers and Large Load controllers, due to the impact that an aggregated load over 300MW could have on the critical national infrastructure. We do however consider how the NESO will ensure grid stability and the future of balancing services should primarily be the concern of NESO and DESNZ, as a part of the ongoing REMA programme. The ADE considers that beyond general references, license conditions should not be considered the primary mechanism for ensuring load controllers comply with the needs of grid security.

**10. Do you agree with the four assurance principles? If not, please explain your answer.**

We agree with the assurance principles laid out.

**11. Do you agree that two tailored CAF profiles, one for DSR Load Controllers and a separate profile for Large Load Controllers, is the right approach to organisational assurance for assessing licensed Load Controllers? Please explain your answer.**

Yes, we agree that it would be important for the load control capacity to be considered when implementing cyber security measures and therefore implement tailored profiles. Both profiles should have the same underlying principles, to make transition to a Large Load Controller profile from a DSR Load Controller not unnecessarily onerous. The ISO27001 standards are commonly used across industry, so for the requirements to align with these would be beneficial for the implementation process.

We do however think the timeline for the updated NIS regulations should be considered, as by the time that this licence would be established, these updates could have taken place. Given the Large Load Controller licence has only been devised because of fears over how long a NIS amendment could take, Government must make clear exactly how long that delay could be.

**12. Do you agree with requiring DSRSPs through the load control licence to meet a general condition to treat consumers fairly? Please give reasons for your answer and, where relevant, include reference to alternative or additional options.**

Yes, we agree with this and that there should be uniformity between the supply and load control licenses, especially for when suppliers would be licenced under both.

**13. Do you agree with the proposal to use Standards of Conduct within a general consumer protection principle of fairness to impose requirements for communications about products and services? Please give reasons for your answer and, where relevant, include reference to alternative or additional options.**

As above, we think that there should be consistency between what is included in regard to consumer protection in the supplier licence conditions and within this licence for load controllers. DESNZ need to provide clarification on what they consider as appropriate to include in the licence and what should become under the remit of external schemes.

Furthermore, DESNZ ought to consider the timelines for implementation of specific consumer protections such as a PSR, including how these timelines relate to other newly licensed activities such as heat networks. Ensuring that companies have a reasonable period of time in which to become compliant with certain licence conditions should be a priority for DESNZ and Ofgem and clarity should be provided here.

**14. Do you agree with the proposal to include a licence condition that instructs DSRSPs to only recommend services that are appropriate to the individual consumer's characteristics and preferences? Please give reasons for your answer and, where relevant, include reference to alternative or additional options**

We cannot envision a reasonable way that such a requirement would be drafted without causing conflict with actual markets. The diversity of markets that exist for flexibility and the diversity of their service requirements are constantly adapting with customers highly unlikely to care whether they are in the CM, WM, BM or all at the same time. It is then the responsibility of the DSRSP to ensure that the customer is only entered into appropriate markets. Failing to do so will

also be detrimental for the DSRSP. Rather than a licence condition or set guidance, it would be preferable for Ofgem to set out overarching outcomes that DSRSPs should seek to ensure a positive consumer experience eg they shouldn't be exposed to clawback penalties at individual consumer level, they shouldn't be entered into services which they cannot provide within the service parameters.

Furthermore, in practice we need to consider the proportionality of this and how we expect DSRSPs to access this kind of information. DSRSPs should be able to advertise services without needing to represent all the caveats of participation in large print. In other words, we must be clear on how much information we expect a DSRSP to gather about an individual customer's circumstances, home or business, or ESAs prior to offering a service. Furthermore, how this condition differentiates between domestic, non-domestic, and large customers needs clarification.

**15. Would guidance for DSRSPs regarding appropriate services for different types of consumers be beneficial?**

As above.

**16. Do you agree with the proposal to use the Gas and Electricity (Consumer Complaints Handling Standards) Regulations 2008 as a basis for requirements for complaints processes for DSRSPs? Please explain your answer.**

The ADE considers this proposal sufficient. However, as set out elsewhere, Government needs to provide clarity on how they envision the licensing regime interacting with external compliance schemes such as any developed under HOMEflex. Furthermore, for suppliers who hold both supply and DSRSP licences it will need to be eminently clear the path of complaint and redress for customers.

**17. Are there any requirements within the 2008 Regulations that you consider to be inappropriate to apply to DSRSPs?**

**18. Do you agree with the proposal that the licence should require DSRSPs to participate in an ADR scheme? Please explain your answer.**

The ADE considers this proposal sufficient.

**19. Do you think there should be a single common ADR scheme across DSRSPs? Please explain your answer.**

To promote consistency across the industry for both DSRSPs and consumers, a single common ADR scheme across DSRSPs seems appropriate.

**20. Do you think government should extend consumer advocacy and advice services to cover issues related to DSR load control? If so, what particular services do you think would be useful for DSR consumers? Please give reasons for your answer.**

The ADE agrees with the principles laid out in the consultation to extend consumer advocacy and advice services to cover issues relating to DSR load control and would see no issues in Citizens Advice/ Citizens Advice Scotland providing this service. As an already recognised organisation by consumers for help both within and beyond the energy industry, this seems like the most appropriate option at this time. We also support the conclusions of ['A flexible future'](#)

where Citizens Advice concluded that Government ought to invest in impartial statutory advice services. Given the complexity of flexibility offerings in comparison to straightforward energy supplier tariffs, significant upskilling will be needed so that Citizens Advice can properly perform these duties. This requires Government support.

Further work could be done to look into the potential of price comparison websites for consumers looking to participate in DSR. This would be another way of informing consumers on what services best suit their needs and preferences.

**21. Do you agree with the proposal to use the definition of vulnerable situations used in the Electricity Supply Licence? Please give reasons for your answer and, where relevant, include reference to alternative or additional options.**

The ADE broadly agrees with this and emphasises that the definition of vulnerability and specifically ‘consumers in vulnerable situations’ should be aligned with Ofgem’s Consumer vulnerability protections.

**22. Do you agree with the proposal that DSRSPs should seek to identify and maintain their own records of consumers in vulnerable situations? Please give reasons for your answer and, where relevant, include reference to alternative or additional options.**

Whilst ensuring that DSPSPs are in line with UK-GDPR, obliging providers of a non-essential service to identify and maintain records of customers in vulnerable circumstances is disproportionate to the objectives of the licensing regime at this stage. Asking too much of DSRSPs in the early stages of development would not be beneficial, and would stifle growth – especially when DSRSPs don’t even have full market access (as outlined in our executive summary).

**23. Do you think DSRSPs should be required to deliver the priority services defined in SLC 26.5 (a), (b) and (e), and/or any other priority services in the Electricity Supply Licence?**

No. Again, as a non-essential service, flexibility is of a fundamentally different nature than electricity supply. This will also be dependent on DESNZ’s decision to align the licence with external standards such as the HOMEflex code.

**24. Do you agree with the position that the Equality Act 2010 provides sufficient protection regarding inclusivity and accessibility of the design of DSR processes and services? Please give reasons for your answer and, where relevant, include reference to alternative or additional options.**

The ADE sees this position as appropriate.

**25. Do you agree with our proposal around requiring DSRSPs, in the scenario that they offer an interface to consumers to manage their service, to offer the option for the consumer to request cancellation of load control of their ESA? Please explain your answer.**

We would agree with this proposal.

**26. Do you think any further guidance or requirements related to the consumer’s ability to request cancellation of a remote load control action through a DSRSP could be warranted now or in the future? Please explain your answer, making reference to the potential**



**requirements outlined in the consultation as well as any further requirements not discussed.**

No.

**27. Does the proposed package of consumer protection measures offer sufficient protections to consumers while also enabling DSRSPs to develop innovative service offerings? Please explain your answer.**

We would agree that the proposed package offer sufficient protection at this time. As above, the balance between implementing consumer protection regulations and not putting any disproportionate requirements on DSRSPs at such an early stage of market development will be important.

**28. How do you anticipate that the proposed package of consumer protection measures will impact new entrants to the market, and do you expect that any mitigation is required to reduce barriers to entry?**

As above.

**29. Should government include any further requirements to protect consumers in the load control licence not covered in this chapter? Please reference specific requirements where appropriate.**

We wouldn't consider any further requirements at this time.

**30. For businesses in scope of the licence: Which resources (FTE) or costs (£) are you currently using to deliver consumer protection measures?**

N/A

**31. For businesses in scope of the licence: Which resources (FTE) or costs (£) would you have to use to comply with the consumer protection requirements set out in this chapter (ideally broken down by topic)?**

N/A

**32. Do you agree with government's proposal to include a requirement in the licence requiring DSRSPs to allow consumers to exit a service? Please give reasons for your answer.**

We agree with this proposal, however this will be dependent on how DESNZ decide to define 'proportionate' exit fees.

**33. Do you agree with government's proposal for a condition that fees associated with a consumer's service exit should be proportionate, and if so, do you have a preference as to how 'proportionate' is defined? Please explain your answer.**

As above, we agree with this in principle but this will be dependent on how this is defined in the licence. There should be transparency with industry as to how this is defined.

**34. Do you think any further requirements around service exit need to be included in the licence, for example around the visibility of exit fees at the consumer contract? Please give reasons for your answer.**



It is important that any exit fees, such as associated costs be made prominent in the contract and be communicated to the consumer when entering the contractual agreement.

**35. Do you think there should be requirements for DSRSPs to enable orderly switching of ESAs between services? What specific measures do you think might need to be covered as part of these requirements - including those referenced in this consultation? Please give reasons for your answer.**

We agree that there should be requirements put in place to make the process of switching easy for consumers if they wish to do so. We agree with the proposals laid out in the consultation, however this will be dependent on the output of the proposal for the implementation of a tariff data interoperability standard and Ofgem's work on Data Sharing in a Digital Future regarding consumer consent.

**36. For businesses in scope of the licence: Could you set out the additional resource or cost you would incur for complying with requirements around consumer switching laid out in this chapter?**

NA

**37. Do you agree with our proposal for no further legal requirements on load control licensees around data privacy at this time? Please explain your answer.**

We agree with this proposal at this time.

**38. Are there specific risks to consumers associated with the processing of personal data as part of load control services not addressed by the UK's data protection framework? Please explain your answer, referencing specific evidence where relevant.**

We have not identified any specific risks.

**39. Would specific requirements around the protection of personal data from load control services significantly improve consumer confidence in the sector? Please explain your answer, referencing specific evidence where relevant.**

We do not consider specific requirements are necessary.

**40. In the instance that a load control licensee has produced an assessment of its processing activities, do you think this assessment should be pro-actively shared with Ofgem? Please explain your answer.**

NA

**41. Would the creation of sector-specific guidance, like an ICO-approved UK-GDPR code of conduct, be beneficial for consumers and load control licensees? Please explain your answer.**

We would see the creation of a guidance code as beneficial for industry, but not entirely essential.

**42. Do you agree with the proposal for a condition requiring licensees to have fit and proper senior personnel? Please explain your answer.**

Yes we agree with this proposal.

**43. Do you agree with the proposal for a condition around the operational capability of load control licensees, and how might a load control licence approach this? Please give reasons for your answer.**

Yes we do agree with this proposal. It will also be within the obligation of DESNZ to ensure that the license is not putting any undue restrictions on DSRSPs as a result of this programme that could create issues regarding operational capability and therefore an inability to participate in the market.

**44. Do you agree with the inclusion of a financial responsibility principle in the load control licence and how might this be approached? Please explain your answer.**

Yes we agree with this principle.

**45. What risks to consumers do you anticipate may arise from the insolvency of load control licensees?**

For consumers beginning to participate in DSR, the current primary incentive will be the financial benefits that they are able to receive. A large risk from DSRSP insolvency is consumers not receiving the financial reward that they have altered their energy consumption to achieve. The results of this could be detrimental to consumer participation in DSR in the future.

There are many risks associated to consumer data in this circumstance also. If a company was to become insolvent, thought into what would happen to the consumers data and the information contained in a potential cloud based service would be required. A consumer must also be informed about an organisations insolvency in enough time for them to sign up to another DSR service. This would be required to mitigate the risk of the load control stopping and the consumers energy consumption shifting back to more a expensive time of the day.

**46. Do you agree that specific processes for insolvency of load control licensees are not required? Please explain your answer.**

We agree with this.

**47. Are there any other financial controls that government should consider including in the load control licence?**

NA

**48. For businesses that would be in scope of the licence (as either a DSRSP or Load Controller): Could you set out the additional resource or cost you would incur for complying with the management and financial controls proposals in this chapter?**

The costs associated with additional data provision will need to be considered by DESNZ.

**49. Do you agree with government's proposal for Ofgem to be able to start the process of assessing licence applications by the end of 2025? Please explain your answer.**

This will be dependent on the level of detail required in the licence.

**50. Do you have views on the length of the 'transition period' between the licence application process opening and the conditions in the licence being effective? Please explain your answer.**

This requires further industry engagement, especially if timelines are delayed with a new government.

**51. Do you agree that all requirements in the licence should be introduced at the same time, or should some requirements be phased? If you think requirements should be phased, how should this be approached? Please explain your answer.**

While we do not necessarily agree that they should, if government chooses to proceed with requirements that necessitate significant information gathering and maintenance about customer circumstances, including any vulnerability, this certainly should not be part of the first licence. It would be beneficial for SSES teams in Government and Ofgem to discuss the matter with their heat networks colleagues who are dealing with similar questions at the moment.

**52. Do you agree with our proposal that all requirements for DSRSPs in this consultation should apply equally to all relevant organisations irrespective of size? Please explain your answer.**

Yes we agree with this proposal at this time.

**53. Do you agree with the approach on tiering requirements for Load Controllers based on how much load they have the potential to control? Please explain your answer.**

Yes we agree with this proposal at this time.

**54. What role do you think external standards have to play in demonstrating compliance with the load control licence, particularly measures for DSRSPs? Please explain your answer.**

As discussed elsewhere, we need to build a system that is straightforward, adaptable and proportionate. There is a risk that external standards could confuse matters but equally they are more advanced than the current SSES programme and may provide valuable adaptability for a growing market.

**55. Do you agree with the proposal for electricity suppliers to hold a separate load control licence? Please explain your answer.**

Yes we agree with this proposal. There will be conditions within the supplier licence conditions that are not relevant to the licencing of load control. The fundamental nature of the activities being undertaken is different. Suppliers are providing customers with an essential service whereas load controllers are providing an optional service. Furthermore, DESNZ seem to have far more concerns within load controller licencing around grid and cyber security than is typical of the supplier licence. Government must clarify their driving motivation for licencing. Flexibility is neither supply nor generation and therefore should not bear all the responsibilities of both - on customer protection, or grid stability.

**56. Do you agree with the proposed approach for recovering the costs of administering a licensing regime? Please explain your answer.**

The ADE does not have a position on this.

## Overall Evaluation

This is our response to the Tariff data interoperability section of the consultation. We agree with the principle that the introduction of the standard is trying to achieve to help facilitate better access to consumer data across flexibility service providers.

**1. Do you agree with the use cases proposed in this consultation for the MVP? Are there any other use cases that you believe should be included in the MVP for energy tariff optimisation services?**

We agree with the use cases laid out in the consultation.

**2. Do you agree with the government's proposal to extend the scope of public tariff data to all tariffs that are applicable to domestic and small non-domestic (microbusiness) consumers? If you do not agree, please explain why.**

Yes we agree with this, yet as laid out in the consultation, including data from more complex tariffs should be phased in following the introduction of the standard for simpler tariff data first.

Furthermore, it would be helpful for Government to explicitly include 'small business consumers', defined by Ofgem as customers that have fewer than 50 employees and an annual turnover less than £6.5m, or annual electricity consumption of less than 200,000kWh or annual gas consumption less than 500,000kWh. Given such companies will play an important role in flexibility rollout but may not fully appreciate the intricacies of tariff data, their inclusion is important.

**3. Do you agree that the data standard should be extended to included gas tariffs? If you do not agree, please explain why.**

The ADE does not agree, especially if their inclusion impacts the rollout of the MVP. Given the bulk of this work is driven by an electrifying demand side, we should prioritise data accessibility on this first and foremost, rather than expending time on a data stream that will eventually be made redundant.

**4. Do you agree that a Supplier Standard API is the most suitable technical approach to enable interoperability of tariff data, based on the analysis set out in the consultation document and analytical annex? Please explain your answer.**

Out of all of the technical approaches laid out in the consultation, the Supplier Standard API is by far the best option for granting access to the tariff data for third party optimisers. However, what all technical options fail to address is any standardisation of the data provided. In implementing the MVP tariff data standard, there would need to be a mechanism established to measure this. The data could be in a format which abides by the standards, yet the quality will have an impact on the usability of the data. A centralised solution, such as that laid out by Ofgem in their Data Sharing in a Digital Future, sharing data through one centralised platform could be an alternative solution to the MVP tariff data standard at this time.

**5. What is your view on the methodology and cost assumptions used in the cost appraisal as presented in the analytical annex?**

We agree with the methodology that has been presented.

**6. Do you agree with the proposed 'phased approach' to implementation; namely, to implement an MVP tariff standard for existing simple electricity and gas tariffs to meet use case A? If you do not agree, then please explain why.**

Yes, as above, we agree with the phased approach to implementation of this standard. However, the phases laid out do not go beyond the inclusion of simple tariffs. Being able to incorporate dynamic tariffs by the delivery of MHHS is an absolute necessity for this project.

**7. Are there any other data items that you believe should also be included within the list of proposed MVP tariff data items?**

The consultation oddly omits that unit rates would be included in the MVP.

**8. Do you support the government's proposal to deliver complex tariffs and remaining use cases (B - D) through future changes to the tariff data standard? If not, then please explain why.**

If introducing a standard for tariff data, such as the MVP in this consultation is going to add any value to the industry, this standard will need to evolve to be able to include more complex tariff data. Complex use cases such as B-D are going to become more common as the industry grows. Therefore, the MVP needs to be in place in 2025 so that it can properly adapt to MHHS. It's utility is dependent on it being launched earlier than indicated in the consultation.

**9. Do you agree with the government's proposal to host the tariff data standard in the Retail Energy Code? If not, then please provide reasons.**

Yes, as per our previous response, we feel that the Retail Energy Code would be the code best places to host the standard, requiring less adaptation and amendment than the SEC.

**10. What is your view on the government's minded-to position on the phased delivery approach to deliver the tariff data standard?**

We agree with the phased delivery approach laid out in the consultation.

**11. Do you support the proposed regulatory approach to implement the tariff data standard and technical solution? If not, please provide reasons.**

Provided the above points are taken into consideration, we would support this regulatory approach.

**12. Do you support the proposed timeline set out in Table 5? Are there any other factors or relevant events to consider? If so, what are these?**

We agree with the timeline that has been proposed to implement this standard. Consideration into the timelines of Ofgem's Data Sharing in a Digital Future work, such as if they decide to implement a central digital dashboard will need to be regarded.

## Overall Evaluation

Working closely with DESNZ, we have spent much of the last eighteen months unravelling what it means to mandate that devices are 'smart' in the context of metering. Should ESA regulations employ similar language to [s.5 of the EVSCP Regulations](#), they will mandate that ESAs must be capable of providing DSR services, including response DSR services. However, the language used in the consultation appears to misrepresent what 'DSR services' actually entail. Separating the measuring of electricity flows within the device from the payment/reward for participating in DSR is a false and unhelpful delineation. By mandating DSR capability, government is mandating a capability to engage in trade. If these devices were to actually engage in trade, however, they must be MIR compliant. As per our work to date on this topic (see Appendices 1-4), to truly facilitate DSR we must progress towards market wide compliance with measuring standards that allow the asset providing a service, and only that asset, to receive the remuneration.

Asset meters are preferable for customers, providers, and buyers of flexibility services in a large variety of cases. This is simply because we should be metering the thing which is providing flexibility. Generally, only specific assets deliver flexibility. To illustrate, we can provide a simple example of why boundary meter data may not be reliable for flexibility services:

- A customer has a flexibility contract that allows the DSRSP to remotely control their EVSCP.
- The service that a DSRSP contracts for has service terms that uses historical consumption profiles to determine delivery. In other words, performance on the day of contract is compared against consumption in the same time period over the previous ten days to deduce net kW/h delivery.
- However, unlike the previous ten days, it was an exceptionally wet day and the customer's children have returned from football covered in mud and very hungry. Therefore, the customer is simultaneously using their washing machine, oven, and electric shower at a time they would not usually use them.
- The DSRSP remotely turns down their EVSCP, as per their agreement, but the boundary meter has now recorded a different level of consumption than the historical profile of consumption for that period.
- Although the customer and DSRSP have delivered on their bilateral contract, the contract for the DSRSP and the flexibility buyer appears less than it should be, based on the historical profile.
- To account for this, the DSRSP will under-bid going forward to avoid the risk of being penalised by the flexibility buyer, leading to less revenue for both customer and DSRSP than could otherwise have been realised through use of an EVSCP asset meter.

The ADE still strongly prefers that ESAs and asset meters be removed from the remit of the MIR through an amendment to Sch 2 so as to place the responsibility of regulating them with the

department intended by the Energy Act. However, given the direction of recent discussions another approach is possible. Through cross departmental collaboration between DESNZ and the Department for Business and Trade (DBT)(owners of MIR policy and enforcement), this issue can be resolved as follows:

- DBT update the MIR enforcement guidance to acknowledge that devices that are not compliant with MIR will not be precluded from participating in demand side flexibility trading until a future regulatory framework is implemented.
- DBT consult on and amend MIR to remove the requirement for EVSCPs and Energy Smart Appliances, as defined by the Energy Act, to have an in-built display.
- DESNZ consult on and amend the EV Regulations to align them with the remaining MIR requirements on accuracy and conformity assessment standards, so as to avoid any future confusion between the two regulations.
- DESNZ ensure that ESA regulations enacted under the Energy Act are in alignment with the amended MIR from the outset.
- DBT review the processes by which Approved Bodies classify devices as being MIR compliant, ensuring that no additional external hardware elements are required than those mandated in the regulation itself, including blinking LED.

Government must not sleepwalk into a scenario whereby it replicates the conflict between the EVSCP Regulations and the MIR. Devising a regulatory regime where devices cannot actually be rewarded for the service they particularly provide, despite being mandated to be able to provide that service, is untenable and irrational. While cognisant of the cost implications cited, DESNZ must not write policy with one hand and gut it of effect with the other.

There are nascent business models that aim to rely on embedded measuring devices within heating appliances for flexibility purposes. However, without mandates for metering standards that facilitate participation in markets, such business models are reliant on either:

- a) access to boundary meter data which is both difficult to obtain and does not give the most accurate data feed of DSR from the asset (see above); or
- b) partnership with suppliers to gain access to boundary meter feeds which is not in the spirit of creating a dedicated load controller licensing regime.

Furthermore, it is undeniable that EV charge point manufacturers and operators demonstrate a case study of what happens in response to the implementation of smart mandates. Innovative business models that embrace flexibility service offerings have emerged in recent years leading to the inevitable conflict with the MIR. There is no reason to expect anything different from other ESAs. Thus, creating a regulatory environment where appliances are smart in name but not in nature is anathema to government's objective to encourage "the emergence of new business models and services; [that] will involve organisations remotely managing consumers' ESAs according to their preferences... reducing load on the grid and reducing consumers' bills".

All markets, including ESO, DSO, and independent DSRSP participation in the wholesale market as per [BSC Mod P415](#), demands metering accuracy within 2%. Given the importance of asset level accuracy to system operation and security of supply, this mandate will not be superseded by a PAS1878 10% requirement, let alone reference to lookup tables. Enumerating a



requirement for 'some' costly additions to devices via a 'semi-smart' mandate while simultaneously not going a step further to ensure that the appliance cannot actually reap the benefits of that additional cost is not reasonable.

Therefore, government ought to establish a regime whereby all ESAs (including EVSCPs) work towards compliant with an amended MIR standard in order to ensure access and rewards from DSR services.

**1. Do you have a view on the lead time industry will require to implement the first phase regulations as proposed in this document?**

Implementation of the regulations with a phased approach could create issues for industry in bringing in one set of changes closely followed by another, rather than gradually introducing one set of changes. The timeline laid out in the consultation could also be problematic for assets that have to carry out physical changes to their technology, specifically for heat appliances. It will be crucial that there is appropriate guidance and time to allow industry to prepare for this.

**2. Do you agree with our plan to proceed on the basis of phasing ESA device regulations as set out above whilst committing to keep this approach under review?**

We require clarity on how the introduction of the smart mandate will introduce more DSR. Without introducing the metering requirements to measure how much electricity is being used flexibly we don't see an asset as having 'smart' functionality.

**3. Do you have a view on when the smart mandate for heating appliances should be implemented? Please provide evidence to support your answer.**

We have concerns over the timeline for the introduction of the first phase of the smart mandate, that following the closing of the consultation and the decisions having been made, little time will be left to make the necessary changes. The General Election taking will also create delays.

**4. Would you support the introduction of a metering accuracy requirement to the effect that all ESAs should have a means to measure their import/export consumption to up to or better than 2% nominal accuracy?**

As set out above, we support this.

**5. If you are a manufacturer, would requiring a nominal 2% accuracy requirement impact your business or products? If yes, please outline the impacts and the costs and benefits with as much detail as possible.**

N/A

**6. Do you agree that the scope of the smart mandate should be extended to include hot water storage and generation (indirect electric hot water storage cylinders, standalone direct electric hot water cylinders, and hot water heat pumps)? If not, please provide supporting evidence.**

We agree with the benefits of introducing hot water and storage generation within the remit of the mandate, yet we do emphasise the need to consider the impact that introducing this will have on consumers, particularly the associated costs. As well as this, the lack of acknowledgement of heat pumps in both heat networks and shared ground loop heating systems in this consultation is concerning and must be addressed. Heat networks have the

potential for significant flexibility, with energy centres now running into multi-MWs and tens of MWs around all major demand centres in the country. It is estimated that 19% of low-carbon heat installations by 2030 will be made up of heat networks, as laid out in the Climate Change Committee (CCC's) sixth carbon budget 'Balanced Net Zero Pathway' emphasising why they must be considered in the SSES programme.

**7. Do you agree that the scope of the smart mandate should be extended to include the whole hybrid heat pump system (rather than just the heat pump within a hybrid), with requirements placed on the common controller? If not, please provide supporting evidence.**

The ADE agrees.

**8. Do you have a view on whether standalone domestic battery energy storage systems (BESS) should be included in future legislation in order to be subject to the smart mandate requirements associated with the first phase regulations? Please provide evidence to support your answer.**

See below.

**9. Do you have any data on what proportion of installed domestic battery energy storage systems (BESS) have smart functionality? Smart functionality is defined as being communications-enabled and able to respond to price and/or other signals by shifting and/or modulating their electricity consumption.**

The ADE agrees that, due to the level of assumed smart functionality of BESS, that they are not as high a priority for the smart mandate. We do however think that the impact of BESS on its interactions with the broader system, rather than focussing on optimising self - consumption should be considered. As laid out in the consultation, the requirements of the smart mandate extend to considerations regarding interoperability, open standard communication protocols, and prioritisation of safe controls, meaning that the definition of 'smart' is not just restricted to providing DSR to consumers. As above, we would also emphasise the importance of metering requirements for BESS if they are providing the level of smart functionality highlighted in the consultation.

**10. Do you have evidence on the extent to which domestic battery energy storage systems (BESS) with smart functionality already meet the minimum requirements set out in Table 1? Please provide evidence to support your answer.**

N/A

**11. Do you agree with government's proposal that electric heating appliances must be able to modulate output and/or change the time at which electricity is consumed in response to signals, including price and other signals that facilitate DSR?**

Yes, we agree with this proposal.

**12. Do you agree with the proposal that electric heating appliances within the scope of the mandate must provide two-way communication in order to receive and act upon direct control signals, and to send signals on the device status?**

Yes, we agree with this proposal.

**13. Do you agree with the proposal that electric heating appliances within the scope of the mandate must be designed to be interoperable so that devices do not cease to have smart functionality if the owner changes electricity supplier?**

Yes, we agree with this proposal.

**14. Do you agree with the proposal that, as part of the first phase ESA regulations, electric heating appliances within the scope of the mandate must be designed to utilise open standard communication protocols for the application interface to remove a barrier to interoperability with DSRSPs?**

Yes, we agree with this proposal and the importance of interoperability for facilitating wide scale access to flexibility. Any measures that are implemented in regards to this should remain closely aligned with [Ofgem's Data Sharing in a Digital Future](#) work, considering the impact of open standard communication on the consumer, as well as the process for DSRSPs.

**15. Do you agree with the proposal that the mandate should require electric heating appliances to prioritise safe operation over responding to information or user input?**

Yes we agree with this proposal.

**16. Do you agree that the mandate should require electric heating appliances to be able to continue to function to provide heating and/or hot water services when network connection is lost?**

Yes we agree with this proposal.

**17. Do you agree with government's proposal that the mandate should not require a maximum turn/shut down time or minimum speed of response?**

We strongly agree with this proposal and would consider it dangerous and potentially exclusive of certain flexibility assets to introduce a requirement such as this.

**18. Do you agree with government's proposal that the mandate should not require specific control strategies to be installed with electric heating appliances?**

Yes, we agree with this proposal.

**19. Do you agree with government's proposal that hybrid heat pumps operated by a common controller must be able to receive and act upon fuel tariff data and be able to utilise the alternative heat source to meet heat demand during a DSR instruction?**

Yes we agree with this proposal.

**20. Do you agree with government's proposal that all electric heating appliances within scope must provide a user interface?**

Yes, but emphasise that a user interface should not be in the form of an in-built display.

**21. Do you agree with government's proposal that electric heating appliances must be able to estimate their power consumption, with the manufacturer free to choose the estimating (calculating or measuring) approach?**

We do not agree with this. There needs to be clarification in the document better emphasising the difference between metering and estimations. You cannot use estimations, such as using a look up table, for operational or settlement requirements. This cannot be used as an alternative to metering in any circumstances and will not provide a basis for ESAs to participate in DSR.

**22. Do you see any difficulty with the position that government is proposing? Please provide evidence to support your answer.**

As above, we would see significant difficulty arising if estimations calculated using a look up table are seen as equal value to metering. If we want to measure the true value of DSR, this cannot be the case.

**23. Do you agree with government's proposal that electric heating appliances will not be required to collect data on their thermal output?**

We agree that this isn't necessary at this time.

**24. Do you agree with government's proposal that all electric heating appliances, on set up, should require users to set their heating preferences, that DSR and TOUT operations to be enabled by default, and for functions that can be undertaken outside of peak hours to be pre-set to do so?**

We agree with this proposal yet emphasise the need for the user to be aware and able to change the default if they wish. Account also needs to be taken on the potential for herding with DSR and TOUT becoming the default.

**25. Are there any other requirements that you believe should be included in the minimum requirements for the smart mandate?**

Again, we emphasise the importance of metering being included in the mandate. The proposals include how an ESA would be able to perform with 'smart functionality but defines no way in which the value being provided will be measured. This leads us to question the value to both the consumer and the energy system if we are not making accurate measurements of DSR activity.

**26. Do you agree with government's proposal to require the appliance manufacturer to provide appliances with integrated or 'add-on' ESA functionality?**

The ADE agrees.

**27. Do you agree with government's proposal to require sellers to ensure that an electric heating appliance (or system of appliances) is sold with either integrated or add-on ESA functionality?**

The ADE agrees.

**28. Do you agree with government's proposal not to place any legal obligations on installers of smart heating appliances?**

The ADE agrees.

**29. Do you have a view, and supporting evidence, on how government ensures that installers have the awareness and ability to successfully install smart heating**

### **appliances?**

Government and the regulator will have a role to play in increasing public awareness of DSR and as per our licencing consultation response, more leadership is needed from government to understand how information can be disseminated in the most useful manner possible.

### **30. Do you agree that open data standards are required to enable EV charge point interoperability with energy suppliers and DSRSPs?**

We agree that it will be very important for allowing consumer to switch flexibility service provider in the future and that this could be made easier through the implementation of an open data standard for EV charge points. We agree with the proposal that this shouldn't be a requirement until the second phase of the programme.

However, open data standards for the purposes of provider switching should not be confused with free data. If a manufacturer and charge point operator, who is also a DSRSP, is responsible for hosting and collecting the data for their devices, and the concurrent costs, it is unreasonable to expect them to continue incurring those costs while another provider reaps the benefits of DSR. If such costs are borne by the manufacturer/operator DSRSP, there needs to be a mechanism whereby they can be recouped from the flex provider.

### **31. What are the barriers to implementing such open data standards?**

See above.

### **32. From your experience does EV-EVSCP interface communication regarding battery state of charge pose a barrier to access to the full range of EV tariffs and DSR services?**

N/A

### **33. What other technical and commercial barriers have you experienced to EV drivers accessing a full range of available tariffs and DSR services?**

See above.

### **34. Do you foresee any issues with adoption of ETSI EN 303 645 for Phase 1 requirements for all ESAs? If so, how could these issues be mitigated?**

The ETSI standard seems appropriate since it is already in use for other system needs. We will wait for the results of the security architecture work and further engagement to support that this standard can achieve the 13 standard principles laid out in the consultation before making any firm decision on this.

### **35. To what extent would requiring cyber security testing of ESAs prior to them being sold or distributed in GB impact ESA supply chains? What other approaches could be used to provide sufficient assurance that cyber security requirements were being met?**

This depends on the procedure that is adopted to carry this out. We can't make any conclusions until more clarity has been provided on this. Any assurances should align with conformity assessment options under MIR to avoid the need for multiple approvals.

### **36. Do you have any suggested alternative solutions to the random offset function which would mitigate the risk of large-scale synchronised changes in load?**

Currently, we have no alternative solution as to how we would mitigate this risk. This will become more important as reforms increase the signal for flexibility. Randomised offset creates a situation where the asset acts in effectively a more unreliable way. In future, where this means that the delay is sufficient to push the flexibility service provider into imbalance, it is unclear from this proposal how this would be managed. Further detail regarding how this policy would interact with imbalancing is required. It would need to be made clear to the customer that the random offset function can be disabled in the case of explicit flexibility actions. Wholesale market arbitrage would also need further investigation.

**37. Please comment on the assumptions and methodology used in the cost appraisal of the analytical annex. Can you provide estimates of the costs of providing consumer interfaces and monitoring?**

We agree with the assumptions and methodology used in the appraisal.

**38. Do you agree with using the Designated Standards approach as the basis for government to design the Approved Standards framework for the SSES programme?**

We agree that Option 1 is advantageous because there is currently not enough clarity on how to fully capture the variety of technologies and services that may comprise the industry in the near and medium term. Furthermore, adopting a number of Government approved standards better enables the sector to be dynamic to varying international approaches and is less likely to lead to situations in which technologies or detrimentally impacted depending on their location of origin. If this option is to be taken forward following this consultation as the preferred option, as it is currently, how delivery of flexibility services are aligned with the approved standards to consumers will need to be considered, from FSPs being 'presumed to be compliant'.

We agree with the Designated Standard approach to have any new standards added to the Approved Standards list. Scrutiny by a third party, such as a working group will be important to make sure the full set of implications of any new standard are considered. However, as above, designated standards for the ESA Regulations must cohere to those for the MIR and not demand duplicate approval processes.

**39. Do you have any comments, suggestions or changes to the initial view described above for how Approved Standards could work; especially for the proposed manner of assessing potential new approved standards?**

Approved standards must align with the requirements for actually participating in markets. There is no use creating a standard like PAS1878 that stipulates 10% measuring accuracy when this does not cohere to any flex market in reality. Standards must not be created in a vacuum, detached from real-world demands.

**40. Are there any areas where you foresee the need for additional standardisation beyond PAS1878? If so, in what areas and over what timeframes would you expect new standards to develop?**

The ADE still strongly prefers that ESAs and asset meters be removed from the remit of the MIR through an amendment to Sch 2 so as to place the responsibility of regulating them with the department intended by the Energy Act. If this does not happen then DESNZ need to ensure



that ESA regulations enacted under the Energy Act are in alignment with the amended MIR from the outset to avoid any confusion or conflicts between the standards. This will be necessary in order to ensure access and rewards from DSR services. This includes necessary changes to PAS1878.

The changes that will be made to PAS 1878 following this consultation are also necessary. We welcome the introduction of the IDSR programme, the associated Query Log and ESA Technical Working Group following the previous consultation in 2022 to ensure that sufficient stakeholder engagement is being undertaken so that we are not placing a disproportionate burden on manufacturers and DSRSPs. We would welcome increased FSP participation in technical working groups to ensure that the effect of standards on the provision of demand side response are fully considered.

Consideration of Home Energy Management Systems (HEMS) within the PAS architecture by the ESA Technical Working Group is welcomed.

**41. Do you believe that there is a need for standardisation of Implicit (also called Routine) DSR in order to meet the government’s interoperability objective? If so, what aspects do you consider would need to be standardised, and are there any existing technical standards that you believe could be used?**

We don’t think that the standards can be put in place without implicit flexibility being in scope, as this makes up a large proportion of particularly domestic DSR.

**42. How should an approved standards approach be designed to ensure that DSRSP interoperability is maintained?**

Robust governance processes to measure the impact that the introduction of any new standard into the approved standards has on any existing regulations put in place.

**43. How complex would it be for DSRSPs to update their system to have the functionality to interact with an ESA that uses a new approved standard? What would the likely timeframes be and how could the technical challenges be managed?**

As above, the implementation of any new standards on DSRSPs and ESAs would need to be particularly considerate of timelines not being too restrictive, ensuring that standards are not brought in before changes can be made. We have concerns over implementing the phased approach laid out in the consultation that introducing two large sets of changes will be particularly burdensome for affected DSRSP’s or organisations that come under the remit of the smart mandate.

**44. What criteria should be applied to ensure that any proposed standard is fit for purpose, and to avoid an excess of standards adding undesirable complexity?**

We have concerns over implementing the phased approach laid out in the consultation that introducing two large sets of changes will be particularly burdensome for affected DSRSP’s or organisations that come under the remit of the smart mandate.

**45. Should DSRSPs be required to ensure that services they offer are interoperable with all ESA types that they offer that service to? (for example, a service for EV drivers**



**should be compatible with any approved standards for EV charge points).**

We agree with this proposal.

**46. How should an approved standards approach be designed to ensure that the SSES cyber security, grid stability and data privacy objectives for devices can be met?**

As above, a relationship to real-world market requirements is fundamental.

**47. What information of the cyber security, data protection and grid stability criteria would industry need to be able to design a new approved standard?**

See above.

**48. What template of “open” or “fair and equitable” licence should government require before allowing technical specifications that require this intellectual property into the standard?**

The “open” template is our preference, with a desire to not place additional fees to cost recovery on organisations within the scope of the licence.

**49. Given the additional detail provided in this chapter, do you believe that the proposed 24-month period between when the first and second phase regulations come into force is appropriate?**

This is very dependent on the success of implementing the first phase of the regulations, if a phased approach is chosen to go forward.

**50. Are there any documents (such as specific standards, protocols, guidance, code, specifications) that should be explored for inclusion into the SSES technical framework? Please can you provide within your answer why their inclusion would help meet the SSES policy objectives and why the SSES technical framework is the best delivery mechanism.**

As above, the MIR and associated documents need to be considered. Furthermore, Elexon’s Code of Practice 11 for asset meters ought to be explored.

**51. Do you believe that in the future, homes with multiple devices will have problems (such as sub-optimal energy management, grid stability concerns, etc) if there is not an active management of the devices at a premises level?**

While the phrasing of this question is somewhat confusing, we cannot move towards any situation where we only allow one DSRSP per premises. This is not in line with work going on elsewhere in the market or in Europe.

**52. What is your definition of a Home Energy Management System (HEMS) and what, if any, role do you see HEMS having within the SSES technical framework?**

While we consider HEMs will become increasingly popular over time, especially with growing abilities to monitor and regulate multiple assets, we do not consider that they are sufficiently advanced as to demand dedicated attention within this first set of SSES regulations.

**53. Does this list capture all the required functions to maintain the technical frameworks**

**necessary to facilitate load control? Are other functions needed?**

The ADE agrees.

**54. Do you agree with the overall model of technical governance? Can you suggest any existing governance that would be well suited to take on this function?**

The ADE agrees.

**55. Does this list capture all the necessary functions to deliver security governance? Are other functions needed?**

The ADE agrees.

**56. Do you agree with the overall model of security governance? Can you suggest any existing governance that would be well suited to take on this function?**

The ADE agrees.

**57. Do you agree that electricity network licence holders are best placed to meet certain costs of setting up and maintaining technical and security frameworks during the Transition Phase? Please explain your answer.**

The ADE agrees.

**58. Do you agree with the proposed approach for recovering the costs of administering a licensing regime? Please explain your answer.**

The ADE does not have a position on this.



ade

The Association for Decentralised Energy



power  
responsive

---

## APPENDIX 1

# Electrical Metering Standards and Implications for Asset Meters | March 2023

---

### Context

Power Responsive and the Association for Decentralised Energy have written this paper to highlight the interactions between different metering standards. As facilitators of the Industry Operational Metering Working Group, Power Responsive conducted stakeholder surveys and engagement. As industry representatives, the ADE has drawn certain conclusions relating to the different metering standards.

### Contents

- I. The importance of and use cases for asset meters
- II. Relevant metering standards and comparative statutory interpretation
- III. MIR Compliance of asset meters currently deployed
- IV. Implications
- V. Final Remarks

## I. The importance of and use cases for asset meters

### Question to Answer

*Why are asset meters important and why are they becoming more relevant than in the past?*

### The boundary and asset meter distinction

Unlike “boundary meters”, meters through which all electricity use data from a site (eg a house or commercial premises) flow through, “asset meters” are connected to a particular device (eg an EV charge point, battery, or heat pump). While boundary meters are useful for calculating bills for a whole site or even for sites participating in flexibility services with their entire electrical load, there are increasingly more instances where an asset meter may be preferable.

At present, and for the foreseeable future, flexibility services will be dominated by balancing markets ie services used to help the transmission and distribution system operators balance electricity supply and demand. In order to provide these services and to prove to the buyer (ie the ESO or DSO) that the quantity of electricity promised has been provided, the seller (ie the flexibility service provider, and by secondary contract the asset owner) will need to provide metering data. If all data is collected through the boundary meter, this may lead to an inaccurate result. For example, the EV owner may be using more electricity in their home for any number of reasons but their EV in the driveway is successfully being remotely controlled by the flexibility service provider. In this scenario, the data collected through the boundary meter will not be as contracted by the buyer (ie ESO or DSO) despite the fact that the promised quantity of electricity has been delivered from the EV charge point. If, in this scenario, the EV charge point asset meter was the point of data collection then a more accurate reading will be delivered to the buyer and less burden will be placed on the EV owner. Therefore, asset metering should play a critical role in demand side response service provision in the near future.

The same rationale will apply to any appliance that has a high energy load including, but not limited to: domestic batteries, and heat pumps with thermal storage. Any Energy Smart Appliance (ESA) envisaged within s.187 of the Energy Security Bill 2022 will be implicated by the asset/boundary meter distinction.

### Conclusion

In the very near future, asset meter owners (ie EV/heat pump/domestic battery/ESA/ owners) will be directly impacted by the capability of those meters to participate in balancing markets in exchange for monetary reward or reward of monetary worth such as vouchers or account points. Should owners wish to optimise their asset separate from their ancillary electrical load (eg lighting, common electrical appliances) they could be barred from doing so if forced to only use a boundary meter. Given the nascent state of domestic DSR, this boundary-asset meter distinction has not proved critical, until now.

It is important to note that the accuracy requirements are not within the present scope. Industry can legitimately debate the coordination and standardisation of accuracy requirements for participation in balancing markets. Indeed, these are questions currently being considered within the NGENSO Power Responsive Operational Metering Working Group. The present concern, however, is whether such assets may even engage in these conversations owing to non-accuracy based requirements contained in relevant statutory regulations. Part II will consider these Regulations.

## II. Relevant Metering Standards and Comparative Statutory Interpretation

### Question to Answer

*Do asset meters, in particular EV charge points, need to be compliant with the provisions of The Measuring Instruments Regulations 2016 in order to participate in smart tariffs and demand side response (DSR) services and thus exchange money with a service provider?*

### Relevant Standards

For the present purposes, the relevant metering standards are as follows:

- **The Measuring Instruments Directive 2014/32/EU** (the Directive/MID) which set out standards for the design, manufacture, and verification of measuring instruments used in trade, such as weighing scales, gas meters, and electricity meters. Approved instruments will have passed specific conformity assessment procedures and have MID markings which allow the instruments to be used in any EU member state.
- **The Measuring Instruments Regulations 2016** (the MIR) which transposes the Directive into UK law.
- **The Weights and Measures Act 1985** (the 1985 Act) addresses the regulation of units of weight and measurement, including measurements of electricity (Ampere, Ohm, Volt, and Watts (Part VII)).
- **The Electric Vehicles (Smart Charge Points) Regulations 2021** (the EV Regulations) which set out the minimum requirements for EV charge points.
- **The Energy Security Bill 2022** (the Energy Bill) which, as per Part 8, gives enabling powers to the Secretary of State for the regulation of Energy Smart Appliances (ESAs).
- **Elxon Codes of Practice** (the CoP) which set out the minimum technical requirements for electricity meters being used for settlement by Balancing and Settlement Code (BSC) parties. All parties that engage in ESO or DSO markets must be BSC parties.

### Electric Vehicles (Smart Charge Points) Regulations 2021

Within the **Guidance** for the Electric Vehicles (Smart Charge Points) Regulations 2021, it is made clear that the regulatory intent is to enable a "smarter, more flexible energy system [to] help manage the increase in electricity demand from the transition to EVs" (para 1.1).

As per s.5(1)-(2) of the EV regulations, a charge point must have smart functionality, meaning it must:

- Be able to send and receive information;
- Be able to respond to signals;
- Be able to provide DSR services; **and**
- Has at least one user interface.

In s.2, DSR are defined as "(a) increasing or decreasing the rate of electricity flowing through a charge point; or (b) changing the time at which electricity flows through the charge point, wholly or primarily for the benefit of the electricity system".

---

### Interpretation

The implication from the above is that EV charge points must be capable of engaging in trading since changing electricity patterns "wholly or primarily for the benefit of the electricity system" implicitly refers to the participation in balancing services either with the transmission or distribution system operators. Furthermore, the Guidance at para 1.4 indicates that smart charging can mean "optimising against a price signal... or

signing up to a service so that a charge point can be remotely managed to help balance the grid”.

---

Within the EV regulations there is no explicit reference to the Measuring Instrument Regulations 2016. However, as per para.3.23 of the Guidance:

*“While not a requirement of the Regulations themselves, compliance with the Measuring Instruments Regulations 2016 (MIR) may be required if the charge point contains a meter that meets the definition of a measuring instrument for the purposes of MIR.”*

Therefore, it is useful to now consider the scope of the MIR.

### **Measuring Instruments Regulations 2016**

Under MIR s.3, within the definition of “measuring instrument” active electrical energy meters are included with that term meaning meters:

*“for use for trade other than an instrument which is used under an agreement providing for the supply of active electrical energy where—*

*(i) the maximum quantity supplied exceeds 100 kilowatts per hour; and*

*(ii) the instrument provides measurement on a half-hourly basis”*

The exclusions in ss.(i) and (ii) essentially remove certain commercial and industrial plant from the scope of MIR. These meters are already covered by CoP 1, 2, 3, and 5. Therefore, all other meters must be MIR compliant.

---

#### **Interpretation**

The key phrase from the above definition is “for use for trade” and although those explicit words are not used within the EV regulations it would appear irrational to mandate that EV charge points be capable of trading but then preclude them from that trade should they not meet MIR essential requirements. Such an exclusion would demand explicit legislative enumeration in order to avoid arbitrary confusion. The closest relevant statutory definition of “use for trade” is explore below in the 1985 Act.

---

As per Sch.1 s.5 of the MIR, the essential requirements for an active electrical meter are contained in Annexes I and V of the Directive. Many of the requirements are basic minimums that are expanded upon in the CoP, especially **CoP 11** which is dedicated to asset meters including EV charge points which demands more stringent accuracy standards (eg CoP 11 s.6.1) as alluded to in Part I. They are also referred to in the EV regulations. These include: reproducibility, reliability, discrimination and sensitivity, repeatability, protection against corruption, and suitability. Annex V is dedicated to Active Electrical Energy Meters and expands on these requirements. The MIR also requires that certain information be provided with the meter (eg manufacturers’ name, measuring range and capacity). The EV regulations contain a similar provision (s.13). One area covered that does not appear to be addressed elsewhere is the climactic environments in which the instrument can perform.

A requirement that does diverge from general practice in certain metering manufacturing, especially EV charge points, is that the MID requires measuring instruments to indicate their result “by means of a display or hard copy”. This cannot be indicated via computer screen or phone app and must be an in-built display in the instrument itself (s.10.5). Unlike the MIR, the EV regulations do not stipulate the manner in which the measuring results must be communicated to the customer (s.9(2)).

---

#### **Interpretation**

Most smart EV charge points contain an embedded meter that does not have an external meter reading display. Therefore, if an EV charge point is to engage in smart functionality and be MIR compliant it must have a display for the customer to read the metering results in a “clear and unambiguous” manner (s.10.2).

---

Given the above, it seems necessary to consider the meaning of “use for trade”.

### **Weights and Measures Act 1985**

Section 7 of the Act defines “use for trade”. Use for trade first involves a “transaction” where a transaction refers to the “transferring or rendering of money or money’s worth in consideration” or the “making of a payment in respect of any toll or duty” (s.7(2)). Hence, transaction incorporates definite monetary value (“money”), vouchers or account points (“money’s worth in consideration”), and bills (“making of a payment in respect of any toll or duty”). Secondly, this transaction must be related to a “quantity of goods” where quantity includes a measurement of energy as per the remit of the act.

Therefore, “use for trade” connotes a situation in which a party offers/buys/sells a quantity of electricity in exchange for money or something of monetary value.

---

#### **Interpretation**

The relationship between an electricity supplier and domestic customer is very clearly covered by the definition of “use for trade” since the Supplier transacts with the Customer to exchange quantities of electricity for £x per/kWh. However, flexibility markets for domestic and commercial customers are nascent, yet similarly come within the remit of s.7. Today, and for the foreseeable future, engaging in flexibility markets involves participating in balancing markets (as explained in Part I) which entails contracting with a system operator to provide a quantity of electricity in exchange for payment. Therefore, as long as a flexibility provider is remunerating a customer for a quantity of traded electricity then a meter being used in flexibility markets is by its nature being used for trade as per the 1985 Act.

---

### **Conclusion**

It appears that, at the very least, this level of regulatory uncertainty is incompatible with the legislative intent of both the MIR and the EV regulations. However, this can be taken a step further. The purpose of the EV regulations to establish minimum smart standards in order to unlock the monetary value for customers and the electricity security benefits of grid balancing would be completely undermined if customers were unable to unlock those benefits based on a requirement that is not explicitly referenced within the EV regulations themselves. It would lead to the unreasonable situation that although all charge points must be capable of smart functionality, not all charge points must be able to use that functionality. This would be wholly incongruent with the legislative intent of the EV regulations.

Finally, while we have focused on conflicts between the EV regulations and the MIR here, we expect to see a proliferation of asset meters for various types of smart technology in the coming years, including heat pumps and domestic batteries. Given such assets will demand similar regulation to EV charge points, as is provided for in the Energy Bill, it is imperative that any statutory ambiguity be eliminated at an accelerated pace. Ideally, this should be addressed explicitly within Part 8 of the Energy Security Bill 2022. Part III considers the current state of on-the-ground asset meters.



### III. MIR compliance of asset meters currently deployed

#### Question to Answer

*Of known domestic/commercial asset meters currently on the ground, what percentage are MIR compliant and what is the impact of MIR compliance?*

#### Power Responsive Stakeholder Survey

In January 2023, Power Responsive circulated a survey with over 30 key stakeholders that represent a vast majority of domestic flexible asset management. Those in the survey included suppliers, aggregators, tech companies, manufacturers, energy membership associations.

The survey looked to understand:

1. The proportion of the UK's domestic assets represented by survey respondents.
2. The impact of mandatory MIR compliance for asset meters used for settlement.
3. Any additional feedback on the MIR in the context of Demand Side Response.

#### Survey Results

Respondent portfolios represented over 200,000 domestic asset meters with the majority being on EV Charge Points.

Respondents suggest that based on their knowledge, less than 1% of all existing asset meters in the UK are MIR compliant. The number of non-compliant meters will continue increasing year on year with over 500,000 new EV charge points expected to be installed in 2023.

Respondents also raised the following points:

- Owing to certain MIR requirements, there is a disproportionate cost to be MIR compliant and will add significant cost to new EV owners/Smart Appliance consumers.
- The benefit case for providing flexibility is not well established yet and therefore consumers will not be inclined to pay the extra for MIR compliance.
- The current dichotomy will exacerbate consumer inequality by discriminating between consumers who can pay extra for a MIR compliant meter and those who can't/don't.
- It achieves the opposite of consumer protection by locking out existing assets from flexibility markets and creates a wholesale rejection of asset metering.
- Significant flexible capacity would be lost, impacting whole system stability and costs.
- Having multiple overlapping and slightly different standards and regulations makes it confusing and inefficient for all involved.
- In recent years Manufacturers have had to re-design equipment to align with the EV regulations which make no reference to the MIR.
- Direct Smart Charging via an EV's API will also be prohibited as OEM's won't install MIR compliant meters into the vehicle. This also goes for other smart appliances.
- It severely hampers innovative and forward-thinking actors actively exploring flexibility.

#### Conclusion

Power Responsive estimates that 99% of all existing asset meters (e.g., mostly those integrated in EV Charge Points and Domestic Batteries) are not MIR compliant therefore making them "stranded assets" unable to provide DSR. The number of non-compliant asset meters is set to increase exponentially as EV and smart device adoption grows. Utilising domestic flexible assets for system balancing is going to be a critical component of the UK's decarbonisation plans and they are necessary to support the unpredictability of renewable assets.

## IV. Implications

### Question to Answer

*If EV charge points and other asset meters must be MIR compliant to participate in flexibility services what is the impact in the short, medium and long term?*

### Risks by timescale

In net zero scenarios of the NGESO Future Energy Scenarios 2022, between 40-70GW of DSR and V2X technology by 2050 is modelled. For the reasons considered in Part I, achieving this volume from boundary meters alone is not the most efficient use of resources.

Beyond future projections however, there is work currently underway in electricity balancing markets to remove barriers to domestic and SME asset participation, including asset meters. This is one of the reasons the regulatory conflict has become urgent at the present time. As per both ESO's own RIIIO- 2 goals to design products that "harness innovation and continue to remove barriers to entry" and, Ofgem's vision for this period to ensure that "all types of technology and solution are able to fully compete to provide the electricity system's short, medium and longer-term needs", these efforts will be severely hampered if domestic and commercial assets seeking to use asset metering to trade in balancing markets is precluded owing to regulatory uncertainty.

### Consumer Impact and use cases

The most prevalent examples of assets that may be implicated by the need for MIR compliance are: EV charge points, domestic and commercial batteries, heat pumps, and other ESAs within the scope of s.187 of the 2022 Bill. Therefore, should an owner of any of these appliances wish to contract with a flexibility provider:

- to use their appliance (data flowing through the asset meter) as opposed to their entire electrical load (data flowing through the boundary meter),
- to trade a quantity of electricity in flexibility markets in exchange for money or rewards of monetary worth such as vouchers or account points,
- then the meter within the appliance must be MIR compliant.

As set out in Part I, there are legitimate reasons why a System Operator, as the procurer of electricity balancing services, would prefer asset meter data as opposed to boundary meter data. Similarly, market developments such as:

- allowing aggregators to participate in the Balancing Mechanism since 2019;
- the progress being made to allow aggregators to participate in the wholesale market; and
- government proposals under the 2022 Bill to introduce a licensing regime for "load controllers",

clearly indicate that flexibility provision at the domestic and commercial level is not merely the remit of electricity suppliers but is open to wider range of industry participants, as has long been the case in the industrial sector.

At present, and as outlined in Part III, the vast majority of relevant assets currently deployed, and being deployed at an increasingly rapid pace, are EV charge points. MIR compliant EV charge points make up a minority of those currently on the market and to advertise an EV charge point as "smart", MIR compliance is not necessitated. Not only do MIR compliant meters comprise a small minority of market share but they also are more expensive to purchase for

consumers, given factors such as the in-built display and LED indicators. Without knowledge of the value that can be gained from having an EV charge point, or any asset meter, capable of engaging in flexibility trading there is simply no reason why an individual would be drawn to the more expensive option. As per the EV Smart Charging Action Plan 2023, two of the key pillars for government are to improve information provision on the benefits of smart charging as a “a win-win-win situation” and to provide the “right market for innovative smart charging products to flourish”. Having the products that enable these outcomes demarcated by a higher price point, and therefore virtually invisible to a majority of consumers, is inherently incompatible with unlocking the value of smart charging, from both an environmental and an economic perspective.

## **Conclusion**

Virtually all domestic and medium-large scale commercial assets will be precluded from participating in flexibility trading based on electricity quantity from the asset meter point unless they are MIR compliant. Government policy and industry trends do not support the contention that electricity suppliers should be the only parties able to participate in flexibility trading which would be the foreseeable outcome if asset meters were precluded from market participation.

## **V. Final Remarks**

It is vitally important that clarity is provided on this issue. While Power Responsive has corresponded with the OPSS on the interpretation of “for use for trade” as per MIR s.3, the offered explanation does not conflict with any of the above since it appears eminently reasonable that DSR services could be considered as trade. There is an important window of opportunity while the EV regulations are in the infancy of their enforcement and the Smart and Secure Electricity System team at BEIS is in the process of exploring regulations for further energy smart appliances that any conflicts of regulations be resolved.

While industry is acutely cognisant of the need for balance to be struck between consumer protection and driving innovation, it has yet to be explained what aspects of the MIR are unique from: other consumer protection legislation and regulation, the EV Regulations, and the Codes of Practice any participant engaging in trade are bound to comply with. If there is no clear additionality added by the MIR, it is important that the regulatory conflict illuminated above be rectified as soon as possible so that meters currently deployed and those in the supply chain do not become stranded. The ideal avenue for this is through a dedicated provision within the 2022 Bill empowering the Secretary of State for the newly formed Department of Energy Security and Net Zero to make provision for such changes to secondary legislation.

There is an immediate risk to innovation stagnation flowing from this issue. Should flexibility procurers and aggregators be unsure of the legality of their trading ability, it is likely that the progress towards government policy on Smart Systems and Flexibility, EV Smart Charging, and the Net Zero Transition will be seriously delayed.

---

## APPENDIX 2

# Comparative Analysis of the Requirements of the Measuring Instrument Regulations 2016

| May 2023

---

For the purposes of the gap analysis, the relevant documents have been divided into the following order: EU Law (carried over post-Brexit); Primary legislation (even where it only provides enabling powers); Secondary legislation; Non-legislative standards that, if followed, would mean the meter could be presumed to be compliant (eg normative documents and standards relied upon by Conformity Assessment Bodies (CABs) for the MIR); Contractually binding standards (eg standards or rules relied upon by bodies empowered by primary or secondary legislation to determine market entry) and; voluntary standards.

### EU Law

- **The Measuring Instruments Directive 2014/32/EU** (Directive/MID) sets out standards for the design, manufacture, and verification of measuring instruments used in trade, such as weighing scales, gas meters, and electricity meters. Approved instruments will have passed specific conformity assessment procedures and have MID markings which allow the instruments to be used in any EU member state.

### Primary Legislation

- **The Weights and Measures Act 1985** (the 1985 Act) addresses the regulation of units of weight and measurement, including measurements of electricity (Ampere, Ohm, Volt, and Watts (Part VII)).
- **The Electricity Act 1989** (the 1989 Act) empowers Ofgem to grant licenses for transmission and distribution operators and suppliers and generators. Schedule 7 addresses the use of electricity meters by suppliers and enables the appointment of meter examiners for certification purposes.
- **The Energy Act 2013** (the 2013 Act) enables the Secretary of State to make regulations for the governance of the Capacity Market (CM).
- **Consumer Rights Act 2015** (CRA) provides the general framework for consumer protection.
- **Automated and Electric Vehicles Act 2018** enables the Secretary of State to make regulation for the minimum standards to govern smart charging of electric vehicles (EVs).
- **The Energy Security Bill 2022** (the Energy Bill) which, as per Part 8, gives enabling powers to the Secretary of State for the regulation of Energy Smart Appliances (ESAs).

### Secondary Legislation

- **The Meters (Approval of Pattern or Construction and Manner of Installation) Regulations 1998 (S.I. 1998/1565)** (the Pattern Regs) sets out the procedure for obtaining notification of approval of the pattern or construction and manner of installation of meters. It has been supplanted by the MIR for domestic and light industrial customers but is still used for larger industrial meters unless the customer and supplier meet a contractual agreement otherwise.
- **The Meters (Certification) Regulations 1998 (S.I. 1998/1566)** (the Certification Regs) sets out the process for approving electricity meters for use in the UK. It has been supplanted by the MIR for domestic and light industrial customers but is still used for larger industrial meters unless the customer and supplier meet a contractual agreement otherwise.
- **The Electricity Capacity Regulations 2014** (the CM Regs) which set out the overarching requirements for the structure of and participation in the CM.
- **The Measuring Instruments Regulations 2016** (the MIR) which transposes the Directive into UK law.
- **The Electric Vehicles (Smart Charge Points) Regulations 2021** (the EV Regs) which set out the minimum requirements for EV charge points.

#### Non-Legislative Standards that Speak to Presumptive Conformity

- **OIML R 46-1/-2 Edition 2012 (E)** is a publication by the Organisation Internationale de la Métrologie Légale (OIML) and is considered as giving a presumption of conformity with the essential requirements of the MIR.

#### Contractually Binding Standards

- **Elxon Codes of Practice (CoP)** which set out the minimum technical requirements for electricity meters being used for settlement by Balancing and Settlement Code (BSC) parties. All parties that participate in electricity markets must be BSC parties. **Elxon Code of Practice 11** (CoP 11) deals with asset meters in particular.
- **Capacity Market Rules** (CM Rules) which set out the rules under which any awardee of a CM contract must abide by.
- **Electricity Supply Licence Conditions** which set out certain relevant metering regulations, which do not include the MIR.
- NGESO and DSO Service Requirements

#### Voluntary Standards

- **PAS 1878** which sets out the standards to be met in order for a device to be considered an ESA.

Section/Topic	Interpretation	Comparable Legislation	Interpretation	Implication
<p><b>Schedule 1A sets out the essential requirements to be met by all measuring instruments, as per reg 7, and is therefore rather general. Many of the provisions are either expanded upon in Schedule 1E or in supplementary non-legislative standards used by approved bodies when carrying out the conformity assessment procedure.</b></p>				
<p><b>Sch 1A, subparas 1.1-1.2 Allowable Errors</b></p>	<p>These requirements are expressed in more detail in Sch.1E.</p>	<p>Certification Regs, reg 7(2) <b>Procedure for Certification</b></p>	<p>Along with other requirements, discussed more below, a meter must not have a margin of error greater than +2.5% or -3.5%.</p>	<p>This applies to all meters, not merely those for use for the relationship between suppliers and customers.</p>
<p><b>Sch 1A, subpara 1.3.1 Allowable Errors</b></p>	<p>A manufacturer must specify the temperature limits of a meter (Upper temperature limit: 30 °C / 40 °C / 55 °C / 70 °C. Lower temperature limit: 5 °C / -10 °C / -25 °C / -40 °C).</p> <p>A manufacturer must also specify whether a meter is designed for condensing or non-condensing humidity and the intended location for the instrument, i.e. open or closed.</p>			<p>Such a provision could be incorporated into more targeted regulations, including the EV Regs and any upcoming ESA Regs. `</p>
<p><b>Sch 1A, subpara 1.3.2 Allowable Errors</b></p>	<p>A meter must be tested for response to low vibration and mechanical shock.</p>			<p>Such a provision could be incorporated into more targeted regulations, including the EV Regs and any upcoming ESA Regs. `</p>
<p><b>Sch 1A, subpara 1.3.3 Allowable Errors</b></p>	<p>A meter must be subjected to electromagnetic environment tests (where disturbances are those likely to be expected in residential, commercial and light industrial buildings) for response to:</p> <ul style="list-style-type: none"> <li>- voltage interruptions; short voltage reductions;</li> <li>- voltage transients on supply lines and/or signal lines;</li> </ul>			<p>Such a provision could be incorporated into more targeted regulations, including the EV Regs and any upcoming ESA Regs. `</p>



Section/Topic	Interpretation	Comparable Legislation	Interpretation	Implication
	<ul style="list-style-type: none"> <li>- electrostatic discharges;</li> <li>- radio frequency electromagnetic fields;</li> <li>- conducted radio frequency;</li> <li>- electromagnetic fields on supply lines and/or signal lines; and</li> <li>- surges on supply lines and/or signal lines.</li> </ul>			
<b>Sch 1A, subpara 1.3.4 Allowable Errors</b>	<p>Where appropriate a meter must be tested for the influence of the following on its results:</p> <ul style="list-style-type: none"> <li>- voltage variation;</li> <li>- mains frequency variation;</li> <li>- power frequency magnetic fields; and</li> <li>- any other quantity likely to influence in a significant way the accuracy of the meter.</li> </ul>			Such a provision could be incorporated into more targeted regulations, including the EV Regs and any upcoming ESA Regs.
<b>Sch 1A, subpara 1.4.1 Allowable Errors</b>	A meter must be tested for the influence of each individual variable listed in the previous subsections.			Such a provision could be incorporated into more targeted regulations, including the EV Regs and any upcoming ESA Regs.
<b>Sch 1A, para 2 Reproducibility</b>	A meter must produce the same/substantially similar results when used in the same way but in different location/by different people.	1989 Act, sch 7 para 1 <b>Consumption to be ascertained by appropriate meter</b>	A meter used by a supplier to bill a customer for electricity consumption must be appropriate.	It is reasonable to conclude that a device, one of whose purposes is to measure electricity, will do so in a reproducible, repeatable, reliable, and sensitive manner and will be sufficiently durable. However, the 1989 Act only addresses the customer-supplier relationship and repeatedly refers to its installation on a premises.  In the case of devices whose purpose is not usually considered to be measuring electricity (eg EV charge points and ESAs) there is room for such a
		Certification Regs, reg 7 <b>Procedure for certification</b>	An examiner must confirm that a meter can reasonably be expected to operate within the permitted margins of error.	
		CRA 2015, s 9(3)(a) <b>Goods to be of satisfactory quality</b>	Goods must be fit for purpose in the eyes of a reasonable person.	

Section/Topic	Interpretation	Comparable Legislation	Interpretation	Implication
				requirement to be placed in the relevant regulations.
<b>Sch 1A, para 3 Repeatability</b>	A meter must produce the same results when used in the same way.	As above.	As above.	As above.
<b>Sch 1A, para 4 Discrimination and Sensitivity</b>	A meter will be sensitive enough to perform its stated purpose.	As above.	As above.	As above.
<b>Sch 1A, para 5 Durability (also addressed in subpara 7.5)</b>	A meter must be of sufficient quality to maintain its measuring accuracy over a period of time estimated by the manufacturer.	CRA 2015, s 9(3)(e) <b>Goods to be of satisfactory quality</b>	Goods must be durable in the eyes of a reasonable person.	As above.
<b>Sch 1A, para 6 Reliability</b>	A meter must be designed to avoid the possibility that a defect may impact its measuring ability.	EV Regs, s 9(4)(b) <b>Measuring system</b>	Charge points must be designed and manufactured so that inaccuracies are not predictable or consistent.	As above.
<b>Sch 1A, subpara 7.1 Suitability</b>	A meter must not have a feature that is likely to allow for fraudulent use.	CRA 2015, s 9(3)(d) <b>Goods to be of satisfactory quality</b>	Goods must be safe in the eyes of a reasonable person.	Neither the CRA nor the EV Regs directly address the possibility of fraudulent use. However, the other safety and security provisions contained therein could reasonably be interpreted as disallowing a meter from containing a feature that is likely to allow for fraudulent use.  If those provisions cannot be read thusly, such a provision could be incorporated into more targeted regulations, including the EV Regs and any upcoming ESA Regs
		EV Regs, s 9(4)(b) and Sch 1 <b>Measuring system and Security</b>	S 9(4)(b): Charge points must be designed and manufactured so that inaccuracies are not predictable or consistent.  Sch 1 deals with security parameters generally, including protection against attack (see below), password protection, secure communication, security logs, and software.	
<b>Sch 1A, subpara 7.2 Suitability</b>	A meter must be suitable for its intended purpose, taking account of the conditions in	CRA 2015, s 9(3)(a)	Goods must be fit for purpose in the eyes of a reasonable person.	While s.9 CRA adequately addresses the more general suitability aspect, the EV Regs incorporates

Section/Topic	Interpretation	Comparable Legislation	Interpretation	Implication
	which it will work and not require excessive input from the customer to obtain an accurate result.	<p><b>Goods to be of satisfactory quality</b></p> <p>1989 Act, sch 7, para 1</p> <p><b>Consumption to be ascertained by appropriate meter</b></p> <p>EV Regs 2021, sch 1, para 7</p> <p><b>Ease of use</b></p>	<p>Where a supplier uses a meter to charge a customer for electricity consumption, it must be an appropriate meter.</p> <p>Charge points must be designed and manufactured so that minimal inputs are required from the owner to set it up and operate it.</p>	the ease of use requirement. The 1989 Act covers electricity suppliers only.
<b>Sch 1A, subpara 7.3 Suitability</b>	Errors at flows or currents outside the controlled range must not be unduly biased.	EV Regs, s 9(4)(b) <b>Measuring system</b>	Charge points must be designed and manufactured so that inaccuracies are not predictable or consistent.	Both provisions address the need to minimise systemic risk.
<b>Sch 1A, subpara 7.6 Suitability</b>	A meter must be capable of being tested subsequent to sale and the test procedure must be outlined in the manual which was used during the external assessment.			Such a provision could be incorporated into more targeted regulations, including the EV Regs and any upcoming ESA Regs.
<b>Sch 1A, subpara 8.1 Protection against corruption</b>	The ability of a meter to carry out its measuring functions must not be adversely impacted by any other function within the device, by an external connected device, nor by any device remotely communicating with it.			Such a provision could be incorporated into more targeted regulations, including the EV Regs and any upcoming ESA Regs. However, for devices that carry out multiple purposes eg EV charge points and batteries, if other functionalities adversely impacted the measuring capability they would simultaneously adversely impact their other purpose ie charging/exporting.
<b>Sch 1A, subpara 8.2 Protection against corruption</b>	Hardware elements that are crucial for measurement purposes must be made secure, including measures that indicate evidence of a breach.	EV Regs 2021, sch 1, para 1, paras 8-10 <b>General principles, Protection against attack and Security log</b>	Charge points must be designed and manufactured so as to protect against physical attack or damage and incorporate functionalities to minimise the adverse impacts of a breach, log	Sections 8-10 of the EV Regs delve into more detail and require more robust protection than Sch.1A, s.8.2 of the MIR.

Section/Topic	Interpretation	Comparable Legislation	Interpretation	Implication
			attempted breaches and notify the owner of attempted breaches.	
<b>Sch 1A, subpara 8.3 Protection against corruption</b>	Software elements that are crucial for measurement purposes must be made secure, including measures that indicate evidence of a breach.	EV Regs 2021, sch 1, para 1, paras 3-5 <b>General principles, Software, Sensitive security parameters, Secure communication</b>	Charge points must be designed and manufactured so as to protect against harm or disruption. It must also incorporate software that can be securely updated. Its communications must be encrypted.	As above.
<b>Sch 1A, subpara 8.4 Protection against corruption</b>	Data that is crucial for measurement purposes must be made secure, including measures that indicate evidence of a breach.	EV Regs 2021, sch 1, para 6 <b>Data Inputs</b>	Charge points must be configured to verify data inputs are consistent with the function they are expected to perform and disregard any data that cannot be verified.	As above.
<b>Sch 1A, subpara 8.5 Protection against corruption</b>	The in-built display of a meter must not be able to be reset when it is displaying quantities upon which payment will be based.	See below.	See below.	This provision relates to s.10 below.
<b>Sch 1A, subparas 9.1-9.2 Information to be borne by and to accompany the instrument</b>	A meter must be inscribed with (or if it is too small/sensitive, have in its accompanying packaging/documentation) the following information: <ul style="list-style-type: none"> <li>a) manufacturer's name, trade name or trade mark;</li> <li>b) information on its accuracy; and, where applicable: <ul style="list-style-type: none"> <li>a. information on the conditions of use;</li> <li>b. measuring capacity;</li> <li>c. measuring range;</li> <li>d. identity marking;</li> </ul> </li> </ul>	EV Regs 2021, s 13 <b>Assurance</b>	Charge Points must be accompanied with a statement of compliance, including the type/model of the device, the name and address of the seller, and an assurance of compliance with the regulations.  A customer can also request a copy of the technical file for the charge point which must contain the following information: <ul style="list-style-type: none"> <li>a) the design, manufacture and operation of the charge point;</li> <li>b) a description of the charge point;</li> <li>c) a copy of the operating manual;</li> </ul>	Information requirements to accompany MIR compliant meters are more extensive than those demanded by the EV Regs.  The technical file which can be requested under s.13 of the EV Regs could incorporate this more detailed information, depending on the interpretation of the subsections. The technical file could also be made mandatory to accompany charge points at the point of sale.  Similar provisions could be added to more targeted regulations enacted as a result of the Energy Security Bill 2022.

Section/Topic	Interpretation	Comparable Legislation	Interpretation	Implication
	<ul style="list-style-type: none"> <li>e. number of the examination certificate;</li> <li>f. information on compliance with the MIR.</li> </ul>		<ul style="list-style-type: none"> <li>d) written descriptions and explanations in plain English of any diagrams used;</li> <li>e) copies of any test reports;</li> <li>f) details of the version of software operating on the charge point at the time of sale.</li> </ul>	
<b>Sch 1A, subpara 9.3 Information to be borne by and to accompany the instrument</b>	<p>A meter must be accompanied by an instruction manual, including where relevant its:</p> <ul style="list-style-type: none"> <li>a) rated operating conditions;</li> <li>b) mechanical and electromagnetic environment classes;</li> <li>c) the upper and lower temperature limit, whether condensation is possible or not, open or closed location;</li> <li>d) instructions for installation, maintenance, repairs, permissible adjustments;</li> <li>e) instructions for correct operation and any special conditions of use;</li> <li>f) conditions for compatibility with interfaces or regulated measuring instruments.</li> </ul>	As above.	As above.	As above.
<b>Sch 1A, subpara 9.4 Information to be borne by and to accompany the instrument</b>	Groups of identical meters in the same location don't necessarily need individual instruction manuals.	As above.	As above.	As above.

Section/Topic	Interpretation	Comparable Legislation	Interpretation	Implication
<b>Sch 1A, subpara 9.7 Information to be borne by and to accompany the instrument</b>	Information on the units of measurement must be expressed in kilowatts or megawatts.	As above.	As above.	As above.
<b>Sch 1A, subpara 9.8 Information to be borne by and to accompany the instrument</b>	All of the above information must be clear, unambiguous and permanent.	As above.	As above.	As above.
<b>Sch 1A, subpara 10 Indication of result</b>	A meter must indicate its result via an in-built display or by hard copy.	EV Regs 2021, s 9(2) <b>Measuring system</b>	Charge points must be 'configured' in such a way to allow the customer to view any of the metering information for a period of up to 12 months previously.	<p>Since charge points must be able to, and indeed government wants them to, participate in trade, it is incongruent with the principles of regulatory certainty and clarity to draft a dedicated piece of legislation that clashes with a prior general piece of legislation.</p> <p>From both the EV Regs and accompanying guidance (para.3.21), it is clear that charge points are not required to have an in-built display. Although the MIR is mentioned in para.3.23 of the guidance, it is not mentioned within the regulations themselves which should be capable of being read by manufacturers as a discrete document. Therefore, it would be reasonable for charge point manufacturers, who are creating chargers with embedded asset meters capable of trade, that the EV Regs would not enumerate a significantly different design standard than that legislatively required elsewhere.</p> <p>The requirement for an in-built display is the most significant physical difference between MIR</p>

Section/Topic	Interpretation	Comparable Legislation	Interpretation	Implication
				compliant and non-MIR compliant asset meters and would add significant cost to the manufacture of asset meters. In relation to EV charge points and other ESAs it would entail removing the meter from the appliance and having it as a standalone device which defeats the usefulness of a small-scale asset or embedded meter.
<p><b>Schedule 1B sets out the various types of conformity assessment procedure that may be required, as per s.7, depending on the particular instrument. As per Sch.1E s., active electrical meters must undergo a conformity assessment procedure either by the provisions laid out in Modules: B and F; B and D; or H1. As a result of passing the conformity assessment procedure, the meter will be affixed with the relevant markings and a declaration of conformity with the MIR. The <a href="#">UK Market Conformity Assessment Bodies database</a> lists three bodies under electrical meters, and two under electrical meter and the Measuring Instruments.</b></p>				
<p><b>Sch 1E Conformity Assessment</b></p>	<p>A meter must undergo a conformity assessment procedure either by the provisions laid out in Modules: B and F; B and D; or H1.</p>	<p>1989 Act, sch 7, paras 2-7 <b>Restrictions on use of meters, Certification of meters</b></p> <p>Pattern Regs, reg 3 <b>Approved pattern or construction and approved manner of installation</b></p> <p>Certification Regs, reg 5 <b>Authorised examiner</b></p>	<p>A meter must not be used to determine how much electricity has been supplied by a supplier to a domestic customer unless it has been approved subject to the subsequent provisions and regulations. Ofgem shall appoint impartial persons as meter examiners (para 4).</p> <p>Importantly, para 5(4) allows different regulations to be made for meters of different descriptions or intended for use in different circumstances.</p> <p>A meter used for ascertaining the quantity of electricity supplied by a supplier to a customer must have notification of approval for its pattern or construction, and installation.</p> <p>A meter must be approved by an meter examiner or an authorised examiner, authorised by Ofgem. An authorised</p>	<p>For meters Prior to the MIR and other EU/EC measuring instrument harmonisation efforts, government still recognised the need for independent approval of meters, although going about it in a slightly different way. Along with having meter examiners as part of the civil service, individuals could apply to be authorised examiners and another mechanism for the approval of meter examiners was established by the 1989 Act.</p> <p>Given the vastly different use cases of meter under current consideration, para 5(4) may offer an opportunity to explore how purpose specific regulations may be drafted.</p> <p>Conversely, the EV Regs only demand self-certification despite their clear interaction with metering regulation. An untenable situation is thus created where EV charge points, intended to have embedded meters (as per the accuracy requirements) and intended to engage in trade (as</p>



Section/Topic	Interpretation	Comparable Legislation	Interpretation	Implication
			examiner must only approve meters where he is employed by a supplier, manufacturer, repairer, or a nominated laboratory. Subparagraphs account for possible conflicts of interest.	per the DSR capability requirement) will be precluded from carrying out the functions for which the EV Regs were drafted. If subsequent ESA regulations are drafted in the likeness of the EV Regs, as was originally envisioned, the same problem would occur.
		EV Regs 2021, s 13 <b>Assurance</b>	Charge points must be accompanied by a statement from the seller that the device complies with the regulations and that it is the responsibility of the seller to ensure compliance.	
<b>Sch 1B, Module B, Type Examination</b>	An approved body must examine either the meter itself or certain accompanying technical documentation or both for compliance with the regulations.	1989 Act, sch 7, paras 5(2)(a) <b>Certification of meters</b>	An examiner must confirm that a meter is of on approved pattern or construction.	
		Certification Regs, reg 7 <b>Procedure for certification</b>	An examiner must confirm that a meter can comply with the provisions of sch 3 and can reasonably be expected to operate within the permitted margins of error.	
<b>Sch 1B, Module D, Conformity to Type Based on Quality Assurance of the Production Process</b>	An approved body must assess and approve the production process based on evidence submitted by the manufacturer.	Certification Regs, reg 3 <b>Authorised Manufacturer</b>	Ofgem may assess and approve the production process based on evidence submitted by the manufacturer.	
<b>Sch 1B, Module F, Conformity to Type Based on Product Verification</b>	An approved body must examine and test either every meter or through statistical analysis of a random sample for compliance with the regulations.	Certification Regs, reg 9 <b>Batch Certification</b>	Examiners may base their approval by testing a sufficient number of meters in a batch.	

Section/Topic	Interpretation	Comparable Legislation	Interpretation	Implication
<b>Sch 1B, Module H1, Conformity Based on Full Quality Assurance Plus Design Examination</b>	An approved body must assess and approve the production process based on evidence submitted by the manufacturer.	Certification Regs, reg 3 <b>Authorised Manufacturer</b>	Ofgem may assess and approve the production process based on evidence submitted by the manufacturer.	
	An approved body must examine the design of the meter for compliance with the regulations.	Certification Regs, reg 7 <b>Procedure for certification</b>	An examiner must confirm that a meter can comply with the provisions of sch 3 and can reasonably be expected to operate within the permitted margins of error.	

## Comparison to Elexon Code of Practice 11

Section/Topic	Content	COP 11 Asset Metering Type 4	COP 11 Asset Metering Type 5
<b>Schedule 1E sets out the specific operating conditions for active electrical meters.</b>			
Sch 1E, para 1 <b>Accuracy</b>	The manufacturer shall specify the class index of the meter. The class indices are defined as: Class A, B and C.	<p>Tx connected: Class B is an option. Equivalent Class 1.0 IEC 62053-21 allowed</p> <p>Direct connected: Class A is an option. Equivalent Class 2.0 IEC 62053-21 allowed</p> <p>Other standards allowed so long as they have a Class 1.0 for Tx or Class 2.0 for direct connected - each individual standard would need to be compared with MIR (EN 50570-3:2020 7.9 errors limits)</p>	No specified accuracy class linked to a standard; CoP11 has limits of error allowed within specified parameters for AC and DC. Difference from EN 50470-3:2020 (7.9) is $I_n \leq I \leq 0.5 I_{max}$ (UPF) and $I_n \leq I \leq I_{max}$ (0.5 Ind / 0.8 Cap PF) being +/-2.5% in CoP11
Sch 1E, para 2 <b>Rated operating conditions</b>	The manufacturer shall specify the rated operating conditions of the meter; in particular $I_{st}$ , $I_{min}$ , $I_n$ , $I_{max}$ for direct and Tx connected	<p>Where compliant with EN 50470-3 or IEC 62053-21 no issue.</p> <p>Where other standards used that have those accuracy classes would need to be an individual comparison with this clause and whether they refer to IEC 62052-11 directly within them</p>	<p>Rated operating conditions specified in CoP11 different. Specifies <math>I_n</math> as the nominal current the device is designed to operate at and <math>I_{max}</math> is the maximum current the device is designed to operate at. For example, if a device was designed to only operate in the 6A-32A range <math>I_n</math> would be 6A and <math>I_{max}</math> 32A</p> <p>Voltage Range 0.9 <math>U_n</math> to 1.1 <math>U_n</math> specified and matches.</p> <p>Frequency Range 0.98 <math>f_n</math> to 1.02 <math>f_n</math> specified and matches.</p> <p>Power Factor range <math>\cos\phi = 0.5</math> inductive to <math>\cos\phi = 0.8</math> capacitive specified and matches</p>
Sch 1E, para 3-4 <b>Maximum Permissible Errors, Permissible effect of disturbances</b>	<p>3. The effects of the various measurands and influence quantities</p> <p>4. Permissible effect of disturbances</p>	<p>Where compliant with EN 50470-3 or IEC 62052-11:2020 no issue.</p> <p>Where other standards used that have those accuracy classes would need to be an individual comparison with this clause and whether they refer to IEC 62052-11 directly within them</p> <p>Influence quantities aren't mentioned in CoP11. The Compliance Testing (BSCP601) requires an EMC test that the meter must satisfy (BSCP601 - Test 3.6.20).</p> <p>Overall Accuracy of the energy measurements at the Defined Metering at the Asset Point shall at all times be within the limits of error specified. This would be inclusive of any influence quantities. Limits are +2.5% to -3.5% between <math>I_n</math> and <math>I_{max}</math> at all PF for direct</p>	<p>Influence quantities aren't mentioned in CoP11. The Compliance Testing (BSCP601) requires an EMC test that the meter must satisfy (BSCP601 - Test 3.6.20).</p> <p>Overall Accuracy of the energy measurements at the Defined Metering at the Asset Point shall at all times be within the limits of error specified. This would be inclusive of any influence quantities. Limits are +2.5% to -3.5% between <math>I_n</math> and <math>I_{max}</math> at all PF</p> <p>BSCP601 - <a href="https://bscdocs.elexon.co.uk/bsc-procedures/bscp601-metering-protocol-approval-and-compliance-testing-bscp-601">https://bscdocs.elexon.co.uk/bsc-procedures/bscp601-metering-protocol-approval-and-compliance-testing-bscp-601</a></p>

		connected; for Tx connected +/-1.5% 0.2Ir to Ir at UPF; +/- 2.5% 0.05Ir to 0.2Ir at UPF and 0.2Ir to Ir 0.5Ind/0.8Cap  BSCP601 - <a href="https://bscdocs.elexon.co.uk/bsc-procedures/bscp601-metering-protocol-approval-and-compliance-testing-bscp-601">https://bscdocs.elexon.co.uk/bsc-procedures/bscp601-metering-protocol-approval-and-compliance-testing-bscp-601</a>	
Sch 1E, para 5.1 <b>Suitability</b>	Below the rated operating voltage the positive error of the meter shall not exceed 10 %.	Where compliant with EN 50470-3 or IEC 62052-11:2020 no issue.  Not specified in CoP11 or tested under BSCP601. Where other standards used that have those accuracy classes would need to be an individual comparison with this clause and whether they refer to IEC 62052-11 directly within them.	Not specified in CoP11 or tested under BSCP601
Sch 1E, para 5.2 <b>Suitability</b>	The display of the total energy shall have a sufficient number of digits to ensure that when the meter is operated for 4,000 hours at full load (I = I <sub>max</sub> , U = U <sub>n</sub> and PF = 1) the indication does not return to its initial value and shall not be able to be reset during use.	Where compliant with EN 50470-3 or IEC 62052-11:2020 no issue.  Where other standards used that have those accuracy classes, and the device has a display, would need to be an individual comparison with this clause and whether they refer to IEC 62052-11 directly within them.  CoP11 doesn't specify a display as mandatory but if the device has one it specifies in 6.1.2 that 'The Asset Meter Register(s) shall not roll-over more than once within a six month period'. 6 months is approximately 4320 hours.	Not specified in CoP11 and display not mandatory.
Sch 1E, para 5.3 <b>Suitability</b>	In the event of loss of electricity in the circuit, the amounts of electrical energy measured shall remain available for reading during a period of at least 4 months.	Where compliant with EN 50470-3 or IEC 62052-11:2020 no issue.  Where other standards used that have those accuracy classes, and the device has a storage capability, would need to be an individual comparison with this clause and whether they refer to IEC 62052-11 directly within them.  CoP11 doesn't specify a storage capability as mandatory	Not specified in CoP11 and storage capability not mandatory.
Sch 1E, para 5.4 <b>Running with no load</b>	When the voltage is applied with no current flowing in the current circuit (current circuit shall be open circuit), the meter shall not register energy at any voltage between 0.8 · U <sub>n</sub> and 1.1 U <sub>n</sub> .	Where compliant with EN 50470-3 or IEC 62052-11:2020 no issue.  Where other standards used that have those accuracy classes would need to be an individual comparison with this clause and whether they refer to IEC 62052-11 directly within them.  CoP11 doesn't specify this as a requirement	Not specified in CoP11 or tested under BSCP601

<p>Sch 1E, para 5.5 <b>Starting</b></p>	<p>The meter shall start and continue to register at <math>U_n</math>, PF = 1 (polyphase meter with balanced loads) and a current which is equal to Ist.</p>	<p>Where compliant with EN 50470-3 or IEC 62052-11:2020 no issue.</p> <p>Where other standards used that have those accuracy classes would need to be an individual comparison with this clause and whether they refer to IEC 62052-11 directly within them.</p> <p>CoP11 doesn't specify this as a requirement</p>	<p>Not specified in CoP11 or tested under BSCP601</p>
<p>Sch 1E, para 5.6 <b>Units</b></p>	<p>The electrical energy measured shall be displayed in kilowatt-hours or in megawatt-hours.</p>	<p>Where compliant with EN 50470-3 no issue. IEC 62052-11:2020 also includes Wh as an option.</p> <p>Where other standards used that have those accuracy classes would need to be an individual comparison with this clause and whether they refer to IEC 62052-11 directly within them.</p> <p>CoP11 specifies kWh or MWh as mandatory if a display fitted</p>	<p>CoP11 specifies kWh or MWh as mandatory if a display fitted</p>

---

**For further information please contact:**

---

Sarah Honan  
 Policy Manager  
 Association for Decentralised Energy  
 Sarah.honan@theade.co.uk

---



## APPENDIX 3

# ADE Position Paper | Framework for Addressing Asset Metering Regulatory Uncertainty | 7 September 2023

### Introduction

Since January 2023, the ADE, working with National Grid ESO Power Responsive and the Energy Tech Group, have been investigating the interactions between varying metering regulations and their impacts on asset meters. In particular, the relationship between **The Measuring Instruments Regulations 2016** (the MIR) and **The Electric Vehicles (Smart Charge Points) Regulations 2021** (the EV Regs) has been assessed. We have produced several documents:

- *'Electrical Metering Standards and Implications for Asset Meters | February 2023'* – a paper exploring the interactions of the MIR and EV Regs, and the results of an ESO Power Responsive survey of over 200,000 domestic asset meters which indicated that less than 1% are MIR compliant.
- *'Electrical Metering Standards and Implications for Asset Meters | March 2023'* – a revised version of the above paper providing more context on the importance of asset meters for the net zero transition, as stated in multiple government policies.
- *'Comparative Analysis of the Requirements of the Measuring Instrument Regulations 2016 | May 2023'* – a paper comparing the requirements of the MIR with other legislation and Exelon's Code of Practice 11 governing asset meters.

The purpose of these papers was to provide an objective overview of the current regulatory landscape without drawing a conclusion as to how regulation of asset meters ought to be approached.

### Case for Change

From the above work, the following conclusions can be drawn:

1. By mandating DSR capability, the EV Regs mandated that smart charge points (SCPs) must be capable of engaging in trade. If the SCPs were to actually engage in trade, however, they must be MIR compliant. Despite other regulations being explicitly mentioned in the EV Regs, MIR is not enumerated as a requirement anywhere.
2. The EV Regulations and MIR have multiple areas of substantive divergence, namely:
  - a. Accuracy: The EV Regs require accuracy within +/-10%, conferring a recognition that SCPs would incorporate an electricity measuring system, whereas MIR, although more complex in its mandates, can be said to demand +/-2% margin of error. Prior to the MIR, electrical supply meters were regulated by the **Metering Certification Regulations 1998** which demanded +2.5%/-3.5%.
  - b. Results Display: The EV Regs require that customers be able to view the metering results but does not stipulate a specific form whereas MIR requires results be displayed via in-built display or hard copy.
  - c. Certification: The EV Regs permit self-declaration of compliance whereas the MIR mandates external certification.
3. A survey, undertaken by National Grid ESO Power Responsive, of over 200,000 asset meters, largely EV SCPs, found that less than 1% were MIR compliant.
4. From a consideration of other government policy such as the **Smart Systems and Flexibility Plan 2021**, the **Smart and Secure Electricity System Consultation 2022**, and the **EV Smart Charging Action Plan 2023**, HMG recognises that the growth of demand side flexibility will play a critical role in reaching net zero and asset meters have an important role to play in its growth.
5. Therefore, resolving this regulatory conflict unlock multiple benefits, including:

- a. Ensuring the £140m spent by Government to accelerate **smart EV charging rollout** and £30m on innovation funding for **vehicle to grid technologies** is not wasted by replacing all devices.
- b. Lowering the cost of net zero and deliver up to £10bn in savings as set out in the Smart Systems and Flexibility Plan.
- c. Ensuring the 600,000 heat pumps **set to be deployed** per year from 2028 are able to function in a smart way, delivering savings for the customer and the wider system.
- d. Helping UK industry participate in the **net zero transition and ensuring security of supply** by adopting smart processes.
- e. Strengthening the UK's energy sovereignty and security by making better use of homegrown electricity generation.

### Considerations for Change

When considering a framework for achieving an appropriate regulatory framework for asset meters, regard must be had to the following principles:

- Certainty and Consistency:
  - Ensure all regulations enumerate transparent requirements that are consistent with stated policy intent for flexibility.
  - Ensure that the MIR, the EV Regs, and any future ESA Regulations are consistent with one another.
- Proportionality:
  - Ensure regulations governing asset meters are underpinned by legitimate and targeted objectives specific to asset meter use cases.
  - Ensure the regulation only impose the standards necessary and appropriate to reach the stated objectives.
  - Ensure the correct balance is struck between protecting consumer rights, fulfilling government net zero and security of supply policies, and protecting commercial freedom and innovation.

### Framework for Change

From the foregoing, the ADE proposes the following framework for resolution:

Timeline	Change Proposal
2023	<ul style="list-style-type: none"> <li>• The Energy Security Bill is passed into law.</li> </ul>
	<ul style="list-style-type: none"> <li>• A public statement is made recognising the existence and ongoing nature of this issue and its relevance to government policy.</li> </ul>
2024	<ul style="list-style-type: none"> <li>• Government consult on proposals for change in second SSES consultation and issue a call for evidence on the appropriate standards to which asset meters should be held.</li> </ul>
	<ul style="list-style-type: none"> <li>• MIR Sch 2 is amended to permit meters to continue to be put into use that are approved under regulations made under the Energy Security Act and the Automated and Electric Vehicles Act 2018.</li> </ul>
2025	<ul style="list-style-type: none"> <li>• Secondary legislation developed and EV Regs amended if needed.</li> </ul>
2026-28	<ul style="list-style-type: none"> <li>• Window for proposals to become operational.</li> </ul>



---

**For further information please contact:**

---

Sarah Honan  
Policy Manager  
Association for Decentralised Energy  
Sarah.honan@theade.co.uk

---

---

## APPENDIX 4

# Supplementary Evidence | Promoting Smart Technologies through Electricity Meter Regulation Reform | 08 May 2024



The Association for  
Decentralised Energy

Combined Heat & Power  
Demand Side Services  
Energy Efficiency  
Heat Networks

### Issue

Government ambitions for a secure, net zero, and cost effective electricity system rely heavily on the rollout of low carbon assets that can function in a smart way such as electric vehicles and heat pumps. However, due to regulations held over from an EU Directive, over 99% of assets may be prevented from being paid for smart performance.

The **Measuring Instrument Regulations 2016** (MIR), retained from an EU **Directive**, contradict government policy on smart assets, including the **EV Charge Point Regulations 2021 (EV Regulations)** and the **Energy Act 2023**.

The ADE presented to the Select Committee on this issue on Wednesday, 8 November 2023.

### Further Context

How electricity is traded is rapidly changing and therefore the means for measuring it is evolving in parallel. Our electricity bills are determined through an electricity meter that measures all electricity used on the premises, called a boundary meter. However, 'smart' low carbon assets such as electric vehicles and heat pumps may be fitted with dedicated meters that can help the electricity grid and make customers money in the process. Asset meters only measure electricity imported or exported by that asset, allowing customers to optimise appliances in an intelligent way and be rewarded for that performance. While Government policy has championed the uptake of these assets, the regulations that govern electricity meters have not kept pace.

### Recommendations

Through cross departmental collaboration between DESNZ and the Department for Business and Trade (DBT)(owners of MIR policy and enforcement), this issue can be resolved as follows:

- DBT update the MIR enforcement guidance to acknowledge that devices that are not compliant with MIR will not be precluded from participating in demand side flexibility trading until a future regulatory framework is implemented.
- DBT consult on and amend MIR to remove the requirement for EVSCPs and Energy Smart Appliances, as defined by the Energy Act, to have an in-built display.
- DESNZ consult on and amend the EV Regulations to align them with the remaining MIR requirements on accuracy and conformity assessment standards, so as to avoid any future confusion between the two regulations.
- DESNZ ensure that ESA regulations enacted under the Energy Act are in alignment with the amended MIR from the outset.
- DBT review the processes by which Approved Bodies classify devices as being MIR compliant, ensuring that no additional external hardware elements are required than those mandated in the regulation itself, including blinking LEDs.

### Conclusion

The ADE considers that these recommendations should be enacted as a matter of urgency, in order to unlock multiple benefits, including:

- Ensuring the £140m spent by Government to accelerate **smart EV charging rollout** and £30m on innovation funding for **vehicle to grid technologies** is not wasted by replacing all devices.

- Lowering the cost of net zero and deliver up to £10bn in savings as set out in the **Smart Systems and Flexibility Plan**.
- Ensuring the 600,000 heat pumps **set to be deployed** per year from 2028 are able to function in a smart way, delivering savings for the customer and the wider system.
- Helping UK industry participate in the **net zero transition and ensuring security of supply** by adopting smart processes.
- Strengthening the UK's energy sovereignty and security by making better use of homegrown electricity generation.