Sustainability *first*

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To: RIIO3@ofgem.gov.uk

RIIO3 Sector Specific Methodology Consultation

Dear Ofgem,

Sustainability First is a charity and think tank focussed on social and environmental issues in the energy and water sectors with a track record of engagement on regulatory issues, including as past members of Ofgem's RIIO Challenge Group.

We are pleased that Ofgem is now pursuing an approach on network regulation which builds on the RIIO model which we advocated in our response to the FSNR, seeing RIIO as a flexible tool which has shown itself able to adapt to new challenges as with the introduction of the ASTI framework which we welcomed. We also welcome the clear commitment in the SSMC to delivering the strategic electricity transmission investment needed for GB to meet its net zero targets.

In our response to the SSMC, we have focussed in particular on a small number of areas where we have a particular interest or expertise. In particular, in our view, Ofgem's new net zero duty should lead to an increased focus on energy sector emissions as well as what is needed to drive de-carbonisation across the economy. In particular this points to a stronger focus on SF6, electricity losses, methane emissions and environmental reporting – which have long been concerns for Sustainability First. It is also important that Ofgem keeps up with wider developments in these areas that should be shaping what is expected of the companies, to ensure Ofgem is setting the bar at a suitably high level.

Equally, on the social front, the extent of the continuing cost of living crisis demands a bold approach in terms of vulnerability support. It also makes the inter-generational trade-offs around the future of gas doubly challenging.

While the timetable is tight, we encourage Ofgem to ensure that it is getting input on all these topics from a broad set of stakeholders and not simply from the networks themselves who are the only ones sufficiently resourced to attend the myriad of working groups that Ofgem has established.

We expand below on what we see as the main issues in each of these areas and also draw out some themes from previous Sustainability First work around the public interest that we see as relevant to RIIO3. Finally, we have attached responses to specific questions where we have a particular interest and expertise.

SF6 Emissions (Electricity Transmission)

We are pleased that Ofgem acknowledges the importance of tackling emissions of SF6 (used as an insulator in electrical switchgear) given this is a highly potent, long lived greenhouse gas with a GWP of 23500 and an atmospheric life of over 3000 years and accounts for over 90% of the transmission networks' business carbon footprint. However, there are potential challenges with the alternative synthetic gas solutions, in particular given the restrictions being introduced through the EU F-Gas

Regulation which will also ban fluoronitrile, subject to some exemptions. Despite Brexit the EU Regulation remains important because of the GB's reliance on EU manufacturers. We would expect Ofgem to acknowledge the impact this may have, including the trade-offs that networks will have to make as a result (eg installing equipment now that it may not be possible to retain in situ over the full asset life but which is needed near-term to enable the connection of renewables to meet net zero targets).

We are pleased that Ofgem has signalled the importance of the companies having clear SF6 targets that align with their wider science-based targets - and also the need for greater transparency on reporting. However, we still have concerns around some aspects of the SSMC proposals including on how leakage is measured, which is currently based on "top up" and hence will understate the scale of current emissions. We also highlight the need to distinguish operational actions (which can be incentivised through the IIG incentive) as against major investments, including in non F-Gas technologies. Where these investments cost relatively more than the status quo, there is a need for explicit funding. Clear guidance is also needed on a standardised methodology for evaluation of whole life costs in comparing alternative solutions, which also takes account of full life-cycle emissions.

We provide detailed comments in our response to ETQ10, building on the Grid Edge Policy report "Green Grids"[1] which explores the SF6 challenge in depth and which we have shared previously with Ofgem. This highlights the need for companies to adopt a laser like focus on reducing leakage and to work collaboratively with manufacturers to develop natural origin gas solutions. We would hope that Ofgem's final proposals will support these two goals.

Electrical Losses (Electricity Transmission)

We are concerned by the complete absence of any reference to the need to consider electricity losses. Transmission losses will need to be reported as part of the AER and there is a very brief mention of investment to reduce losses being counted under load related expenditure but nothing to suggest that the networks should have a strategy to reduce losses (as is required on electricity distribution). While we are aware that the climate impact of losses will reduce as the grid decarbonises, they remain an important aspect of overall system efficiency. Losses on the transmission network have been increasing over time and currently account for around 2.5% of total electricity demand[2]. But, as losses increase with the square of demand, they will represent a significantly higher proportion of peak load. This will add to customer bills long-term to fund the extra generation and network capacity needed and, in the near term, losses remain a significant component of the networks' carbon emissions (in particular if proper account were taken of time of day in measuring losses).

While a level of losses is inevitable, our review of the ED2 losses strategies highlighted that there is more the networks can do – through use of low loss equipment and how they balance loads across the system, for example. We therefore believe that the transmission networks should similarly be required to set out a losses strategy as a part of their Environmental Action Plan, looking to better understand losses and, working with the NESO, to minimise them where they can. This should not be viewed as something that is outside their control.

[1] The report is here – and a subsequent blog which reflects the final position on the EU Regulation is here.
[2] ESO report overall losses – here. Transmission losses in 22/3 amounted to 8.2TWh.

Methane Leakage (Gas Transmission and Distribution)

We strongly believe that Ofgem is not being demanding enough in its approach to methane leakage. The IEA has identified reducing methane leakage from the oil and gas sector as "among the most cost-effective and impactful actions that governments can take to achieve global climate goals"[3]. In its most recent report[4] "The Imperative of Cutting Methane from Fossil Fuels" it calls for decisive, far-reaching efforts to reduce methane emissions alongside decarbonisation of our energy systems. In particular it highlights that because methane is a short-lived gas, reducing methane emissions actually has the potential to reduce the stock of emissions in the atmosphere and hence could avert temperature increases that otherwise risk creating irreversible climate tipping points. It was for these reasons that at COP26 in Glasgow the UK government endorsed the Methane Pledge committing to reduce methane emissions by 30% below 2020 levels by 2030.

These messages are reinforced in the UK government's methane memorandum[5] which also talks about the good progress that the gas networks have made in reducing leakage, largely through the iron mains replacement programme. However, this is not a reason to be complacent.

Building on the Methane Pledge, the UN's International Methane Emissions Observatory has been putting a strong emphasis on collecting data through satellite, drone and other technologies. The associated Oil and Gas Methane Partnership[6] is working on ways to improve methane leak detection and reporting, recognising "If you can't measure it, you can't fix it".

This applies not just to upstream gas production but to the regulated GB networks. Activists using infra-red cameras were able to detect significant methane leaks at National Grid facilities in 2021[7] and, separately, leaks from the SGN pipeline near COP26 in Glasgow[8]. This demonstrates both the power of new technology and the importance of open and accurate reporting by the companies themselves.

In November 2023, the EU introduced a Regulation[9] on methane emissions reduction in the energy sector which sets tighter standards for measurement, reporting and verification in line with the OGMP methodology and sets requirements for leak detection and repair. It also introduces a ban on venting and flaring, other than in exceptional circumstances. With the potential for this to extend to imports to the EU it is important to the GB context even post Brexit.

This global policy imperative to tackle methane emissions specifically and the potential for a technology driven step change is not mentioned in the SSMC. As a result, Ofgem risks coming across

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[3] https://www.iea.org/reports/driving-down-methane-leaks-from-the-oil-and-gas-industry

[4] https://www.iea.org/news/urgent-action-to-cut-methane-emissions-from-fossil-fuel-operations-essential-to-achieve-global-climate-targets

[5] https://www.gov.uk/government/publications/united-kingdom-methane-memorandum/united-kingdom-methane-memorandum

[6] https://www.unep.org/explore-topics/energy/what-we-do/methane/oil-gas-methane-partnership-20-ogmp-20

[7] https://www.telegraph.co.uk/news/2021/10/23/national-grid-belching-leaked-methane-atmosphere/

[8] FT: Methane leak near COP26 venue - here

[9] https://energy.ec.europa.eu/topics/oil-gas-and-coal/methane-emissions_en#regulation-on-methane-emissions-reduction-in-the-energy-sector

as behind the curve in this important area. Although the iron mains replacement programme has led to significant reductions in methane leakage there is still a lot more that could and should be done.

Gas distribution: An evolution of the RIIO approach leaves us with an incentive in GD that is based on a severely outdated model developed for a different purpose (to allocate shrinkage costs across suppliers) and in which significant elements of shrinkage (eg from above ground installations) are treated as fixed. Industry has been working on innovation projects aimed at using new technology and data analytics to detect and measure methane emissions but, disappointingly, it seems this will not be available as a basis for GD3. Having regard to its own net-zero duty, Ofgem should make clear that the industry needs to up its game in terms of improved detection and repair and to radically reduce methane emissions. To facilitate this Ofgem must allow funding for aspects of leakage not covered by the current model through, for example the potential UIOLI allowance, which we strongly support.

There should be a clear aim for a period of parallel reporting of new more accurate emissions data in GD3, so that by GD4 Ofgem can use this as the basis for a more robust financial incentive.

We were pleased to see that once the updated cost of carbon is taken into account, the payback on repex in the iron mains reduction programme is transformed compared to the view taken in GD2 and is now clearly seen as delivering value for money. Recognising the wider benefits identified in this assessment, Ofgem should be confident to press the GDNs to take radical action on overall methane emissions reduction.

Gas transmission: Ofgem is rightly talking about more stretching targets for the Greenhouse Gas Reduction (venting) incentive but still seems to view venting as a normal business practice. The evidence of NG's recent NZASP reopener bid is that there are innovative solutions (like capturing and reinjecting the gas) which should allow for a step change in performance and which Ofgem should be driving NG to utilise. Beyond venting there is no discussion around possible methane leakage on transmission with the "Unaccounted for Gas" in the NTS shrinkage incentive being attributed to metering errors. Ofgem should set a clear expectation that NG will make use of modern technology to detect and transparently report on any emissions, creating at least an initial reputational incentive in GT3 for timely repairs. (With, again, the aim of a more robust financial incentive in RIIO4).

Finally, we would note that although Ofgem is, understandably, committed to using the Green Book approach which uses the GWP100 to calculate the CO2 equivalent emissions, there are valid arguments for looking at the GWP20 for methane, at least as a sensitivity, given the near-term temperature benefits and the focus on 2050. This would further strengthen the case for investment in this area. We set out our arguments on this point in Annex 2 and would encourage Ofgem to explore with HMT and the CCC the circumstances in which this might be appropriate.

Vulnerable customer support (gas distribution)

We have been strong advocates of the Vulnerable Customer and Carbon Monoxide UIOLI Allowance (VCMA) which we see as giving the networks the space to work closely with stakeholders on the ground to identify the best ways to support vulnerable customers. We had advocated a similar approach for ED2 and see the VCMA as clearly superior to the final approach adopted in ED2.

However, we are concerned about Ofgem's proposal to restrict the VCMA funding to the original GD2 level despite the demise of the FPNES (Fuel Poor Network Extension Scheme - which also offered help to those on low incomes) and despite the continuing cost of living crisis which we see no signs

of abating for vulnerable customers in the GD3 period. Rather than make a firm decision at this point we would suggest Ofgem waits until it has the evidence from the company Business Plans on what the networks see as the future need in their areas and on consumer attitudes.

We are also aware that Cadent secured GD2 agreement for spend to be allowed on other areas of vulnerable customer support reflecting what they identified as gaps in existing support that they were well placed to fill. We would encourage Ofgem to invite other GDNs to adopt a more flexible approach in terms of the scope of the VCMA, drawing on any learning from the Cadent GD2 experience.

Inter-generational issues on the future of gas networks (Gas distribution and transmission)

One crucial but under-discussed issue in relation to a just energy transition relates to the issues around the future of the gas networks, on which we recently published a paper ("Looking through the FOG – the Future of Gas Networks").

There remains significant uncertainty around the decarbonisation of heat. That said, regardless of government decisions on hydrogen for heat in homes and buildings, under any scenario the natural gas networks will play a smaller role than today. In our paper we identify a number of areas in need of deeper exploration as part of the RIIO process, not all of which are picked up in the SSMC:

- Decisions about what investment should be allowed in GD3 given the future uncertainty and the criteria Ofgem will use (building on the simple payback rule used in GD2);
- Regulatory depreciation policy and approach to asset lives (covered in the Finance Annex);
- The need for Ofgem-led consumer and stakeholder research on the intergenerational questions this raises;
- Discussion of future decommissioning costs and the means to fund these – including the question (raised in the Overview Document) of a possible decommissioning fund to be started in RIIO-3;
- Regulatory treatment of the costs of customer disconnections from the gas distribution networks (which are not discussed but where we understand work may be in hand);
- The role of innovation in reducing the costs of disconnection and decommissioning;
- Development of a consumer and customer line-of-sight on a shift away from natural gas for home-heating, with a co-ordinated approach being key to a cost-effective transition.

We are pleased that in the SSMC (and in particular the Finance Annex) Ofgem have started to explore the issues around the risk of stranded assets and the implications for inter-generational equity. In principle we support the idea of reducing asset lives so that declining numbers of future customers do not face escalating bills - and to avoid the risk of stranded assets. However, we are aware that Ofgem's estimate that this would add £43 a year to customer bills is likely an underestimate as it assumes no further RAV additions in GD3, when elsewhere Ofgem acknowledge the need to continue the iron mains replacement programme and other safety related investments. As such the scale of the potential bill impact is much greater than any other decision Ofgem faces in RIIO3.

This creates a difficult trade-off in the current climate with customers struggling to afford basic energy needs (and with no sign of government stepping in to provide any sort of social tariff). This therefore needs a much wider public debate and consumer engagement that should not simply be left to the GDNs. As it stands, this issue is buried deep in the Finance Annex but needs to be presented in an accessible way to encourage that wider debate. That is the aim of our paper and we

would be keen to support Ofgem in thinking about how best to take this (and the related debates on decommissioning and disconnection) forward.

The longer-term issues around decommissioning of the gas grid – which according to the Arup report for the National Infrastructure Commission could cost upto £25 bn – are also flagged. Ofgem is taking the view that decommissioning is not an issue for GD3 but does raise the question of whether a decommissioning fund should be set up in GD3. This is right at one level – you can only start decommissioning once all customers on a part of the network have moved off, which won't be in the GD3 timeframe. However, the scale of the challenge is so huge that we should be starting to explore in GD3 how best this could be done when the time comes – including questions of funding but also options for repurposing which go beyond hydrogen / CCUS. This should be a priority for innovation funding in GD3. In principle we would support the creation of a decommissioning fund but would encourage Ofgem / DESNZ to look at the lessons from other decommissioning funds (eg on nuclear /offshore) to ensure it can be appropriately ring-fenced etc. The inter-generational issues and tensions with the current cost of living crisis again need wider debate.

The other related area that needs more thought and which Ofgem don't mention is around the costs of individual customer disconnections. If someone installs a heat pump and wants to stop having a gas supply, the arrangements are currently pretty opaque. GDNs have an obligation to make that disused part of the network safe and it seems at present as if the remaining customers are picking up the costs through general network charges. That feels unfair but charging the departing customer is not ideal either as it would serve as a further deterrent to heat pump take-up. This is not essentially a RIIO issue but is an area that needs clarifying as we can certainly anticipate a significant increase in the numbers of individual customers moving off gas through GD3 and Ofgem needs to be clear how the associated disconnection costs should be treated in the GDNs' Business Plans.

While not directly a RIIO question there is also a need for a far clearer line of sight for gas customers on heat decarbonisation and the potential phase out of natural gas. Costs will be much lower under an orderly transition than if we are left with a small number of customers scattered across the networks. Customers themselves need clear and independent advice on the options open to them. To help minimise the long-term cost to customers, Ofgem must work closely on this with DESNZ, Citizens Advice and wider stakeholders.

Science Based Targets (cross sector)

We have been strong supporters of Ofgem's requirement that companies have science-based targets verified by SBTi. Having these commitments verified by an external expert body is important for giving confidence to stakeholders and aligns with what investors increasingly expect. We therefore support the continuation of this requirement.

However, Ofgem are wrong to say[10] that the GDNs have targets accredited by SBTi. The SBTi has been reviewing its approach to accreditation of the oil and gas industry, including the gas networks, and in the interim is not accrediting any companies in this sector. The updated guidance is due at the end of the year and we would hope that at this point the gas networks will seek accreditation (dependent, of course, on what the guidance says). In the meantime, they have typically been working with other

[10] Overview document 6.129

bodies to give some level of external accreditation but there is no consistency of approach across the GDNs.

One of the challenging areas in all sectors remains Scope 3 emissions and the related issues around embodied carbon. In principle the networks have been working together to agree methodologies for how this is done. Understanding the embodied carbon of different options can be important in choosing between options on SF6 alternatives for example and an agreed methodology is important.

Annual Environmental Reports (cross sector)

We strongly support Ofgem's proposal to continue the requirement for the networks to produce Annual Environmental Reports which report on progress against a number of common metrics and also set out the progress the companies have made against any commitments they made in their individual Environmental Action Plans.

However, in our own efforts to use these reports to build a cross-sector and cross-company view of performance on topics like SF6, losses or methane leakage we have found it very hard to find comparable information which presents a clear picture of performance over time and against company targets. The individual reports look to tell a good story to stakeholders, with little account of missed targets or other failings. We are aware that seeking a comparative overview is a different need to that of individual company stakeholders. However, we have not seen any information on how widely read the individual reports are or any feedback the companies have received. We would have expected this to be the starting point for any review of the scope of the AERs.

Given the need for a sector overview we have argued for a wider set of standard metrics to aid comparability where practical and in particular on the areas of greatest environmental impact (Sf6, losses and methane leakage). We therefore support the Ofgem proposal to require both a standard set of metrics and a free form commentary (aimed at those wider stakeholders).

At the same time, we are mindful that the companies are subject to an increasing number of reporting requirements on ESG issues, including those emanating from the Taskforce on Climate Related Disclosures. Indeed, we have sometimes found more useful information in the Annual Report and Accounts (which also appear earlier in the year) than in the AERs themselves. We would encourage Ofgem to ensure it is clear what is already covered by the growing number of other reporting obligations and to reflect on where additional metrics would add real value. For us this would be particularly in relation to energy specific issues (like SF6, losses or methane leakage) which general reporting obligations will only require to be covered at a high level.

However, even in these areas, and with more detailed reporting, we have previously argued that Ofgem should not simply rely on NGOs and other stakeholders with limited resources to hold the companies to account. In our view, Ofgem's new net zero duty means that Ofgem must scrutinise the companies' own environmental performance as well as sector progress on supporting the transition. In ED2, in response to our concerns on a lack of AER overview, Ofgem agreed to introduce a mid-period review. This was resisted by the networks but Ofgem concluded that "*We note the concerns raised regarding a lack of resource and expertise by stakeholders, such as CEGs, to provide challenge on technically complex issues. As part of the mid period review, we will look at the performance of all DNOs to date on a comparative basis, where possible*." We strongly believe that this same approach is needed for ET3 and GD3.

We also encourage Ofgem to ensure it is keeping abreast of developments around biodiversity and nature related financial disclosures to ensure that its expectations on reporting in these areas reflect the increasing attention that such issues are now attracting globally.

Engagement (cross sector)

We are very pleased that Ofgem has decided to require companies to have Independent Stakeholder Groups. We have seen first-hand the value they bring to the process in providing challenge to the companies and ensuring that wider stakeholder perspectives are considered. As a result, there is now a pool of individuals with significant, relevant expertise and a consumer focus. Ofgem should reflect on how it can make best use of these groups as a part of its own process. As things stand Ofgem would appear to be placing less emphasis on the role of these groups than it did in RIIO2 which we consider sends the wrong message. Part of the influence of the groups within the companies in RIIO2 came from the fact that they would be feeding their views into Ofgem.

We are also keen that Ofgem thinks more broadly about how to ensure that it is getting adequate consumer and stakeholder input into its deliberations on the RIIO framework. We are aware of the huge number of workshops and working groups that Ofgem is running as part of developing the SSMD and Business Plan Guidance. As a small charity with limited resources, we have only been able to join a small number of these and are aware, when we have done, that apart from Citizens Advice (who themselves are stretched) no other non-network stakeholders have typically been present. Our experience was similar for the ED2 working groups (which were fewer). We would encourage Ofgem to consider where there are topics – like the inter-generational issues around the future of gas – that would benefit from wider input and to do more to facilitate that engagement. We would also expect Ofgem to have its own programme of consumer research on key issues like this and the value of lost load (which we highlighted in ED2).

Recognising that non-industry stakeholders struggle in resource terms, DESNZ set up their REMA end-user challenge panel as a single forum to obtain end-user inputs and to allow discussion across a variety of complex wholesale and retail market issues. To make the RIIO-3 consultation process less onerous for consumer bodies and wider stakeholders, Ofgem may also wish to consider whether a single forum to which it brings particular issues where it seeks wider engagement and input might be worthwhile for the RIIO-3 process.

In terms of company engagement and to ensure that companies continue to listen to their customers and communities and put them at the heart of their decision making, Ofgem needs to build engagement into the business plan incentive. For RIIO2 Ofgem gave a clear message that if the company failed to engage adequately, including with the RIIO 2 Challenge Group or CEG/UG it 'may face a penalty as part of the business plan incentive'. This was a really useful lever for CEGs and sent a clear message to companies. High quality engagement needs to remain part of the assessment process. In the water sector in PR24 Ofwat set an expectation that companies should meet high quality minimum standards for engagement as part of its baseline quality of plans assessment.

Wider Sustainability First themes

Finally, drawing on our wider work on the public interest (such as Fair for the Future) we would pull out a few high-level themes relevant to RIIO3:

- The importance of much greater work and incentives on **resilience to climate change**. The energy sector was singled out in the last Climate Change Risk Assessment as being severely behind what was needed in this area. In particular a stronger emphasis is needed on cross-sectoral engagement eg with water and communications.
- Relatedly, the benefits of adopting an **adaptive planning**[11] approach to the long term: which might help with planning for heat scenarios as well as for managing the uncertainties around climate change and technological change. This would be consistent also with the latest version of the Green Book.
- The importance of **transparency**, given the very complex regulatory requirements, and related to this how regulators and companies can promote the notion and culture of public purpose and responsible business.
- The opportunities for working with **communities** as well as customers – in particular in the context of addressing concerns around infrastructure build (as highlighted in the Winser report) and understanding local priorities given the "place based" nature of the networks.
- The importance of restoring and protecting **biodiversity and nature** which is increasingly being recognised at a global level as key to a sustainable future (and as reflected in, for example, the Environment Improvement Plan for England) – but which also has a particular resonance at local, community level.
- The value of **bespoke ODIs** (and associated PCDs) which respond to the specific demands of local stakeholders. While we understand Ofgem's desire for simplification the risk is that this is in conflict with driving the companies to respond to what customers and stakeholders are asking for.
- The criticality of **electricity distribution** connectivity/resilience for wider decarbonisation (e.g. heat pumps, EV charging) - not to mention house building. The upcoming NIC study should be helpful when Ofgem comes to think about the ED methodology further down the track.

We hope these comments and our responses to individual questions are helpful and would be happy to engage on a bilateral basis if Ofgem would like to better understand our position on any of these points.

Yours faithfully

Maxine Frerk

Cc Judith Ward, Zoe McLeod, David Murray

[11] As described in this Sustainability First blog

Annex 1: Responses to Questions

Overview Document

OVQ6 Should RIIO-3 help to manage future gas network decommissioning costs? If so, do you have views on what these costs could be and what mechanisms should be used, including for anticipatory funding?

As set out in our cover letter, we are pleased to see Ofgem starting to engage with the issues of how to fund future gas network decommissioning costs. We would be supportive in principle of early action to ensure that these costs are not left in their entirety for future consumers to pick up. However, it is vital that the lessons are learned from other examples of decommissioning funds (eg on nuclear or offshore) as any fund must be appropriately ring-fenced etc.

Realistically we expect it would be difficult to establish a robust fund in time for GD3 and the priorities for Ofgem should therefore be:

- To drive innovation in GD3 that might help bring down the costs of decommissioning (including exploring opportunities for repurposing beyond hydrogen / CCUS) which might include using the pipes for laying communications or electricity wires;
- To understand the scale and likely trajectory of these costs as context for the decision that does need to be taken in GD3 on accelerated depreciation of the RAV. Ofgem has articulated the principle (which we support) that future consumers should not pay significantly more for essentially the same network services. This assessment needs to take account of likely future decommissioning costs;
- To explore with government how any such decommissioning fund might best be established, drawing on lessons from other such funds, and in particular whether this needs primary legislation.

Finally, as with all the issues around the future of gas – especially regarding intergenerational equity - we would encourage a wider consumer and stakeholder debate as set out in our paper *Looking through the FOG – the Future of Gas Networks*[12] ("FOG").

OVQ9. Do you agree with the proposal to use two FES planning pathways for the gas networks, ie Leading the Way and Falling Short as the additional common conservative scenario?

OVQ10. Is Falling Short the most appropriate common conservative planning scenario to be used for the gas networks? Or is a common gas network developed scenario more appropriate?

As highlighted in our FOG paper, the investments that the companies need to make in GD/GT3 are primarily driven by safety and hence it is not clear that the choice of scenarios will have a major impact in terms of their expected expenditure for GD3. However, the scenarios do become relevant for later years in terms of the extent to which hydrogen may or may not be used for heat in homes or other buildings which may impact the nature of some GD3 investments (whether to repair or replace particular assets, for example).

[12] https://www.sustainabilityfirst.org.uk/images/Sustainability_First_-_V2_Viewpoint_-_Gas_Network_Decline_and_Stranding_in_RIIO-3_-_v_041223_final.pdf

Looking beyond GD3 these scenarios also become really important in thinking about the inter-generational issues and decommissioning and as such should be informing Ofgem's own policy thinking in this space.

However, as set out in the Grid Edge Policy report for Oxford University on Investing Under Uncertainty[13], there is a need to think about a wider range of risks than can be captured in a small number of scenarios and the scenarios chosen need to be based on the question in hand. As set out in our FOG paper one of the biggest determinants of long-term network costs (including disconnection and decommissioning) is the extent to which gas network decline is a managed (mandated) programme by geography or driven by individual customer choice. None of the FES scenarios – or other scenarios of which we are aware - currently deal with this element of uncertainty.

The Grid Edge Policy report also looks at how real option theory and other techniques can help in evaluating different options. The approach taken by Ofgem in GD2 of a simple payback cutoff (of 2036) does not properly capture the nature of the uncertainty and the real option value in different investment approaches. We would hope that for GD3 Ofgem might adopt a more sophisticated appraisal methodology.

OVQ11. Is it feasible for all network companies to initially plan against FES 2023 before updating business plans in line with FES 2024, as proposed?

We would be disappointed if the companies were to take the view that this was not feasible. If the changes are limited the task should not be unduly onerous (and there will be other aspects that they will inevitably be having to update through the autumn). Conversely, if the changes are significant – as may well be the case – then while the task may be more complex it would also be all the more important to be using the latest information.

OVQ12. Do you agree with our proposed approach on the role, scope and format of PCDs?

While we understand Ofgem's desire to simplify the RIIO framework and hence to set higher materiality limits for PCDs, we have expressed concerns previously that many of the environmental commitments made by the companies risk being cut back as part of broader "efficiency" savings if the companies are not held to account for delivery. Many of these smaller scale commitments will have been included in response to points made by stakeholders and hence are important even if not financially material. It can be hard for stakeholders to hold companies to account for delivery when it is unclear (sometimes even to the companies) what exactly Ofgem has provided funding for. We have previously supported the PCD approach as helping ensure that companies do deliver on their commitments.

OVQ13. Do you agree with our proposed framework for setting financial incentives? Are there any additional considerations that we should take into account?

We agree with the broad approach set out. However, one reflection that comes from our exploration of the SF6 incentive and the methane leakage incentives in gas is the need to distinguish *operational*

[13] https://www.oxfordmartin.ox.ac.uk/downloads/academic/Oxford-strategic-investment-150321.pdf

actions that may be driven by an annual incentive and *substantial investments* which may have the same end goal but which may take decades to pay back and where therefore baseline or UM funding is needed. This can then introduce complexity into the financial incentive which needs to be adjusted to take account of actions that are separately funded (to avoid paying twice). With SF6, the baseline is adjusted. This makes sense but is complex and lacks transparency. For methane leakage in GD, repex related reductions are excluded altogether removing any incentive to do them in a timely fashion. In GT on venting, it is unclear if any adjustment is made to the baseline to take account of investment that has been separately funded. Further thinking could be helpful on the best approach for dealing with these interactions.

OVQ14. Do you agree with our approach to setting reputational incentives? Are there any additional considerations that we should take into account?

We remain concerned - especially in the area of net-zero and environmental regulation but also for some elements of vulnerability - that Ofgem has not really got an effective model of how they intend reputational incentives to work. An ODI-R is really only a reporting obligation and it is not clear how effectively stakeholders can hold companies to account for delivery. In our view, an annual report by Ofgem which benchmarks companies against each other would allow stakeholders to challenge the networks more effectively and give the reputational incentives some teeth.

Building on this theme in our response on ED2 we pulled together some initial thoughts on what we saw as the key criteria for reputational regulation, based on an earlier UK Regulators Network (UKRN) report[14] on the subject and previous Sustainability First thinking. The key messages, repeated below, still stand.

"Based on our initial thinking, **key themes** that Ofgem will need to address are:

1) Ensuring comparative data is readily accessible to enable benchmarking within / beyond a sector
    - Ensuring there are common definitions, baselines and consistent approaches
    - Providing assurance that data is reliable
    - Ensuring data is readily accessible
    - Proactive provision of ready comparisons to help lightly resourced stakeholders
2) Reflecting on the sources of reputational influence (and how best to strengthen them)
    - "Doing the right thing" where companies have a broader public purpose
    - Changes to Section 172 of the Companies Act and ESG as a growing concern among investors. These factors, and others, are driving changes in corporate reporting across the economy.
    - Corporate reputation through eg media or select committees – noting also the role that social media can play in amplifying any reputational issues[15]
    - Company credibility and the implication for future regulatory decisions
3) Wider regulatory interests
    - Prospect of formal regulation in future if reputational not delivering
    - Unintended consequences eg companies more able to ignore stakeholders if Ofgem is not interested (in either the outcomes or in the stakeholders' views)

[14] https://www.ukrn.org.uk/wp-content/uploads/2018/06/2040728-DataPubRepReg.pdf
[15] Discussed in a Fair for the Future working paper - here

- Stakeholders will expect Ofgem to know what is happening in the sector and see Ofgem as a trustworthy source

What this framework reinforces is that **reputational regulation is an important tool but not an easy option**. Ofgem also still need to actively engage themselves on those issues squarely within their remit (e.g. on reliable service, on vulnerability, on environmental impacts including carbon emissions). In the same way that Ofgem reports on the companies' financial performance under RIIO and on the State of the Market in retail, it should be providing consolidated reporting on what the network companies are delivering in terms of outcomes".

OVQ16. Do you agree with our proposal to retain the EAPs and AERs in RIIO-3? Please provide reasonings for your position.

We agree. Given the growing importance of the environmental agenda it is helpful to ensure the companies give this adequate attention. However, we remain of the view that Ofgem should not simply delegate oversight of this area to stakeholders and should monitor and challenge the companies as it would in other areas of their performance. As set out in the cover letter we would ask that, as a minimum, Ofgem introduces a mid-period review where it reports on comparative performance, as has been agreed for ED2.

OVQ17. What are your views on the new proposed AER format with Commentary and KPIs?

We have stressed the importance of consistent reporting to allow assessment of comparative performance across companies on areas of particular interest to environmental stakeholders ie SF6, methane leakage, losses – which are the biggest elements of the companies' environmental impacts. A fuller set of KPIs (with transparency on performance trends over time not just a one-year snapshot) would help with this. At the same time, we recognise that companies will want to be able to tailor their commentary to respond to local stakeholder interest. As such the proposed structure makes sense to us.

Having now looked more closely at the company AERs (and the associated Ofgem guidance) we would observe that:

- There is already a range of metrics which companies are expected to report against in their AERs (including trends over time) which is helpful although there are a few inconsistencies in how these are applied;
- However, perversely, the areas of the biggest environmental impact (SF6, losses, methane leakage) are the least well developed and need significantly more work. On SF6 we cover this in our response to ETQ10. On leakage this links with the problems with the shrinkage model which we flag in our covering letter and in GDQ2. And in neither case is there any link between the reporting required in the AERs and the relevant ODI-F which should be key for transparency;
- Intensity metrics: Two of the GDNs (NGN and WWU) also provide intensity metrics for their emissions (ie per £m and per GWh) which is in line with best practice on carbon reporting;
- More generally, we are aware that the networks have a growing number of other environmental and ESG reporting obligations (linked to their science-based targets) and we would encourage Ofgem to look at what these cover, to aid consistency and avoid creating undue regulatory burdens on the companies.

We would also note that across all networks a significant part of the AERs is given over to reporting on the "commitments" made in their Environmental Action Plans. However, the commitments vary significantly in how meaningful they are (ranging from a commitment to produce an AER or to challenge evidence for electrification through to quantified commitments on emissions reductions). Ofgem might usefully clarify the number and nature of commitments that it expects to see and which companies then have to formally report against.

More generally the style of reports varies quite significantly and, as flagged in our covering letter we would hope that the companies can draw on feedback from stakeholders on how they would like AERs to develop going forward. But above all, in the light of Ofgem's new net-zero duty plus the interests of wider environmental stakeholders, the AER commentary and KPIs must readily enable cross-company comparison on the areas of biggest environmental impact.

OVQ18. Do you agree with our minded-to position of retaining the reputational incentive on TOs and GDNs for reducing their BCF?

We agree that there needs to be a clear focus on the companies reducing their own emissions. We are however concerned at Ofgem's tendency to focus on the BCF excluding losses (in electricity) or shrinkage (in gas). Given these are typically the largest element of the company BCFs it sends the wrong signal to exclude them in reporting – and is also inconsistent with SBTi.

OVQ20. Do you agree with our minded-to position to withdraw the Environmental Scorecard and incentivise improvements in environmental impacts through the Annual Environmental Report (AER)? Please explain your reasoning.

We agree – the factors included in the environmental score-card were in practice peripheral elements of environmental performance.

OVQ23. Do you have any views on our proposed long-term approach to embedding climate resilience, including the principles for embedding climate resilience?

We strongly support an increased focus on climate resilience and the approach set out by Ofgem in terms of requiring long term resilience plans. The energy sector was singled out in the last Climate Change Risk Assessment as being severely behind what was needed in this area and hence a stronger focus is needed.

As a part of this, Ofgem need to consider how they will incentivise companies to collaborate with other sectors to deliver whole-systems resilience to climate impacts. For example, community action on surface water flooding can reduce the risk of flooding of local network assets – and there may be scope in turn for the networks as part of their own infrastructure works to introduce SUDs (sustainable drainage systems) which can help reduce flooding.

Other cross sector impacts are with communications as the energy sector becomes more heavily dependent on smart controls and systems. Understanding the resilience of the communications sector to climate change and other threats will therefore be of growing importance through RIIO3.

There is also a need to consider what role GDNs and transmission companies play in supporting community resilience to climate impacts and regional resilience in our increasingly decentralized energy system.

Finally, we would also note that it remains unclear what resilience standards the companies should be aspiring to and hence what level of funding Ofgem will be willing to provide. Whether the companies can ultimately deliver their resilience strategies will be dependent on them securing funding but the conventional appraisal tools do not cope well with low probability, high impact events. Sustainability First thinking on adaptive planning[16] looked in particular at the challenges around climate adaptation.

OVQ31. What are your thoughts on an 'in the round' assessment of business plan ambition as opposed to requiring and assessing CVPs?

We support an "in the round" assessment provided this looks at what is being delivered and not just at comparative efficiency. We would also expect Ofgem to look at the company's approach to engagement.

That said, one of the benefits of the CVP (consumer value proposition) model was that it allowed companies to separately put forward initiatives that went "above and beyond" standard practice in a way that meant that they were not disadvantaged in the cost benchmarking. In ED2 a number of the CVPs were allowed in terms of baseline funding but not given a reward. There would be value in thinking about how this aspect could be taken forward without it being linked to the Business Plan Incentive and the prospect of rewards.

We would also note that last time around a couple of the bespoke CVPs became common ODIs, acknowledging issues that mattered to consumers which Ofgem had arguably missed. Even if not rewarded as CVPs we remain keen that companies are encouraged to bring forward bespoke ODIs which respond to evolving community needs.

Gas Distribution

GDQ1. What are your views on our proposal to remove the shrinkage ODI-R as a separate output?

Given the significance of shrinkage it is vital that the companies report on it transparently and consistently. Provided this happens as part of the AER (and not just through the RRP which only Ofgem sees) we are not concerned about it being treated as a specific ODI-R.

GDQ2. What are your thoughts on the options we have set out for the shrinkage ODI-F and on the design of this incentive?

As set out in our cover letter we believe that Ofgem needs to put more emphasis on the imperative to reduce methane leakage, reflecting the government's commitment to the Methane Pledge at

16 https://sustainabilityfirst.org.uk/images/publications/presentations/Adaptive_regulation_and_adaptive_planning_slide_deck_sept_2021.pdf

COP26 and the benefits that methane reduction can deliver in terms of avoiding near term climate tipping points. New technologies allowing cheaper and easier methane detection provide an opportunity for a step change in detection and repair of leaks and accurate reporting of emissions rather than relying on a model that uses leakage rates over 20 years old.

Given that many of the steps that the companies could take to further reduce leakage are not captured by the current model, we would strongly support the introduction of a UIOLI allowance for funding projects where the carbon benefits are not captured in the shrinkage model such as on above ground installations which account for around 20% of emissions according to the shrinkage model (but where the model assumes that emissions per item of equipment are fixed).

GDQ4. If the Digital Platform for Leakage Analytics is rolled out to all GDNs in RIIO-GD3, what would be the indicative cost and timescales for this?

We have no information on this but are surprised that Ofgem's chief concern seems to be about the costs. As set out in our covering letter, globally there is a strong emphasis on using data and digitalisation to help tackle methane emissions and Ofgem should be setting a clear expectation that the companies should be pursuing this as a matter of urgency.

GDQ14. What are your views on the benefits of repex that we have identified, how well the repex programme is currently working, and what evidence we should consider as part of the joint repex review?

We were very struck by the difference that using the updated cost of carbon has made to the value for money delivered by the repex programme. We had earlier expressed our concerns (in ED2 in particular) about Ofgem's failure to use the updated figure.

As set out in our cover letter (and Annex 2) there are also arguments for looking at the GWP20 of methane (rather than the GWP100) - at least as a sensitivity - in assessing the CBA of further action, given the scope for methane reductions to mitigate short term temperature rises and the risks of near term climate tipping points. We would encourage Ofgem to discuss this further with the CCC, HMT and others.

GDQ29. What are your views on our proposal for GDNs to develop individual and joint-GDN vulnerability strategies?

Requiring companies to continue to develop joint and individual vulnerability strategies is very welcome as it encourages a joined up targeted and collaborative approach. But there is a need for better and more transparent ways to compare, monitor and share performance with a wider range of organisations interested in this area which includes proactively engaging with a more diverse range of groups. The outcomes that Ofgem should require the companies to achieve are a) Inclusivity and accessibility b) Safety and peace of mind and c) Supporting affordability – where they have direct or indirect touch points with the customer or are best placed to do so. Importantly the focus shouldn't just be on end user households but communities e.g. inclusively designed road works; activity to support community resilience in case of gas supply or transmission failure or climate impacts etc.

We disagree with Ofgem's proposal that the GDNs would not have to submit their vulnerability strategies alongside their Business Plan. In our view this sends completely the wrong message about the importance of this aspect of their plans. The performance commitments and work in this area cannot sit in isolation but needs to be positioned as part of a strategy or it risks being a tick box exercise.

GDQ30: Do you agree with our proposal to retain the RIIO-GD2 vulnerability minimum standards is sufficient to ensure customers in vulnerable situations are protected and treated fairly?

We would discourage Ofgem from making decisions about vulnerability minimum standards at this stage given it doesn't yet have a strong grasp on future needs in particular. We would recommend instead that Ofgem set up a separate dedicated working group, with good representation from expert stakeholders and those representing and working with those in vulnerable situations to discuss this further. Otherwise, there is a significant risk that the standards will be out of step with changing and future need as well as stakeholder expectations. Vulnerability is not static and minimum standards shouldn't be (though broad outcomes can be).

This group could also help develop guidance around how best to develop vulnerability strategies and minimum requirements for inclusion. Any decision should dovetail with Ofgem's upcoming new vulnerability strategy. Such a working group would also be an opportunity to promote work being done by gas companies and Ofgem in this area to many who don't know about it. Current engagement on RIIO-3 is far from representative and inclusive and this is a risk for Ofgem in this area in particular, given the strong views held by many parties.

GDQ31. What are your views on our proposal to retain the use of the VCMA UIOLI allowance, on the alternative option to incentivise vulnerability through an ODI-F, and on which activities to support vulnerability could be funded through baseline allowances?

We support the use of the VCMA UIOLI allowance and had previously advocated its use in ED2. The ED2 approach is as yet unproven and we have concerns that it could simply result in the networks chasing the metrics (which inevitably tell an incomplete picture).

GDQ32. At what level should VCMA funding be set to ensure its effectiveness and sustainability, and what percentage should be ringfenced for collaborative projects?

We are particularly concerned about the proposal to revert to the previous level of VCMA funding. Without the FPNES the overall level of support for vulnerable customers in GD3 would be very significantly reduced – while the energy and cost of living crisis looks set to continue for some time.

Our horizon scanning work for UKPN and SEW identified that there will be a substantial increase in access and protection needs as a result of a major growth in non-financial vulnerability over the next ten years. This includes a rise in customers with multiple physical and mental health conditions, growing health risks including heat related deaths and potentially pollution. Economic change, coupled with a step change increase in the number of non-financial vulnerabilities, risks greater consumer harm from poverty and overall less consumer and community resilience. This alongside the legacy impacts of Covid-19 mean it is not the time to be scaling back funding on vulnerability. We also need to better understand what new vulnerabilities will emerge including in relation to climate

impacts, especially for gas customers and any transition to hydrogen and heat, in relation to the transition to net zero.

GDQ42. What are your views on our proposal to remove the Fuel Poor Network Extension Scheme in RIIO-GD3?

We support Ofgem's proposal to remove the FPNES given the lack of funding for in-home works and in line with the direction of travel for heat decarbonisation. However, we remain concerned that the FPNES was one of the most effective ways of materially helping vulnerable households with affordable heating and that this move reduces the overall support available for vulnerable households. As noted above we would therefore like to see a larger and more flexible VCMA for GD3.

Gas Transmission

GTQ3. What are your views on what the overall focus of the RIIO-GT3 environmental package should be, and should any additional areas be incentivised?

The focus should be on largest areas of carbon impact ie methane leakage which is of particular importance in minimising near term temperature rises and avoiding climate tipping points as set out in our cover letter. Ofgem should be sceptical of claims that these emissions are outside the control of National Gas (NG).

We would like to see this covering at all sources of methane emissions, not just venting, and using technology developments to accurately monitor emissions.

We agree with dropping the Scorecard incentive which looked only at a very narrow set of outputs.

GTQ5. What are your views on the above two options for the GHG emissions incentive?

GTQ6. What improvements to the incentive would continue to minimise NG's impact on the environment from venting?

As discussed in our cover letter, we believe more urgency needs to be given to tackling methane emissions and exploiting new technology to identify and tackle leakage and report more accurately on emissions.

The consultation references various directives that impact on NG's operation of compressor stations but Ofgem should also ensure that the impacts of the new EU Methane Regulation are understood.

We agree there needs to be a stretching target – and a symmetric incentive to motivate NG to drive hard on emissions reductions. In our view there should also be a requirement for a clear strategy (as part of their Environmental Action Plan) on how they intend to tackle these emissions. The current document reads as if venting is still accepted as a normal operational practice while it is now being banned in the EU, other than in exceptional circumstances.

We are also surprised by the lack of any mention of leakage with the assumption that all "unaccounted for gas" is the result of metering errors. New technology should allow leaks to be detected and gas lost through leakage should be covered by the incentive.

In our view, the incentive can only drive operational improvements. NG should still be able to access an NZASP type reopener for significant investments where needed. However, adjustments then need to be made to the baseline / target for the GHG incentive to avoid customers paying twice.

GTQ7. What are your views on the above three options for the NTS Shrinkage incentive?

We need to understand whether there are any other sources of leakage which requires better detection, monitoring and reporting.

The current incentive arrangements are complex and make it hard to identify the real environmental impacts.

Electricity Transmission

ETQ12. Do you agree with our assessment of the bespoke outputs described in Table 7?

We are pleased that Ofgem are looking at how these individual outputs worked in practice and whether they should be continued or extended.

As set out in our cover letter we are particularly concerned that there is no reference at all to electrical losses anywhere in the Environmental Impact section – despite these accounting for a high proportion of the transmission networks' BCF. The companies should be required to set out a losses strategy as part of their Environmental Action Plan and to work with the NESO on better understanding and minimising losses.

ETQ10. What are your views on our minded-to proposal of retaining the IIG ODI-F during RIIO-ET3, and our additional commentary around the incentive and its associated reporting requirements?

We strongly support Ofgem's minded-to proposal of retaining the IIG ODI-F given that SF6 is a highly potent and long-lived greenhouse gas with SF6 leakage accounting for over 90% of the TOs' business carbon footprint.

We are pleased that Ofgem's proposals pick up on a number of the points raised in the recent Grid Edge Policy report[17] ("Green Grids: Tackling SF6 Emissions of GB Electricity Networks") and are grateful to Ofgem for its engagement with us on this topic. The report explores the current regulatory framework in some detail and provides additional evidence in support of this response.

The headline recommendations from our report were the need for a laser like focus on reducing leakage and for collaborative efforts to develop natural-origin gas solutions which would address some of the longer-term risks with alternative solutions – while recognising that for now the priority is to deliver the investment needed for net zero which is likely to require some continued use of SF6 and other F-gas solutions. As such the IIG remains very important for the ET3 period – because in ET3 the companies must radically reduce leaks. However, the IIG is not designed to fund major capital investments and cannot address the fundamental challenge linked to the ultimate phase-out of new

[17] https://www.sustainabilityfirst.org.uk/publications-project-research-reports/499-green-grids-tackling-sf6-emissions-on-gb-electricity-networks

SF6 and F-Gas HV equipment – plus the major step-up needed to invest in natural-origin gas switchgear. This requires Ofgem to very clearly set out the basis by which it will accept 'early retirements', the approach to be taken to whole life costing and how wider (non-monetisable) risks should be factored in.

We give our views below on the detail of Ofgem's commentary and proposals.

2.100 "*We propose to retain a symmetrical IIG ODI-F for all the TOs in RIIO-ET3. Our view is that any financial incentive should focus on reducing the leakage rates, improving management of SF6 assets, and driving a reduction of SF6 in the system*." While we agree that all three of these objectives are vitally important, we are not persuaded that the IIG can realistically deliver on all three – as implied also in para 2.92. In particular we do not see how the IIG (as an annual incentive over a 5-year period) can be expected to support the funding of significant capital investment (eg to replace SF6 assets) where the payback is likely to be over multiple price controls. Indeed, the ET2 approach specifically included allowances (including through the MSIP reopener) to cover such major investments. This should continue to be the case in ET3 and it would be helpful for Ofgem to spell this out. In our view the focus of the IIG incentive should be on operational management of leakage rates.

"*We propose the incentive targets are consistent with the IIG emission reduction pathway that each TO has developed for their BCF science-based target*". The Grid Edge Policy report highlighted that the IIG "targets" for ET2 fell well short of the emission reduction pathways that the companies have separately committed to for their science-based targets. We are keen that this basic discrepancy in baselines is addressed in ET3. The historical IIG approach was developed to provide funding to deliver reductions below a historical baseline level (ie the baseline was not intended to be a target which equates to good performance - as described by Ofgem in paras 2.96/2.98 and as implied by some companies in their AERs). To set more ambitious IIG targets – that align over time with the company SBTs - Ofgem would need to provide baseline funding for increased operational activity on SF6 (as well as the funding for major investments discussed above). Alternatively (and in the interim) Ofgem could simply be clearer that the IIG incentive is about improving against a historical "baseline" and is <u>not</u> a reward for meeting a "target".

2.101 "*We consider that there could be a case for including a dead band range around the target level of emissions that do not lead to any penalties or rewards. This would allow some flexibility to accommodate timing issues in related emission reduction activities that could be subject to re-scheduling because, for example, supply chain issues*". We are not persuaded of the case for a deadband. In particular, while we understand the significant supply chain issues, the climate impact of greenhouse gas emissions is a function of cumulative emissions. There is therefore a real benefit in delivering leakage reductions sooner rather than later which should be reflected in the incentive.

2.102 "*We think there may also be an argument to review the process that allows TOs to submit claims to exclude IIG emissions from their incentive performance as a result of exceptional events. Unlike the Energy Not Supplied ODI-F where such a process guards against, for example, third party damage, asset health and therefore the risk of IIG emissions is arguably within a TO's control. Given this, and the significant impact of IIG emissions on a TO's BCF, it may be appropriate to review what qualifies as an exceptional event and or what further evidence should be provided in support of such claims"*. We welcome consideration of this issue which was flagged in the Grid Edge Policy report. At the time of the report there had been two claims: one supported and one rejected which the report concluded was proportionate. Since then, a further claim has been supported. While these may be genuinely exceptional events (catastrophic failures, typically early in the equipment's life), it is hard

to prove that there is nothing more that the companies could have done to avoid them. Early failures are a known issue (reflected in what engineers call the "bathtub effect") and as a major contributor to SF6 leakage these early life catastrophic failures should be a real focus for the companies (eg putting in place additional monitoring, stronger contractual incentives on their suppliers, sharing learning). Retaining some element of financial penalty (say 10%) could drive this without being unduly punitive. It might then also be possible to make the scrutiny process less arduous for both Ofgem and the companies.

We agree these incidents are different from the Energy Not Supplied ODI-F, but see perhaps more analogies with the OFTO regime which may be worth looking at (albeit this is also an all or nothing exemption).

2.103 "We propose that the TOs should use AER Commentary to provide consistent and comprehensive information on the use of SF6 and other IIGs. This should include:

- *the quantity and type of any SF6 currently installed;*
- *the quantities of SF6 added during installation, maintenance or servicing due to leakage;*
- *for decommissioned equipment, the measures taken to recover and dispose of any SF6;*
- *a summary of the interventions that have taken place over the previous year;*
- *the quantity and type of any alternative to SF6 asset;*
- *reporting on exceptional events on actual leakage; and*
- *a forecast for future volumes of IIGs, including SF6, on its respective network".*

We strongly welcome the proposal to significantly extend the amount of reporting that the networks are required to do in this area as part of their AER. As the Grid Edge Policy report highlights there is currently a significant disparity between the detail required under ED2 and the small number of high level metrics required under ET2. This is a complex area with actions to reduce leakage running alongside growing levels of equipment on the network (using a mix of solutions) and old highly leaky equipment being removed. As such these metrics (and associated commentary) are important to present a full picture.

In terms of the detailed proposal:

- bullet 1 – it would be helpful to show this by voltage level;
- the references in bullet points 2 and 3 should be to IIGs including SF6 (ie not just SF6 but other F-Gases as well);
- in bullet 2 it would be helpful (in light of the EU Regulation) to require reporting on whether virgin or recycled gas is being used;
- in bullet 5 it would be worth making explicit that this should distinguish F-Gas and Natural Origin Gas solutions;
- bullet 6: as well as reporting on exceptional events we would like to see companies reporting on major leakages that may not qualify as exceptional events (but that eg meet the threshold for reporting to the Environment Agency).

In line with our general comments on the AER we would like all information to be presented in a time series not just for the single year to which the report relates. It is also important that the AER commentary includes explanations of any significant changes.

We would ideally like to see TOs extend their reporting on a voluntary basis ahead of ET3 and can see no reason why they should have to wait. Doing this would also help clarify what information is most useful and how it is best presented.

The Grid Edge Policy report also highlighted some concerns about the measurement of SF6 emissions which it is important that Ofgem addresses as a part of this process. In particular:

- We have concerns about the emphasis (in bullet 2 and hence presumably also for the IIG incentive) on "top up" as a measure of leakage. A lot of equipment will have low level leaks that do not result in top-ups being required but are nonetheless adding to emissions. Indeed, this becomes more of an issue with more relatively new equipment on the system. As highlighted in the Grid Edge Policy report, SSEN previously used a metric that added on boiler plate leakage rates to address this - but changed approach at the end of ET1 as they were concerned that it resulted in some double counting and was inconsistent with the other networks. This seemingly reduced their reported leakage to around a quarter of previous levels, demonstrating the extent to which leakage may be being under-reported. As part of more active management of leakage we would expect TOs to be monitoring leakage across all their equipment and would like to see a drive towards getting a more comprehensive measure of leakage. While there may not be enough information on this now to change the basis for the IIG incentive, we would like to see this issue explored, including via innovation projects, and additional data captured as part of more granular reporting.
- The Grid Edge Policy report also highlights another anomaly in how leakage is measured as it excludes leakage from equipment removed part way through the year. This is inconsistent with how the companies are expected to report under their SBTs and should be addressed – and, in this case, should also be reflected in the IIG incentive.

2.104 "Acknowledging the highly damaging impact of SF6 on the network, we encourage the TOs to continue their collaborative work on the development of approaches to replace SF6 assets with alternative equipment that has a lower global warming potential than SF6, with support available through the innovation stimulus mechanisms where appropriate". We would endorse the importance of collaboration and information sharing in this area – but also more widely on actions to reduce F-Gas leakage. It is important that the ET3 regulatory framework supports collaboration and does not inadvertently undermine it. Similarly, we support the use of the innovation stimulus mechanism to drive progress on all aspects of SF6 reduction.

"We recognise that the industry is in a transitional period between SF6 and more environmentally friendly alternatives, and that in a range of circumstances SF6 is likely to be required to be used during RIIO-ET3. However, where efficient to do so, the TOs should pursue alternatives. We expect the TOs to consider the whole life costs when considering SF6 filled assets. While there are alternative gases on the market, the costs of these assets are likely to be more expensive than their SF6 filled equivalents in both installation and ongoing operation. We recognise that a balanced approach is required and we expect the TOs to provide proportionate optioneering and development to evidence the use of IIGs where these are considered appropriate". We welcome this emphasis on the need to look at whole life costing and proper consideration of the range of alternatives. Early agreement, including with Defra, on a common standardised basis for whole life costing (and the associated issues around measuring embodied carbon) is important. The Grid Edge Policy report also references risks around certain solutions (either linked to longer term availability of parts or future PFAS bans (for the alternative F-Gas compounds used in switchgear)) which TOs will need to balance in

determining the best option in a particular case. In particular some of these impacts cannot be readily monetised (eg potential health risks or visual impact of increased space requirements) but still need to be weighed as part of an overall assessment. While a standard framework is important, we note from our conversations that the challenges the TOs face vary (eg how big an issue space constraints are in a particular geography) which may lead to them taking different approaches.

2.105 "During RIIO-ET3, we do, however, recognise that new regulations could be introduced in the UK to ban the use of SF6 in new high-voltage circuit breakers and switchgear. Banning SF6 from future grid installations would mark an important turning point for reducing its use and harmful environmental impact in the long term. However, with switchgear typically lasting around 40 years, it will take some time before electricity networks are totally SF6 free". As discussed in the Grid Edge Policy report, as well as any future UK Regulation, the EU Regulation is important because of the GB market's reliance currently on EU manufacturers. Although our reading of the latest (and assumed to be final) version of the EU Regulation is that SF6 equipment (and other banned F-Gas products like fluoronitrile) could continue to be exported for four years, we would not expect manufacturers to be interested in developing products purely for a GB market and there will be questions around long term availability of spare parts etc.

2.106 "*Notwithstanding a potential strengthening of regulation on SF6 use in future, we consider that a financial incentive will still be needed over RIIO-ET3 to drive the TOs to further reduce harmful emissions from SF6 electrical equipment already in use".* Agreed – as noted above we see this (ie reducing emissions from existing equipment) as the primary role of the IIG incentive which we would expect to be relevant in, and indeed beyond, ET3 given the long life of this equipment.

"We propose the TOs set out, as part of their EAPs, a SF6 reduction strategy. We consider this should include improved monitoring, containment, asset management practices, as well as innovation on economical ways to remove SF6 from the network at scale, eg retrofill solutions that replace SF6 with an environmentally friendlier alternative without having to replace or significantly modifying the existing equipment". We strongly support the requirement for SF6 reduction strategies (which should cover both leakage reduction and longer-term removal as well as the pros / cons of alternatives to SF6). However as highlighted in the Grid Edge Policy report the SF6 strategies in ET2 (and indeed ED2) were of variable quality. Following Ofgem's various interventions (and to support their significant funding bid) National Grid ET's final SF6 Strategy (as part of their MSIP bid) was a reasonably comprehensive document that could be built on for ET3.

2.94 The value of the incentive rate is set each year based on the non-traded price of carbon recommended by the HM Treasury Green Book supplementary guidance on valuation of greenhouse gas emissions: We assume therefore that in the IIG incentive (and in its CBA framework), Ofgem will use a GWP100 of 23500 for SF6, in line with the November 2023 Green Book guidance which in turn reflects international reporting requirements (now linked to the 5th IPCC report – AR5). We are content with this approach. However, we would note that the CCC in its Sixth Carbon Budget report[18] on F-Gases uses a GWP100 for SF6 of 26087 based on AR5 and "taking account of carbon-cycle feedbacks" (a methodological development which has not yet been adopted internationally). AR6 has a higher GWP figure than AR5 and is due to be adopted internationally by 2028. Given the Green Book GWP may change again over the course of ET3 the value of the incentive rate should be

[18] https://www.theccc.org.uk/wp-content/uploads/2020/12/Sector-summary-F-gases.pdf

updated each year not just to reflect the price of carbon (which we are pleased to have confirmation that it does) but also the GWP.

Finance Annex

FQ21. GD & GT: assuming re-openers are available and there is no adjustment to the allowed WACC, how should regulatory depreciation be used to address the uncertainty around the future path for gas and perceived asset stranding risk?

FQ22. GD & GT: what long-term path should regulatory depreciation aim to follow between 2026 and the assumed de-energisation point to promote fairness for current and future consumers? What unit metrics should this be based on? Is this resilient to the various scenarios under FES 2023?

As set out in our cover letter, we welcome Ofgem starting the debate on how to adjust regulatory depreciation to address the perceived asset stranding risk and to ensure fairness between current and future customers. We set out in our FOG paper the very significant range of issues that need to be explored as a part of this debate.

Inter-generational equity is a difficult concept as previous work by Sustainability First[19] has highlighted and we think that Ofgem's proposed principle that future consumers should not pay more for essentially the same network services is a good one.

This points to the use of metrics such as overall demand for natural gas as a basis for thinking about reforms to regulatory depreciation. However, there is significant uncertainty around what that demand will look like – and also the pace at which new investment will continue to be added to the RAV (as well as what might be needed in terms of a decommissioning fund).

The need for more flexibility to handle this uncertainty points to the need for a more fundamental rethink on the approach. In our view the approach in water (described in Annex 3) while similar to that in energy would seem to offer more flexibility and merits consideration.

While we would be supportive in principle of a move in GD3 to accelerated depreciation, we are concerned about the near-term impacts on vulnerable households and would argue strongly for a wider stakeholder debate to explore these complex issues. There is also a need for Ofgem to conduct its own consumer research on this. Given the scale of the bill impact this should not be viewed either by Ofgem or by the gas networks and their investors as a technical finance question.

FQ24. GD & GT: what considerations are raised by asset repurposing and how might these affect the decisions to be made on regulatory depreciation policy? What guidance is sought for the SSMD so that licensees have sufficient clarity for their business plans?

We note in our FOG paper that the emphasis currently is very much on repurposing for hydrogen or CCUS and would like to see more innovation directed towards alternative uses (eg use of pipes for running communication or electricity cables).

Clearly if there is scope to repurpose the assets then this reduces the concerns about asset stranding and the need for accelerated depreciation.

[19] https://www.sustainabilityfirst.org.uk/publications-expert-viewpoints/283-and-what-about-your-grandchildren

In terms of the third-party option value point, we are unclear under what scenario a third party could repurpose certain network assets for hydrogen / CCUS but the GDNs could not do so themselves (given this is essentially about policy decisions on heat decarbonisation). However, there could be other options for repurposing which may be of interest to other players and there needs to be an incentive for the GDNs to explore such opportunities alongside hydrogen.

FQ30. Is there a case for altering the capitalisation rate modelling approach between sectors (eg removing the multiple bucket approach for GD)?

We would encourage Ofgem to see the capitalisation rate as one of the tools that can be used to shape the revenue profile and to help in balancing inter-generational equity issues with short term cost of living pressures. In water a slightly more flexible approach is adopted as set out in Annex 3 which we would encourage Ofgem to consider.

We also note that with a short payback demanded for investments in gas distribution, the networks will be forced to look at cheaper, less permanent solutions (repair rather than replace) and hence over time anyway more of the costs should probably be recovered as fast money.

FQ33. Do stakeholders have any reasons or evidence to suggest more directly remunerated service categories are necessary?

We would expect disconnection costs to be a growing issue in GD3 and there is currently a lack of clarity as to how these are treated as set out in our FOG paper. They are probably included under connection services for GD but this needs clarifying. A wider policy debate is then needed more generally with DESNZ, Ofgem and other stakeholders as to whether, on fairness grounds, these costs should be socialised or directly remunerated.

Annex 2: Global Warming Potential of Methane

In assessing the impacts of methane leakage, Ofgem has made clear that it will, understandably, use figures from the Treasury Green Book Supplementary Guidance on valuation of energy use and greenhouse gas emissions (based on IPCC AR5).

However, there is an issue that the GWP used in the Greenbook is based on 100-year impacts although for short-lived emissions (eg methane) there are arguments for using shorter timescales.

A key feature of methane is that it has a much stronger but shorter-term impact than carbon dioxide. By focussing on the 100-year impact one is understating the relative impact they will have in the timeframe to 2050 which is the current focus of government policy. This could point to the use of a 20 or 30-year life when one is looking at achieving (or not) net zero in that timeframe. Given the risk of hitting climate tipping points if near term (pre 2050) emissions are not reduced these impacts are important.

This argument is set out in the quote below from the IPCC Fifth Assessment Report (p87) which makes clear that there is no right timescale and the choice depends on the application and policy context:

"The choice of emission metric and time horizon depends on type of application and policy context; hence, no single metric is optimal for all policy goals. All metrics have shortcomings, and choices contain value judgments, such as the climate effect considered and the weighting of effects over time (which explicitly or implicitly discounts impacts over time), the climate policy goal and the degree to which metrics incorporate economic or only physical considerations."

The report also sets out the different GWP figures (or more strictly cumulative global forcing figures) for certain short-lived gases, including methane, showing that the difference is significant[20]:

	20 years	100 years
Methane	84	28

These issues with the GWP for short-lived gases and how best to account for them have been explored by Oxford University proposing a GWP* metric (here) and other academics proposing that one looks in parallel at GWP20 and GWP100 (here).

In AR6 the IPCC explore some of these issues further and update the GWP figures (in chapter 7 of the main report). The international community has committed to using the AR6 figures by 2028.

The Committee on Climate Change in their 6th Carbon budget used IPCC AR5 figures and highlighted that this change would be reflected in UK reporting by 2024 – which it has been - but with some uncertainty at the time around the precise methodology to be adopted. The CCC used a GWP100 for methane which is higher than AR5 because it took account of climate carbon feedback effects (which the international community has not adopted for now).

In summary our view is that:

- for reporting purposes there is value in consistency and hence Ofgem should continue to use the GWP figures set out by government as the basis for the annual environmental reports;

- however, for decision making and supporting CBAs it is important that decisions are made on the basis of the best scientific evidence and consistent with the net zero ambition. For this reason, companies should be able to use 20-year GWP figures from AR5 as part of sensitivity analyses;
- Ofgem should keep in touch with any developments in this space to ensure its guidance reflects the latest scientific evidence and wider reporting requirements. The approach to be taken should be discussed with relevant experts from government, SBTi, the CCC and environmental stakeholders.

Annex 3: Asset Lives- How does this work in water?[21]

The arrangements in water for dealing with depreciation are ostensibly quite similar to those in energy but the different terminology used seems to create more space for pragmatic and flexible approaches to be taken. As in energy there are two key parameters:

- the "**pay-as-you-go**" rate which determines how much of the expenditure is recovered in year (versus being added to the RAV and depreciated over time) ie the flip side of the capitalisation rate in energy. A 70% capitalisation rate is equivalent to a 30% pay-as-you-go rate;
- the "**run-off rate**" determines how much of the RAV is recovered each year through what would be termed depreciation in energy. A 20-year asset life is equivalent to a 5% run-off rate. One benefit of seeing it as a run-off rate is that it can accommodate assets with a mix of asset lives (as exists in practice) whereas the Ofgem approach implies there is a single asset life across all asset classes.

In energy by terming the parameters capitalisation and depreciation the sense is created that there is an economic or accounting right answer (which is static over time). Ofgem says it will set the capitalisation rate at its natural level (ie reflecting the actual balance of capex and opex) and that asset lives should reflect economic lives.

In water by contrast the focus is on the companies setting these parameters to deliver a sensible profile of revenues going forward. The parameters can vary over the 5 years. Clearly this needs to be done in a way that is sustainable for customers and the company but by referring to them as pay-as-you-go rates and run-off rates Ofwat avoid any sense that these measures have to be rigidly tied to accounting notions.

A key related concept in water is that of infrastructure renewals accounting which is based on an operational assessment of activity needed to maintain the serviceability of the underground infrastructure over a medium to long-term period (typically in excess of 15 years).

Companies in energy and water will always be concerned if these financial parameters are used by the regulator to address financeability issues by pulling forward revenues artificially. However adjustments that attempt to create a smoother profile of revenues benefits both the companies and consumers across generations and is consistent with an infrastructure renewals accounting approach.

For gas networks where demand is expected to fall off significantly over time this flexibility could be used to deliver a more stable pattern of charges and help address inter-generational equity concerns.

[21] Based on the Grid Edge Policy paper Understanding Asset Lives (submitted as part of ED2) – https://www.ofgem.gov.uk/sites/default/files/2022-07/GEP%20Understanding%20Asset%20Lives%20260122.pdf