

Cover Letter

Ofgem Future Networks Team

May 2023

Dear Colleagues

Response to consultation on frameworks for future systems and network regulation: enabling an energy system for the future.

This response is provided by the FPSA Group, an informal collaboration of experts from the Energy Systems Catapult and The Institution of Engineering and Technology, with wide experience across the whole energy system. The Group was formed around the Future Power System Architecture (FPSA) programme¹ and is now actively supporting energy system transformation in pursuit of Net Zero.

We welcome Ofgem's review of future network regulation, and Ofgem's recognition that electricity transmission and distribution grids are a potential obstacle to Net Zero. But it is not enough to just remove obstacles. In our view, the transition to Net Zero, with affordable, secure energy supplies, cannot be realised without fundamental change to the way that electricity networks are planned, operated, and regulated. It is critical that future network regulation must enable the whole system transformation necessary to enable the 'just energy transition' to Net Zero.

[The RIIO model](#)²

Electricity and gas network price controls have evolved over the last 30 years, initially being focused on incentivising efficiency improvements, and now are focused on funding new investment to support the energy transition. The overall regulated network asset base now totals some £84 billion but this will need to increase substantially to enable Net Zero.

The RIIO regulatory model was designed to incentivise investment and innovation, but many challenges have emerged from its application. Many of these were also highlighted in the recent report by the BEIS Parliamentary Scrutiny Committee 'Decarbonisation of the power sector'³.

- The RIIO approach is highly siloed, setting price controls for individual companies and not taking an integrated whole system perspective.
- The use of different planning assumptions and future scenarios by individual companies means that the plans may be inefficient from a whole system perspective.
- The price control settlement process is lengthy, highly detailed, and resource intensive, meaning that it is difficult for stakeholders to effectively contribute to, or challenge company plans or Ofgem decisions. Company plans have become increasingly voluminous to support their regulatory negotiations.
- A combination of speculative connection applications, a lack of anticipatory investment, a weak focus on future customers and commercial drivers to defer expenditure has resulted in a grid connection queue where some low carbon technologies cannot connect for a decade or more. Such uncertainty will significantly affect future network investment plans.

¹ The FPSA programme undertook the analysis needed to understand the functions that would be demanded of the future power system and considered the innovation, implementation and governance needs that would have to be addressed.

² Ofgem's regulatory framework is known as RIIO (Revenue = Incentives + Innovation + Outputs). Further information can be found at [Handbook for implementing the RIIO model \(ofgem.gov.uk\)](#)

³ <https://committees.parliament.uk/publications/39325/documents/193081/default/>

- The first RIIO price controls have been criticised as being overly generous with companies earning high returns from the incentive regime, including from delaying, or avoiding investment in load related expenditure. The emergence of windfall gains from Net Zero expenditure may undermine consumer support for the energy transition.
- RIIO price controls are becoming highly complex. For example, at a time of rapid change, ex-ante uncertainty mechanisms to ensure timely expenditure appear an appropriate way of making sure the plans are adaptable, and that desired outcomes are realised. But these may be difficult to apply effectively and responsively, leading to unintended consequences, such as delayed investment.
- Ofgem's monitoring of price control performance is very high level and focused on compliance with the regime rather than gathering information to give insight into networks to enable future decisions relevant to Net Zero.

The future network regulatory regime should seek to address these challenges, such that a timely, secure, and affordable transition to Net Zero can be realised across the whole energy system.

Future network regulation

We welcome that Ofgem recognises that generation and network investment should be better coordinated and that networks should be upgraded in advance of the large numbers of low carbon assets. We agree with this approach but consider much more needs to be done to ensure an agile, whole system approach is pursued. While investment in increased network capacity is a valuable enabler of Net Zero, decentralised energy resources and local energy markets can also play a valuable role by optimising the use of existing networks.

Some good progress is being made. We welcome the proposals to move towards an 'Invest and Connect' model in transmission where grid expansion occurs in line with top-down plans prepared by the Future System Operator in anticipation of generation and demand. Over the last year, the Holistic Network Design (HND) and the £20 billion Anticipatory Strategic Transmission Investment (ASTI) programme are a welcome step to achieving this goal.

In the consultation, Ofgem sets out several common themes for a future regulatory framework that delivers value for consumers across the whole energy system. Ofgem proposes that the framework is expected to deliver benefits to consumers by:

- Ensuring consumers get a fair deal now and in the future.
- Accounting for networks' critical role in delivering an efficient, resilient, and interconnected energy system.
- Enabling the rapid pace and extent of change and investment needed to deliver net zero.
- Ensuring digitalisation delivers all its potential for wider system benefits.
- Ensuring continued investor confidence through focus on the finance ability of networks, which is a key enabler of a low-cost transition.

While these are all welcome themes and benefits, they are framed as broad ambitions or pledges rather than objectives with measurable outcomes. They will involve trade-offs and cannot all be satisfied at the same time. We suggest the inclusion of outcomes would better enable a balance of priorities across these conflicting themes.

Also, we consider that there is an important area of omission. It will be critical for effective coordination across the whole energy system to achieve Net Zero as future network regulatory frameworks are planned and implemented. Appropriate governance will be required to achieve this, involving various Government Departments as well as Ofgem.

Archetypes for future network regulation

We welcome Ofgem's proposals for alternative archetypes for future network regulation to address the following questions:

- What needs to be done (how is investment specified)?
- What will ensure that it is delivered at efficient cost?
- How will consumers be assured it has in fact been delivered?

We have provided our responses to the consultation questions in the attached annex. In summary, we consider that Archetypes 1 and 2 represent appropriate frameworks for future network regulation. They build on existing arrangements in RIIO2 and should serve to attract investment while simplifying price control processes and increasing the focus on delivery of Net Zero in an affordable and resilient way. Archetype 3 is presented as a cost-pass through mechanism which may not either deliver value for money or Net Zero objectives.

Ofgem's expectation is that effective future network regulation will increasingly need to consider a combination of these archetypes, and that different combinations may be suitable in different sectors. However, these Archetypes are very high level and it's difficult to see at this stage how they will offer the intended benefits in practice.

Our key concern is that these Archetypes do not fully address the themes Ofgem has described for future network regulation, nor our recommended need for coordinated planning, investment delivery, and governance across the whole energy system. *'All socioeconomic classes should benefit from the national infrastructure equally and not be dependent on status, position, or ability to pay and negate fuel poverty. The equality extends to impact on environmental ecosystems and subsystems (e.g., health).'*

Achieving the energy transition requires major engineering and system redesign from a whole system perspective, encompassing digitalisation, industry processes, integration of technology applications and so on, and making it all work in a joined-up way. This cannot be done by Ofgem alone.

We trust these comments are helpful and we would welcome an opportunity to engage with and support the future network regulation process.

Yours faithfully

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[The Institution of Engineering and Technology Energy Panel](#) and [the Future Power Systems Architecture \(FPSA\) Group](#).

Annex: Responses to Ofgem questions

Customer voice

Ofgem is seeking views from companies, customer representatives and other stakeholders on the appropriate role for stakeholder engagement in future price controls.

Q.1. What should the role of the ‘consumer voice’ be and through what institutions and processes should it be channelled?

Comments

Achieving an energy transition to Net Zero is the major challenge of our times, requiring a major change to sources of supply, energy applications, and customer behaviour. It will require dramatic changes to the way in which our energy infrastructure is designed, operated, and governed.

We agree that the consumer voice is a critical part of the network regulation process, and it is important to ensure that there is a balanced approach to this. As such, it will be important that system and network regulation fully reflects all customer interests – from those that want to invest in heat pumps and electric vehicles, to those that cannot afford increases in their electricity bills.

To deliver the energy transition successfully, we suggest that there is an important role for an independent expert voice from the engineering institutions to be heard alongside those of consumers. Achieving the energy transition requires major engineering and system redesign from a whole system perspective, encompassing digitalisation, industry processes, integration of technology applications and so on, and making it all work in a joined-up way. Ofgem should more actively seek a much wider range of inputs into its detailed review processes. We would be delighted to engage with and support the future network regulation process from this perspective.

Turning to the role of the consumer voice, we suggest that this should take the form of an advisory body to support Ofgem and the ESO, in which we would be pleased to participate. There needs to be a local voice as well – this could be enabled by Ofgem’s proposed Regional System Planners liaising with Local Authority energy plans.

We also note that Ofgem has discounted the negotiated settlement approach, which we think is correct. It is difficult to see how a negotiated settlement would work when energy industry stakeholders have little commercial incentive to engage, and customer stakeholders do not have the resources to undertake Ofgem’s current role.

Archetype 1: ‘Plan and Deliver’

Ofgem describes the ‘Plan and Deliver’ model for network company regulation as the need for investment and the outcomes from that investment are not identified by the network companies. Instead, the process by which investment is procured in a way that both meets customer needs and reflects efficient delivery is as follows:

- The external system planner determines a need for specific activities on the network (new investments, upgrades, etc).
- The planner then identifies the most efficient delivery model for that activity and defines outputs or outcomes that represent successful delivery; and
- Ofgem's role will include the decision on process to ensure delivery at efficient cost, using commercial market mechanisms (where appropriate), rather than upfront cost assessment, and monitoring of effective delivery against outputs.

Q.2. How detailed could an independent, cross vector view become to determine future plans for periods beyond RIIO-2 and support effective use of the 'Plan and Deliver' model?

Q.3. Under what circumstances would competition, or other procurement models such as open book contracting, have benefits over ex ante incentives as a cost control mechanism?

Comments

Under this model, the external system planner identifies the need for activities on the network and determines how they will be delivered. The FSO will be expected to perform this role.

The potential advantages of this approach are that it could:

- *help to address concerns about information asymmetry between Ofgem and network companies, by having an independent, expert organisation review the information.*
- *assist in ensuring whole system coordination by using common planning assumptions to identify the efficient investment needs across all network companies.*
- *enable the system planner to determine required delivery outcomes.*
- *reduce the Ofgem and industry resources for planning and plan assessment, with Ofgem focusing more on a financing and monitoring/enforcement role.*

The main disadvantages of this approach appear to be:

- *information asymmetry would still be prevalent, but now between the FSO, network companies and other stakeholders.*
- *without significant expansion of knowledge, resources, and stakeholder engagement, the FSO would be unlikely to have the capability to develop detailed whole system plans, which risks that such central plans are either inefficient or ineffective.*
- *in an increasingly decentralised transition to Net Zero, the development of necessarily complex central whole system plans may place a drag on decision making processes.*
- *similarly, the need for a central planner to determine delivery plans may impact on the agility needed for decentralised investment delivery.*

Overall, whole system central planning has its advantages in ensuring coordination of national planning scenarios, and targeting major investments in the transmission networks, but appears less suited to the local planning and delivery activities which must become increasing agile as customers engage with the energy system. However, Regional System Planners (as proposed by Ofgem's local governance reforms can help ensure coordination of national and regional energy planning, with network companies responsible for technical design.

Turning to the alternative procurement proposals – competition for new asset delivery can be the most effective way of achieving the best outcome in terms of cost, time, and quality, as has been demonstrated by the roles of IDNOs and ICPs in relation to distribution network connections. Competitive delivery, with suitable governance, also reduces the risk that such assets are not built by network companies under their price control settlements and potentially increases the capability to deliver. New, large onshore and offshore transmission and distribution projects could all be delivered through competition.

But it is important that a proportionate approach is taken – where assets cannot easily be separated for competition, or competition procurement itself causes delays or inefficiencies, ex-ante allowances or open book approaches give more flexibility to licensees to deliver an interactive portfolio of projects.

Archetype 2: ‘Ex ante Incentive Regulation’

Ofgem considers that this is the model used in RIIO-2, is familiar in GB regulation, and is based on the need being proposed by the network company and approved by the regulator, with cost incentives for efficient delivery, and output incentives to ensure that customers get what they pay for.

Ofgem propose the following evolution of this incentive regulation beyond RIIO-2, including:

- Simplified cost incentives for ongoing ‘business-as-usual’ costs: a targeted return to a simplified cost efficiency incentive for more repeatable activity, or an ex-post review.
- Simplified output incentives if digitalisation allows more frequent and accurate monitoring of network company performance; and
- Simplified assessment of costs for ‘one-off’ investment projects through a combination of lighter-touch approaches to assessment and incentives

Q.4. What is your view on the options identified for simplification of incentive regulation? What would be the benefits and costs by comparison to the approaches used in RIIO-2?

Comments

The ex-ante incentive regulatory approach has worked well in GB regulation for the last 30 years, with the RIIO model increasingly adapting to an environment of incentivising increased investment. It has served to attract the many billions of new Net Zero investment needed to date and in the future. It has also realised significant benefits for consumers in terms of value for money and reliability.

The proposed evolutionary approach to RIIO proposed by Ofgem under this model would appear to offer the following advantages:

- *Maintaining attractiveness to investors by providing long term regulatory certainty and the opportunity to enhance returns through incentives. This will be important given the vast amounts of future investment needed.*
- *A simplified approach to cost efficiency and output incentives appears a pragmatic approach for business as usual and one-off projects where costs are more predictable. This should reduce the resourcing requirements but will still require effective monitoring of costs and outputs to be in place.*

- *Totex outperformance incentives should be retained such that company efficiencies on business-as-usual costs may be revealed in future, and commensurate action can be taken as needed.*

The main disadvantages would appear to be that:

- *Information asymmetry between Ofgem and network companies will increase.*
- *A new cost distinction may have the effect of reducing flexibility in the reallocation of totex between business as usual and other totex 'pots.*
- *Effective monitoring cannot be put in place, leading to uncertainty and disputes about measurement and award of incentives.*
- *Lighter touch assessment may not be to the benefit of either customers or companies if there is a residual uncertainty about the level of investment and incentives. Customers will be concerned about windfall gains being incurred by network companies, and companies will be concerned that simplified incentives will not deliver expected financial results.*

Overall, the main advantage should be in the prioritisation of price control planning and regulation resources by Ofgem, FSO and companies onto the areas of greatest priority to achieve Net Zero, whilst ensuring affordable secure energy supplies. In this context, it will be critical that plans and price controls are coordinated to achieve whole system solutions. It is likely that the prioritisation of whole system solutions will deliver significantly greater benefits that may be at risk through a lighter-handed regulatory approach to business-as-usual costs.

Archetype 3: 'Freedom and Accountability'

Ofgem also proposes a 'Freedom and Accountability' approach to delivery of investment by network companies. Under this model, Ofgem does not set upfront targets for costs or efficiency or require detailed investment plans. Instead, the process for procuring investment is to meet customer needs and reflects efficient delivery could be as follows:

- Ofgem determines the outputs and provides guidance on the form of monitoring for those outputs, based on a simplified upfront regulatory process.
- Licensees identify the most efficient delivery model to achieve the outputs and provides assurance to Ofgem that it has met the outputs.
- Ofgem reviews the outputs delivered and monitors costs on an ex-post and light touch basis. This may include some rewards or penalties for outperformance of specified targets.
- Customers are protected against companies earning above the cost of capital by fixing returns to a specific cost-plus level.

Q.5. What are the network activities where there would be benefits for a move to an ex-post monitoring regime, and what would be the associated costs?

Overall comments

The model proposes few upfront targets and a light-handed ex-post assessment approach. While it removes regulatory constraints to investment, this cost-plus approach with few regulatory controls is likely to encourage over-specification and over-investment in assets.

Ex-Ante controls have focused on both volume and cost efficiency. An ex-post regime must continue to address these. Output measures for investment in higher volume, in the right locations remain complex for comparative assessment. Ex-post assessment of cost and volume efficiency is also be considered a higher investment risk.

While there may be protections against exceeding a specified cost of capital, the cost of capital must be set at a sufficient level to attract investment so it's unlikely that this would deter over-investment.

Overall, from both value for money and whole system coordination perspectives, we have concerns about a price control design that invites network companies to determine their own expenditure needs in their particular industry silo. Incentives for whole system or non-network solutions are likely to be diluted.

We have set out our comments on the potential application of these alternative models for the electricity and gas transmission and distribution networks below.

Electricity transmission

Ofgem's diagram below illustrates that future electricity transmission expenditure is expected to comprise around 20% of Business as Usual (BAU) and Replacement, and around 80% across Reinforcement and New Build.

The model proposes that Archetype 2 is used for the BAU and Replacement expenditure, Archetype 1 is used for New Build, and a mixture of these is used for Reinforcement expenditure.

	1. Plan	2. Design	3. Procure & Build	4. Maintain	5. Review
Replacement/ BAU Archetype 2	Licensee: Ofgem	Licensee Ofgem	Licensee	Licensee	FSO Ofgem
Reinforcement Archetype 1/2	FSO Licensee: Ofgem	FSO Ofgem Licensee	Licensee (ex-ante allowance or open book) OR Competition	Licensee	FSO Ofgem
New Build Archetype 1	FSO	FSO Ofgem	Competition OR Licensee (open book)	Licensee OR Competition	FSO Ofgem

Figure 5. ET Example Model (for discussion)

Q.6. What are the benefits and costs of this approach for Electricity Transmission by comparison to an evolution of the approach in RIIO-2, and what are the implementation barriers?

Comments

Overall, we consider this to be an appropriate approach for electricity transmission. The FSO can play a critical role in identifying national transmission investment needs for New Build and Replacement.

This approach has already been demonstrated during 2022 by the publication of the ESO's Holistic Network Design and Ofgem's £20 billion ASTI investment decisions. We agree that the FSO can also play an effective role alongside Ofgem in reviewing the effective delivery of these investments.

However, a key issue for transmission projects is the long timescale from initiation to operation, and the changing energy landscape e.g., uncertain development of hydrogen resources or distributed energy resources, during these long delivery periods. This may lead to significant transmission investment scope changes that have to be accommodated. It will be important that the regulatory governance regime is flexible enough to both commit to long term investment plans, and to change them when it is necessary to do so.

Archetype 2, an evolution of the RIIO2 approach, appears appropriate for BAU/Replacement activities where a periodic price control is maintained to agree ex-ante expenditure targets and associated outputs.

Electricity Distribution

Ofgem consider that the net zero transformational transition for distribution is likely to soon become as far reaching as that seen in electricity transmission, with significant reinforcement of the network needed. Ofgem is considering how proposals for large new build in electricity transmission can also be applied in distribution, while recognising it will be critical to address the growing local electricity needs on a whole system basis and to maximise the opportunities for system optimisation.

Q.7. What is the potential for Electricity Distribution planning and commissioning to move to an alternative model by the end of RIIO-2, and what might be the benefits and costs of doing so?

Comments

The 5-year RIIO-ED2 settlement⁴ allows overall expenditure of £22.2 billion, with £3.2 billion (c15%) allowed for network capacity upgrades. In addition, uncertainty mechanisms have been used for these levels of investment to flex as needed.

This suggests that around 85% of this allowance may be considered to be Business as Usual/Replacement, much lower than expected for transmission. While this ratio may be expected to reduce in future as Net Zero distribution investment is required, a significant proportion of BAU activity is likely to remain.

However, distribution network investment and its associated regulatory framework is impacted by several uncertainties. These include:

- *Government policy to incentivise delivery of Net Zero targets across the whole energy system.*
- *Transmission capacity limitations which place restrictions on distribution network capacity and give rise to a consequent inability to offer new distribution connections until transmission constraints are addressed.*
- *A lack of visibility about existing network utilisation and available capacity due to incomplete network metering particularly at the LV network level*
- *The benefits of enhanced digitalisation and control to optimise network operation.*

⁴ <https://www.ofgem.gov.uk/sites/default/files/2022-11/RIIO-ED2%20Final%20Determinations%20Overview%20document.pdf>

- *Uncertainty about growth profiles and impacts of technologies such as storage, solar, heat pumps and electric vehicles, as each energy vector decarbonises.*
- *The growth of off-grid or behind the meter energy resources reduce reliance on distribution grids.*
- *The growth of local flexibility markets, and consequent optimisation of network capacity*
- *Changes in customer behaviour in relation to energy price signals*

Given such uncertainties, it appears appropriate that the regulatory framework remains sufficiently flexible to respond to the emerging pathway to Net Zero while ensuring that low regrets anticipatory investment is fully realised.

It appears that Archetype 2 is the most appropriate for Business as Usual and Replacement expenditure, and Archetype 1 is appropriate for additional investment requirements. In implementing Archetype 1 for distribution networks, it may be appropriate to develop a framework where packages of additional investment can be assessed as needed rather than waiting for the next price control process and decision. Regional System Planners (as proposed by Ofgem’s local governance reforms) can help ensure coordination of regional energy planning with distribution companies.

Gas Transmission and Distribution

Ofgem’s modelling suggests that 90% of RIIO-GD2/RIIO-GT2 spending will be on Replacement/BAU activities. This percentage is expected to reduce in the future, as more Decommissioning and/or Repurposing occurs in the longer-term; the timing and magnitude of this remains unclear.

The model proposes that Archetype 2 is used for the BAU and Replacement expenditure, and Archetype 1 is used for New Build and Decommissioning/Repurposing.

	1. Plan	2. Design	3. Procure & Deliver	4. Maintain	5. Review
Replacement/BAU Archetype 2	Licensee Ofgem HSE	Licensee Ofgem	Licensee	Licensee	FSO Ofgem
Decommissioning/Repurposing Archetype 1	FSO RSP	FSO Ofgem Licensee	Licensee (Open book OR cost discovery) OR Competition	Licensee.	FSO Ofgem
New Build Archetype 1	FSO RSP	FSO Ofgem	Competition OR Licensee (Open book)	Competition Licensee	Licensee FSO Ofgem

Figure 6. Gas T&D example model (for discussion), organisations are listed within each box in order of responsibility in that area this model

Q.8. What is your view on the most effective approach to regulation of Gas Distribution and Transmission beyond RIIO-2? What would be the benefits and costs of moving to a simpler approach to regulation of the ongoing costs of operating and maintaining the network?

Q.9. Should there be a shorter-term price control in gas distribution and/or gas transmission, and how could this work in practice?

Comments

We agree that a simpler approach of regulating Gas Distribution and Transmission could be adopted given that there are not expected to be major requirements for new capacity investment, and replacement is largely for safety reasons. However, it is important that these assets are considered in the context of whole system investment decisions alongside electricity networks and the other whole system elements. A holistic energy strategy is needed to give greater certainty about the future role of (methane) gas infrastructure.

Maintaining a stable financial framework

Ofgem highlight that the financial framework for any price control is key in enabling the network companies to attract capital and finance their activities and that GB electricity and gas networks currently have a combined Regulated Asset Value (RAV) of £80bn. Additions and improvements to this infrastructure must be paid for upfront, even if costs are recovered from customers over a long period of time. This means that it is vital that energy networks can raise sufficient and attractively priced investment capital from financial markets.

Q.10. Would there need to be any changes to maintain a stable and consistent financial framework if we were to make greater use of different regulatory archetypes, and if so, what would those changes need to be?

Comments

Given the huge, expected increase in future investment, we agree that it is critical that GB electricity and gas networks remain attractive to investors. The current RIIO2 regulatory regime appears to deliver strong investor confidence, as illustrated by SSE's recent sale of 25% of its transmission business⁵.

In order to maintain such investor confidence, it will be important that the regulatory regime gives ex-ante clarity on investment needs, and the associated revenues and incentives that will be available for delivery. The better that expenditure risks are defined and mitigated, the lower the cost of capital is likely to be, offering benefits to consumers. By contrast, the introduction of ex-post cost reviews with the risk of clawbacks or disallowances will add additional risks and increase the cost of capital.

Archetype 1 has the advantage that the needs, outcomes, risks, and returns are well defined for large new projects which can be assessed by network companies and investors. Risks can be mitigated through contracting strategies and regulatory uncertainty mechanisms.

Archetype 2, as an evolution of the existing RIIO2 model for BAU and non-load expenditure (including uncertainty mechanisms to mitigate risk) should provide similar levels of confidence to the existing regulatory regime and maintain investor attractiveness.

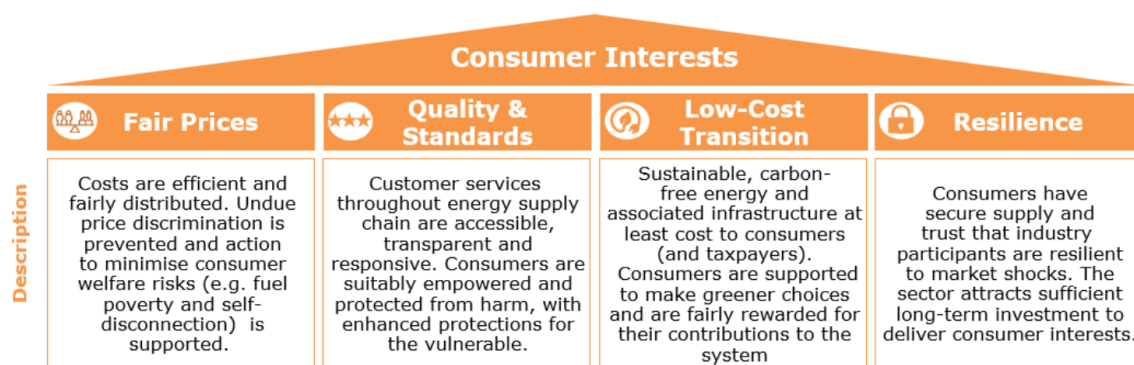
⁵ <https://www.sse.com/news-and-views/2022/11/sse-agrees-sale-of-25-stake-in-transmission-business-for-1-465bn-to-unlock-further-growth/>

Archetype 3, as a cost pass through offers investors an attractive prospect of higher investment growth as determined by the network company. But the trade-off appears to be that Ofgem would propose to control overinvestment through control of investor returns. This approach may be difficult to design and implement effectively, and as a result may increase investor risk (and cost of capital) through a perceived increase in regulatory uncertainty.

Overall, we consider that the financial framework should remain similar to that used today in RIIO2, which has demonstrated its value in attracting investment at apparently reasonable costs of capital, but with increased focus on ensuring timely anticipatory investment to enable the low carbon transition. However, the increased use of competition for new assets should provide useful benchmarks for setting future cost of capital allowances at appropriate levels.

Analytical framework and next steps

Ofgem’s proposed analytical approach to assess the benefits of change is to compare the proposed model with that used for RIIO2. The Ofgem impact assessment proposes to apply the following consumer interest framework as a way of assessing these benefits. This framework is illustrated in the following Ofgem diagram.



Q.11. Do you have any views on our proposed analytical approach?

We consider this is an appropriate set of criteria against which to conduct the assessment however no reference is made to enabling customers to make the transition through timely investment. We suggest that the assessment approach must take due account of the how the energy transition and associated benefits can be enabled by strategic investment approaches, including for example:

- Low regrets anticipatory investment in networks
- Enabling non-network solutions, including demand-side engagement
- Benefits from whole system coordination of planning and investment

It will be important that these longer-term benefits and costs are fully considered. As we have suggested earlier in our response, some simplification of the price control with risks of higher than necessary costs for consumers today, may be offset by the significant economic, environmental, and societal benefits available from a successful whole system just energy transition resulting in the potential for better outcomes for future consumers. What is imperative is that lower network costs today do not lead to higher network, environmental and social costs in the future.

It should also be in consumers interests that the price control framework is designed to support the development of skills and supply chains to deliver a low-cost transition. Ofgem must be mindful of the interaction of investment allowances and the development of a supply chain that is efficient and promotes affordable prices for both skills and materials.