

Judith Ross  
Energy Systems Integration Team  
Ofgem

Contact: Helen Inwood  
Telephone: 07795 354788  
Email: Helen.Inwood@npower.com

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TCR@ofgem.gov.uk

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**Response to: Targeted Charging Review, a consultation**

Dear Judith

innogy SE is a newly established European Energy company. Formally part of RWE AG, innogy SE has three business segments: Grid & Infrastructure, Retail and Renewables. The UK is a core territory for both our Retail and Renewables segments.

Please find attached our response to the Targeted Charging Review Consultation. This reflects the views of innogy SE's UK segment: npower and innogy renewables UK Ltd.

We agree with Ofgem's proposal to look at issues via a Significant Code Review, however we feel that the scope of that SCR should be widened beyond that currently outlined in the TCR consultation. We consider that a full, cross code review should be performed – spanning all network charging arrangements including forward looking charges and residual charges. This will require a full review of distribution and transmission network access arrangements, which complements work being undertaken by Ofgem and other stakeholders (e.g.: NGET and ENA). Access arrangements to the ancillary services market must also be considered in the context of smart, flexible network arrangements to ensure that charging arrangements provide appropriate investment signals to network users. All these issues are linked and the opportunity to consider these in a joined-up fashion with other current work streams is valuable, and should not be passed by.

It is important to recognise the need for transparency and predictability of regulatory changes to market participants and customers. The implementation of the changes should be managed in such a way to avoid windfall gains and losses. It should provide sufficient notice to enable consumers on pass through charges and market participants to plan and budget for the changes. It should also allow sufficient time for changes to Industry and supplier systems that are required.

Kind Regards

*H. Inwood*

Helen Inwood  
Network Charging Manager  
Innogy SE

## **ANSWERS TO CONSULTATION QUESTIONS**

**Question 1: Do you agree that the potential for residual charges to fall increasingly on groups of consumers who are less able to take action than others who are connected to the system, is something we should address?**

**AND Question 2: If so, why do you think, or do not think, action is needed?**

Yes, we do agree that the issue of residual charges needs to be addressed. All users connected to the system should pay a fair contribution to the common costs that are incurred to run the network which cannot be allocated to individual users. The locational and time of use signal should also be a core feature of the wider suite of tariffs. However, we strongly believe that Ofgem should widen the scope beyond what is currently described in the consultation to take the opportunity to use the SCR process to look more holistically at Network Charges. The outcome of this SCR should be to provide a cost reflective solution which is future proof.

Network charges should be transparent and should reflect the costs of the network to all connectees regardless of the user group. Residual charges should be recovered from the whole connection user base in a manner that is transparent and proportionate. Vulnerable and inflexible customers should be provided a relief through complementary policies/ measures. Ofgem needs to work with Government to ensure that 'fairness' is achieved. The seasonal time of use / locational signal should also be a core feature of the full suite of networks tariffs if National Grid believe that the resultant behavioural change can be quantified and results in a benefit to the wider system (and as a result all users). i.e. behaviour changes ultimately result in the reducing the need for network reinforcement.

**Question 3: We are proposing to look at residual charges in a Significant Code Review. Are there any elements of residual charges that you think should be addressed more urgently? Please say why.**

The SCR should look at all Network Charging issues in a holistic manner.

The scope proposed for this SCR seems very limited, given the pace of change on the way that the network is being used. We do not believe that the proposed scope of the SCR will meet the needs of the future network and would suggest that Ofgem consider widening the scope of the SCR to make the Network Charging Methodologies more cost reflective and 'future proof'. The benefit of doing such a holistic code review would mean that everything is looked at together. Piecemeal changes could even take longer and result in considerable uncertainty for consumers and market participants (including a range of business who are considering significant investment in generation / storage projects to support future grid / capacity schemes) alike, as well as giving conflicting price signals. A holistic review would require, and complement, the other areas of work being taken forward within Ofgem and across other stakeholders (e.g.: NGET, ENA).

So, while we agree that residual charges need to be looked at, there are many other areas that we believe Ofgem should be considering as part of the Significant Code Review.

These include:

- Is the residual charge truly made up of non-locational / sunk costs, or does it, due to the limitations of the existing charging methodology, include other elements which could be classed as locational? Are certain elements currently treated as residual costs that could be allocated to users as forward charges? Are the current charging models still fit for purpose or could they be improved upon to increase cost reflectivity?
- What is the impact of the 2.50 euro/MWh generation cap on the residual? How should that be dealt with?
- Over what charging base should the costs be recovered?
- Why are generator transmission charges in GB amongst the highest in Europe?

Now is the time to really take the opportunity to make Network Charges fit for the future. Are the current arrangements really an appropriate way to charge for Network Use of System moving forward? For example, is a split between Distribution and Transmission charges really still appropriate given that Distribution companies will need to become DSOs? Given that Distribution Network Operators (DNOs) and Transmission connected demand and generation are the parties connected to the transmission system, we believe that a more appropriate model would be for those parties to be charged directly for their use of the transmission system. DNOs would then pass the charges they pay through to suppliers in a cost reflective manner.

A similar DNO-centric model could also help provide the economic signals for DSO operations to align with the needs of the SO.

If these issues we have raised here are not dealt with now, it is inevitable that they will need to be dealt with by Ofgem in the future which will result in further disruption and uncertainty for customers and market participants of all types. The opportunity to address these issues in synergy with other, currently ongoing, industry reviews (e.g.: TSO-DSO Project) should be capitalised upon to ensure high quality outcomes and maximum benefits to the consumer.

We wish to re-emphasise our concern that Ofgem's current 'minded to' position on CMP264/CMP265 to address market distortions and consumer impact of an escalating demand residual is unhelpful. It provides simply a 'sticking plaster' to the problem, rather than addressing the underlying defect. As we have stated in our response to the CMP264/CMP265 'minded-to' consultation, we believe that the scope of this TCR / SCR should be to identify and resolve the underlying problems with the current charging regime.

There will be winners and losers when this problem is addressed. Regulatory charges, by their very nature, should not result in windfall gains and losses for consumers or market participants nor should there be such uncertainty around charges and changes to them. For this reason, we believe that implementation should take place 3 years after the decision date. This will provide sufficient notice for

consumers on pass through charges and market participants to enable them to plan and budget for changes. This timescale will also allow time for consumer contracts to unwind and for suppliers to reflect the changes into contracts moving forward (typically, consumers will sign a 1, 2 or 3 year deal with their supplier). It will also allow sufficient timescales for any changes to industry and supplier systems.

This implementation period would also provide sufficient time to enable any mitigating changes within the taxation or benefit system to be delivered, should such an option be required (noting the Dutch example highlighted in paragraph 4.10 of the consultation).

**Question 4: Are there elements of the approaches in other countries that you think could be appropriate for GB residual charges?**

Yes, however international Residual charging examples need to be considered together with how forward looking charges are set in order to avoid unintended consequences in learning lessons for GB. Ofgem should proceed with diligence, keeping in mind that other jurisdictions' residual charges are just one part of their charging regime and cannot be separated out to be considered in silo as a comparison to the current GB model.

Simplicity of design is important: It is also important to keep the solution as simple as possible i.e. avoidance of the need to collect new information from customers that will not be available to the appropriate parties through the smart metering programme, avoidance of new data flows between suppliers and the industry, and the need for ease of implementation / consumer and industry billing.

Regulator led communication: helpful for ensuring that changes and impacts are clearly explained to consumers. The task of publicising changes should not just be left for suppliers.

**Question 5: Are there other approaches that you know about from other jurisdictions, that you think offer relevant lessons for GB?**

Limitation on country selection: The selection of countries studied by TNEI is arbitrary (i.e. based on the language skills of the consultancy team) – further targeted and systematic literature review would be recommended for Ofgem's next steps.

Additional country models: We have come across some further interesting papers for Ofgem to consider:

- Poyry (2009) Optimal network tariffs and allocation of costs (Norway)
- Brattle Group (2014) Structure of Electricity Distribution Network Tariffs: Recovery of Residual Costs (International study)

**Question 6: Do you agree that our proposed principles for assessing options for residual charges are the right ones? Please suggest any specific changes, or new principles that you think should apply.**

Transparency of residual charges (and all network charges) should be added. It is not transparent what costs are 'common' and end up being recovered via the Residual charges. Residual charges should serve to recover the true sunk costs of the networks.

Predictability of all network charges should be added to the list of principles when assessing options. As stated in Q3, for this reason, we believe that implementation should take place 3 years after the decision date. This will provide sufficient notice for consumers contracts and market participants to enable them to plan and budget for changes. This timescale will also allow time for consumer contracts to unwind and for suppliers to reflect the changes into contracts moving forward (typically, consumers will sign a 1, 2 or 3 year deal with their supplier). It will also allow sufficient timescales for any changes to industry and supplier systems.

Avoid rate shocks: Network Charges, by their very nature, should not result in unexpected windfall gains or losses to consumers or market participants. There should be a key principle that changes to charging should be implemented in a manner that do not provide windfall gains or losses.

**Question 7: In future, which of these parties should pay the transmission residual charges: generators (transmission- or distribution-connected), storage (transmission- or distribution-connected), and demand, and why? What proportion of these charges should be recovered from each type of user?**

The answer to these questions should be an output to the SCR. Targeting of charges needs to avoid bias to any specific technology or network user group.

The proposal to apportion all residual charges to demand customers, with no residual generation charging is something we support in principle but it would require the implementation timescale that we have proposed in Question 3 to be applied, to avoid rate shocks. EU Regulation ECR 838/2010 (the current €2.5/MWh cap on average generation charges) is preventative of the generation residual being zero. Under current charging arrangements the generation residual is key to ensuring the cap is not breached.

In our response to the call for evidence last year, we proposed that storage should continue to be liable for the same charges that other generation assets would be liable for, noting that if storage were exempted from the transmission demand residual, it would send perverse pricing signals (as one would expect the storage units to be exporting, not importing at peak periods).

**Question 8:** In future, which of these parties should pay the distribution residual charges: generators (transmission- or distribution-connected.), storage (transmission- or distribution-connected), and demand, and why? What proportion of these charges should be recovered from each type of user?

The answer to this should be an output to the SCR. Targeting of charges needs to avoid bias to any specific technology or network user group.

**Question 9:** Do you support any of the five options we have set out for residual charges below, and why?

The option selected via the TCR should be simple and practical – from both an Industry billing and Supplier billing point of view. It should not result in additional data to be collected from customers that will not be available to the appropriate parties through the smart metering programme, or additional changes to data flows in order to handle the changes. It should not provide the ability for customers to change their behaviour in order to avoid the residual charge.

- For this reason, we cannot support Option C as we do not believe that a connected capacity based on fuse size is workable. This data is not currently shared between market participants, and even if it is available (Meter Operator / DNO systems?), the data is probably not maintained.
- Fixed and net consumption based charges would provide a clear methodology for charging, improve the distribution of residual cost recovery and limit consumers' ability to avoid paying residual charges.
- Gross consumption based charging would be practically difficult since it would involve the industry holding and sharing information that is not currently available. It would also potentially result in major changes to Industry and supplier billing systems.
- Any hybrid arrangements (e.g. different customer groups paying on a different option for residual) must have very clear rules around it and guard against the potential for movement between the options for the purposes of avoiding/reducing costs without cause.

All of the options presented suggest a very significant change away from the status quo of net peak based residual charging. As such, we ask that the SCR considers transitional arrangements to be practical and to ensure there are no windfall gains and losses as an outcome of the decision. Given the significance of the required changes we request that a 3 year notice is provided from the point of decision to implementation. This would accommodate the necessary supplier and network company system changes and ensure supply customers are not taken by surprise by the change.

**Question 10: Are there other options for residual charges that you think we should consider, and why?**

Alongside examining the range of options for residual recovery, we would encourage Ofgem to look at and explain what goes into the residual charge itself. Is the large residual charge simply a consequence of the inadequacies of the current charging methodology- i.e. do the forward charges recover enough of the future costs that individual users impose on the system? The costs relating to 'joint' or 'common' costs are very high in proportion to the recovery that is attributed to users. This is especially apparent if you look at the ratio of forward looking and residual recovery in other countries. We encourage Ofgem to widen the scope of the SCR to include examining this fundamental charging issue. See our answer to Question 3 for further detail on our thoughts regarding widening the scope of the SCR.

The output from examining what the residual charge is made up of, and whether this is correct, is quite fundamental to considering the recovery options for residual charges. For example it would determine the magnitude of a 'fixed charge' per consumer group and how fair this would be perceived to be.

Ofgem should also acknowledge that a key driver for residual charge recovery increases is the increased regulatory allowance for network companies. Network company profits should be subject to greater scrutiny and more cost efficient solutions to network development and operation should be driven by the regulator.

**Question 11: Are there any options that you think we should rule out now? Please say why.**

All options warrant proper examination through the SCR. A wider holistic review is required to ensure that Network Charges are fit for the future. Our response to Question 3 outlines other aspects of the charging regimes that we would encourage Ofgem to look at.

**Question 12: Do you think we should do further work to analyse the potential effects of the charging arrangements for smaller EG (called 'embedded benefits')?**

Further work on analysing the effects of charging arrangements for smaller EG, and analysing in detail how this compares to arrangements for other generators is required.

Firstly, regarding TDR charges CMP264/5 should only be considered as an interim solution. It is important that the TCR defines the enduring solution by addressing the fundamental causes of this issue (see Question 13 for further detail).

Secondly, independent research should examine the impacts of charging, grid and market access arrangements- identifying the differences between transmission and distribution connected generation. We are concerned that what this consultation paper presents is one sided, focusing on the 'benefits to EG' while not reflecting on relative 'benefits to non-embedded generators' such as the ability to access SO markets or shallow transmission connection charges. If this is not done as part of the TCR specifically,

it is important that the charging arrangements are considered concurrently via the BEIS-Ofgem review of flexible smart systems. It is important that network charging is not looked at in isolation from these other aspects. Considering all the arrangements together is pivotal to ensure that a level playing field for all energy market players is created.

**Question 13: Do you think changes are needed to the current charging arrangements for smaller EG, and when should any such changes be implemented?**

TDR payments are a priority that need correction. Our response to the CMP264/5 minded to position is that the scope of CMP264/5 is simply too narrow in its approach to provide an enduring cost reflective solution. We would advocate a holistic review of the transmission charging model to deliver a fair and cost reflective outcome for all users of the transmission network. This may involve extending to other time periods for example consumption all year round, peak year round etc. A key question whether ACS winter peak alone is the determinant for demand reinforcement need and whether this alone should be the sole determinant of demand charging in a smart and flexible system. The charging must reflect customer's use of the network. Any review of the charging model must lend itself to delivering a future proof solution where possible.

Instead of the rushed yet enduring CMP264/5 Minded to Solution that has been presented, the more considered approach would be an immediate freeze to the embedded generator triad value to limit consumer costs, and to allow for the TCR to establish a more enduring solution.

Exporting GSP TNUoS charging arrangements need to be examined- it is logical to address this at present while seeking more cost reflective arrangements for other aspects of TNUoS related charging of embedded generation. The TCR should include this.

**Question 14: Of the embedded benefits listed in our table, do you think that any should be a higher or lower priority?**

We have acknowledged that the TDR payments issue deserves some priority within the TCR.

Regarding the description of BSUoS arrangements presented in this consultation – this consultation wrongly states that smaller EG do not pay BSUoS – actually at GSPs where Suppliers are incurring charges due to exports these charges are levied back on embedded generators.

There is no justification for singling out the BSUoS arrangements for embedded generators at a time when a wider review of BSUoS arrangements is in the pipeline via the 'flexibility and future strategy work'. This should look at both generation and demand BSUoS charging together and look at the question of BSUoS charges at exporting GSPs. Ofgem should also consider the pros and cons of a DNO vs supplier model for BSUoS charges. DNOs and transmission connected generation / demand are connected to the transmission system and should be responsive to SO signals. Could one solution be that Transmission



connected generation demand and distribution companies pay for BSUoS charges? DNOs would then pass their charges through to suppliers in a cost reflective manner? This model could help provide the economic signals for DSO operations to align with the needs of the SO.

Net charging principles deserve continued merit when it comes to enduring BSUoS charging and this option should not be excluded from the wider review. BSUoS charges are measured on a HH basis and the net treatment is cost reflective as it reflects the actual flows on the transmission network. Note that the supplier and the generators they account for pay the BSUoS generation charge in any HH that the GSP is exporting because the system operator is handling that export.

A related question that BEIS and Ofgem should provide some formal clarity on is how DSO balancing costs should be recovered now and in the future. An explanation of how the RIIO framework may be sufficient would be important for stakeholders to understand. Equally, if a different set of charges may emerge then as much foresight as possible would be really helpful.

**Question 15: Do you think there are other aspects of transmission or distribution network charging which put smaller EG, or any other forms of generation or demand, at a material disadvantage?**

With network charging the aim should be converging of network charging arrangements- and ultimately there should be no artificial divide on T vs D connections. Charges should all follow the same principles of cost reflectivity in a transparent way. Ofgem could confirm a timeline to achieve this ambition and this would help stakeholders understand the longer term future of network charging.

We feel that the way this question and accompanying chapter has been presented is too narrow in scope – the disadvantages for EG come from lack of access to ancillary services, constraints management – firmness of access and payment arrangements, deep connection charges etc. Looking at network charging arrangements in isolation is likely to create unintended consequences and is likely to exasperate market distortions and any inefficient costs for consumers.

A revision of ancillary services should be a priority for Ofgem as there is a bias towards large conventional fossil fuelled generators against renewable energy generators, storage and DSR in the way that ancillary services are described and procured. To achieve decarbonisation commitments it is **important to ensure** these markets are transparent and open to all so that flexibility can be delivered at the lowest cost to the consumer.

**Question 16: Do you agree with our view that storage should not pay the current demand residual charge, at either transmission or distribution level?**

Ofgem must decide on the future mechanism for Residual recovery before residual charging for flexibility providers is considered and changed. The current system of demand Residual recovery does influence network user behaviour and therefore a removal of the charge would have significant impacts on both

the use of the grid and long-term investment decisions. Under the current Triad system if Ofgem were to remove the demand residual charge from storage it would signal that adding stress to peak flows for stand-alone storage has no cost to the system. In fact storage import at peak load will exacerbate network flows.

In general network charging must be technology agnostic. Making the proposed change for standalone storage will also create undue discrimination between generation and 'storage'; pumped storage and 'storage'. Moreover, this would differentiate between standalone storage and sites with storage and generation and sites with storage and demand. There is no reasonable justification provided for this in the consultation paper.

For transmission connected generators- all of whom also have demand:

"TNUoS demand charges for generation customers are liable if a generator takes energy (demand) at time of Triad (information on which can be found here, under 'Triads Information')" (NGET, 2017 ).

For pumped storage:

It is treated as a 'conventional generator' and as such the above applies to its demand residual charges.

It is also worth noting that storage is a provider of flexibility – but it is not the only one, and therefore any changes that are not technology agnostic must be avoided, as there are other providers of flexibility (DSR, generation). Any such changes may lead to unintended outcomes and a sub-optimal outcome.

We are concerned with the plan (set out in paragraph 8.11) that the proposals (i.e. removal of the demand residual for both distribution and transmission connected storage) could also potentially distort the type of storage (whether co-located with generation, stand alone or co-located with demand).

It is unclear from the consultation document why such a distinction should be made for storage; the explanation provided in paragraph 8.5 seems to misrepresent the benefit of storage, which states:

*8.5 – storage can also sometimes compete with demand, to take excess generation off the network and help balance the system. However a key difference between demand and storage is that demand is an end user of electricity; its primary purpose for connecting to the network is not for the provision of energy or flexibility services, unlike generation and storage. When the electricity provided by the storage operator is consumed by an end user, demand residual charges apply.*

In these circumstances, the outcome of the storage in taking off the excess generation is to help balance the system and (potentially help avoid constraining off wind / other excess generation - but if that output (the service) can be provided by other network users, such as demand sites through DSR who may turn up production (or reduce their onsite generation) both providers of that service should be treated the same – in terms of their exposure to the residual costs.

**Question 17: Do you agree with our view that storage should not pay BSUoS on both demand and generation?**

No – and we do not agree with the policy proposal that would consider changes to BSUoS for storage alone, outside of a wider consideration of BSUoS costs.

This consultation does not convincingly set out that there is discrimination for storage.

For storage that is a BMU our understanding is that:

“For Balancing Services Use of System (BSUoS) charges Storage is treated as any other Trading Unit...Therefore, if in any settlement period a Trading Unit generates, they will pay the delivering BSUoS charge. However, if in any settlement period a Trading Unit takes demand, they will pay the offtake BSUoS charge. The BSUoS charge is calculated on a net energy basis within a settlement period which means a storage unit can reduce BSUoS liability if it both stores and releases energy during the same settlement period”. (NGET, 2017 ).

As a distribution connected storage site there is a choice to not be a BMU or not. Dependent on the exact metering arrangements double charging of BSUoS can be avoided by either. Therefore the case to change arrangements is not strong.

See also our response to questions 14 & 16, the proposal as outlined in paragraphs 8.11 and 8.12 would also seek to drive distortion between different types of storage (stand alone, co-located with generation and or co-located with demand). Without clarity on the likely impacts on future decisions for connection type and location, any such unilateral changes should be avoided.

**Question 18: Which of the BSUoS approaches described is more likely to achieve a level playing field for storage?**

As per our answer to question 17 - we do not believe either approach would be likely to achieve a level playing field for storage, given the proposed difference in application suggested (paragraphs 8.11 & 8.12).

**Question 19: Do you think the changes in this chapter should be made ahead of any wider changes to residual charging that may happen in future? Do you agree with our view that these changes should be implemented by industry through the standard code change process?**

No, we have not been presented with convincing evidence that there is critical discrimination against storage in particular from the current arrangements that requires urgent remedy. Any such changes should be considered under the SCR and considered holistically, rather than seeking to make unilateral changes for one type of network user only.

**Question 20: We would welcome your thoughts on the potential make-up of a CCG. Please refer to the potential role, structure, prioritisation criteria and assessment criteria.**

It is vital to have a good mix of attendees in the CCG. This group should include, but not limited to, generators (both traditional and renewables, suppliers (large and small), customers /customer groups, aggregators/ storage operators/ network and system operators etc.). A balance of attendees within the CCG should provide a more holistic solution. Innogy would be very keen to participate in this group from both a supplier and a renewable generator perspective.

We recognise not everyone who wishes to be part of this group will be able to take part. It is therefore important that what is discussed in the meeting is made visible and transparent to those who are interested. Agendas / presentation packs / minutes of the meetings should be openly available. We would also encourage Ofgem to provide dial in facilities / webinar should parties wish to observe.

**Question 21: Do you agree with our proposed delivery model, including its scope?**

It would be useful to see more detail behind Figure 4 on page 58 of the document. We do not feel there is enough detail provided on how this work will be carried out in practice. Please see our response to Question 20 regarding the make up of the group.

**Question 22: Do you agree that our proposed SCR process is most appropriate for taking forward the residual charging and other arrangements for smaller EG discussed in this document?**

Yes. However, as already stated, we believe that the scope of the work should be widened and the SCR should be the main route to take this forward. Other interim measures we regard as a 'sticking plaster' on a more fundamental issue. We would urge Ofgem to incorporate this into the SCR process and address holistically the current issues around Network Charges.