Sustainability First

Maxine.frerk@sustainabilityfirst.org.uk

29 January 2021

Dear RIIO Team

Comments on the Guidance for Annual Environmental Reporting in RIIO2

Sustainability First Associates have participated in the RIIO2 process as members of Ofgem's Challenge Group, as chairs / members of company CEGs / user groups and through the Ofgem working group process. We welcome the focus on transparent reporting of environmental actions and outcomes on a cross sectoral basis and appreciate the opportunity to provide comments on the details of Ofgem's reporting guidance.

We are pleased that Ofgem have taken on board a number of our suggestions, in particular the inclusion of a section on adaptation/resilience. We support the encouragement that you are providing around natural capital reporting and your decision not to mandate it at this stage. We also support the expectation that companies will secure accreditation from the Science Based Target Initiative (SBTi) which is important in strengthening the reputational incentives on which Ofgem is relying.

However, there are some areas where additional transparency in the guidance (and hence the company reports) would be helpful. In particular most of the detailed methodology for how metrics should be calculated is not set out in the guidance but reference is simply made to calculations being done on a basis that is consistent with the regulatory reporting (RIGs) requirements. However, the detail of the methodology is important to environmental stakeholders who will typically not have the time or resource to wade through RIGs instructions (if indeed they are publicly available) – and may have views on the approach that should be adopted. Moreover, our past experience looking at losses for example is that sometimes the RIGs guidance is itself not clear enough to avoid companies adopting different approaches.

We would therefore encourage Ofgem to spell out in the guidance the assumptions that should be made in the key areas highlighted below and the rationale for the approach adopted:

Global Warming Potential for methane and SF6. Our assumption is that Ofgem will be relying on the BEIS reporting framework here. However, as the attached note at Annex 1 makes clear, the GWP for methane in particular is subject to review and the CCC used a different (and higher) figure in their 6th carbon budget calculations. This illustrates both the need for clear and transparent guidance and for a process through which Ofgem can keep abreast of developing thinking. While we understand the arguments for consistency between the AERs and wider reporting obligations, the Annex also makes clear that the parameters used for reporting should not then be automatically applied in determining the cost-benefit of projects aimed at methane reduction, given the importance of the short term (30 year) emissions impacts in that context.

Shrinkage and Leakage. In Final Determinations Ofgem noted the comment we made about being clear on the distinction between shrinkage and leakage. However, the AER guidance still groups them together. It is vital that in setting out the climate impacts it is made clear that the GWP for methane only applies to leakage and that own use gas is treated as burned methane in terms of emissions. This may be clear in the RIGs guidance but again merits being spelled out here to reassure

stakeholders. Moreover, it is still totally unclear to us why reducing gas theft would have a carbon impact (and hence why it is included in the AER). Our assumption is that if gas theft is tackled, the gas would still be used but would now be paid for. This may mean that whereas it currently has to appear within the GDNs' carbon footprint (as there is nowhere else for it to go) it would in future appear elsewhere in the system - but there will be no net climate impact. Of course, if Ofgem has evidence that reducing theft actually reduces consumption then that would justify including it or a proportion of it (as burned methane). A similar thought process needs to be gone through for some of the sub-categories of GT shrinkage where it is not clear to us how reducing the level has a climate impact.

Losses. As we highlighted at the OAWG for ED2 the conversion factor used for losses – either the consumption figure or what we termed then "simple" losses – makes a huge difference to how these are valued. We are also aware of ongoing debate as to whether for SBTi losses should be included in scope 2 or not (which in general we believe they should be). Again, we have attached a note which sets out our understanding of the position to illustrate the complexities involved and why clear and transparent guidance is needed. We have also stressed previously the need to focus on losses not purely as a carbon challenge but as an energy efficiency challenge given the electricity system demands inherent in meeting net zero. Given these complexities it is not clear to us that the reporting framework envisaged for losses is adequate – and certainly will need further thought for ED2. We would expect losses to be included in the dashboard given their significance in carbon terms.

Biodiversity net gain. We welcome the fact that Ofgem are requiring biodiversity net gain reporting for all major capital programmes not just those requiring planning permission. The reporting framework appears in line with broader reporting requirements but again this is an area where thinking continues to develop and hence there is a need for a clear source reference and method for keeping that up to date.

Baselines and end dates. As the Challenge Group highlighted it was hard to compare the levels of ambition on BCF in company business plans where they all used different baselines and target dates. Ofgem's guidance makes clear that companies should state clearly their science-based target and the BCF target (excluding losses / leakage) for the RIIO-2 period interpolated from their science-based targets. It is important that through the annual reporting stakeholders can compare both the level of ambition in the plans and the progress companies are making against their plans – across scope 1, 2 and 3 emissions.

More generally, while we support the expectation around SBTi accreditation, we are aware that this process takes some time and Ofgem may need to be clear on the basis for reporting for companies who are on that journey but may not have secured accreditation.

Overall, what our analysis shows is that there are complex issues around these metrics and Ofgem needs to ensure it understands the nuances and keeps abreast of developing thinking in this area. While we would hope that the reporting framework can remain fairly stable over time to facilitate year-on-year comparisons, there may be areas where it needs to be updated to take account of learning from reviews of the early reports and as climate science and technology evolves. We would encourage Ofgem to establish an expert advisory group drawing on expertise from government, SBTi and the CCC and including environmental stakeholders to confirm the approach to be taken and to keep the reporting framework under review.

Finally, as indicated above, many of the same issues arise in relation to valuation of environmental impacts that the companies need to carry out as part of CBAs for investment decisions. We assume that again the guidance on this is part of the RIGs but would merit wider debate and we hope that Ofgem will be formally consulting on its CBA methodology in due course. In particular, as highlighted, the figures used for reporting (for GWP or loss conversion) are not necessarily appropriate for use in investment appraisal. This needs to be made clear in the guidance.

Maxine Frerk

Associate Sustainability First

Annex 1: Fugitive gases - Global Warming Potential

It is unclear what assumptions companies should be using in reporting on their business carbon footprint in relation to fugitive emissions and in the cost-benefit analyses they carry out to support specific initiatives.

Our assumption is that Ofgem will be reliant on the UK Government reporting guidelines (here). The same figures are used in the Treasury Green Book Supplementary Guidance on valuation of energy use and greenhouse gas emissions (here – table 3.1).

However there ae two issues with these figures – the first is that they are somewhat out-of-date and the second is that they are based on 100-year impacts when for short-lived emissions (eg methane) there are arguments for using shorter timescales.

Use of up-to-date figures

As the UK government 2020 methodology document makes clear:

"Although revised GWP values have since been published by the IPCC in the Fifth Assessment Report (2014) (IPCC, 2014), the conversion factors in the Refrigerant tables incorporate (GWP) values relevant to reporting under UNFCCC, as published by the IPCC in its Fourth Assessment Report (IPCC, 2007) that is required to be used in inventory reporting".

The Greenhouse Gas Protocol presents a summary showing how the IPCC figures have varied over time for GWP-100. It advocates use of the most recent (AR5) IPCC figures and hence companies may be expected to use these figures as part of their SBTi certification which Ofgem is requiring. As shown in the table below, for methane the figure is around 20% higher which represents a significant difference. It is important that Ofgem are clear whether there is any conflict between the SBTi and UK government reporting requirements. Our preference would be to use the more up-to-date figures unless that risks creating confusion or conflict with other government reporting requirements which we recognise it may do.

GHG Protocol summary of IPPC GWP-100 figures:

	AR4 (UK Gov)	AR5 (GHG pref)
Methane	23	28
SF6	22800	23500

The Committee on Climate Change in their 6th Carbon budget used AR5 figures and highlighted (see text extract in Box 1 below) that this change will be reflected in UK reporting by 2024 but with some uncertainty around the precise methodology to be adopted which has implications in particular for the value of methane. The CCC used a figure for methane which is 36% higher than AR4.

Timescale of impacts

A key feature of some greenhouse gases is that they have 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 environmental tipping points if near term (2050) emissions are not reduced these impacts are important – even if over a longer time frame (centuries) these gases will dissipate in a way that carbon dioxide does not.

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 GWP figures (or more strictly cumulative global forcing figures) for certain short-lived gases, including methane, as follows[1]:

	20 years	100 years
Methane	84	28

These issues with the GWP for short-lived gases and how best to account for them have also been explored by Oxford University (here). The IPCC have signalled that they will look at the methodology for short-lived climate forcers (including methane) in their next assessment. In their 6th Carbon Budget report the CCC continued to use GWP-100 but included the short term carbon-cycle feedback impacts in that figure (which is why it ends up higher than the baseline AR5 figure quoted above).

As noted by Ofgem in its Impact Assessment guidance the Treasury Greenbook has not yet been updated to take account of the commitment to net zero. On the cost of carbon Ofgem therefore say that in their decisions they will carry out a sensitivity analysis for higher values of the cost of carbon. In our view the same approach should be adopted in relation to the GWP of short-lived fugitive emissions.

In summary our view is that:

- for reporting purposes there is value in consistency and hence Ofgem should arguably continue to use the GWP figures set out by government as the basis for the annual environmental reports unless this creates a conflict with the requirements for SBTi accreditation in which case the IPCC 5th assessment figures should be used;

- 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 use the CCC GWP figures, or use 20-year GWP figures from AR5 as part of sensitivity analyses and Ofgem should look positively on investments that are justified on that basis;

- 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.

[1] SF6 is not a short-lived gas and its 20 year GWP is lower than the GWP-100 figure at 17500 (source: IPCC working paper - here).

Box 1: Extract from CCC's 6th Carbon Budget (Box 2.1 of main report)

Global Warming Potentials (expected to be updated in the UK inventory by 2024).

These are used to aggregate different greenhouse gases together into a common metric, showing their equivalence to carbon dioxide. At COP24 in December 2018 the international community decided to standardise reporting under the Paris Agreement transparency framework using the GWP100 metric. The values to be used are those from the IPCC Fifth Assessment Report (AR5).

There are two methodologies, and it is not yet clear which will be used. Both are different from the values used in the current emissions inventory and will lead to an increase in the estimate of UK emissions:

– The 'high' estimate of GWPs include climate-carbon feedbacks. Under this methodology, the size of the existing inventory would increase by around 19 MtCO2e while the 1990 baseline would increase by nearly 47 MtCO2e. This is almost entirely due to a 36% increase in the estimated global warming impact of methane (CH4) emissions. This is the basis upon which targets in this report are recommended.

– The 'low' GWPs do not include climate-carbon feedbacks, and would lead to a smaller increase in the size of the UK emissions inventory. The estimate of the existing inventory would increase by around 5 MtCO2e while the 1990 baseline would increase by 10 MtCO2e. Under this methodology CH4 methane emissions have a 12% higher warming impact than the current estimate, while the warming impact of N2O emissions is 11% lower.

Annex 2: Losses

It is unclear what assumptions companies should be using in reporting on their business carbon footprint in relation to electricity losses and in the cost-benefit analyses they carry out to support specific initiatives.

Our assumption is that Ofgem will be reliant on the UK Government reporting guidelines on Greenhouse gas conversion factors (here).

However our presentation to the OAWG last year highlighted the potential confusion that currently exists around the basis for calculating the carbon impacts of losses.

Conversion factors

The reason for the potential confusion is that the UK Government reporting guidelines gives two different figures in different sections, intended for different purposes. From the latest (2020) guidance:

- Under "**electricity**" the figure given is 0.23314 kg Co2e /kWh. The guidance says that this UK electricity conversion factor should be used to report on electricity used by an organisation at sites owned/controlled by them. This should be reported as a Scope 2, indirect emission. This conversion factor is for the electricity supplied to the grid that organisations purchase - it does not include the emissions associated with the transmission and distribution of electricity. BEIS advise that organisations also account for the transmission and distribution (T&D) losses of the electricity they purchase, which occur between the power station and their site(s). They should do so using the 'transmission and distribution' factors for UK electricity (see below). The emissions from T&D should be accounted for by consumers in Scope 3. However, for other reporting contexts (where specific scopes do not need to be reported) the 'electricity consumption' figure can be calculated by adding together the 'electricity generation' and the 'T&D' values within each year.

- Under "**transmission and distribution**" the figure given is 0.02005 kg Co2e /kWh. The guidance says that this factor should be used to report the Scope 3 emissions associated with grid losses (the energy loss that occurs in getting the electricity from the power plant to the organisations that purchase it).

The BEIS guidance is aimed at companies who consume electricity and does not therefore give guidance as to the conversion factors (or scope definitions) to be used for losses by transmission and distribution networks themselves. This may explain the potential confusion we identified.

The difference in the order of magnitude of the two figures reflects the proportion of energy that is lost through losses (as reported in DUKES). A business using the conversion factors would apply the T&D conversion factor to their total consumption (not just to a measure of losses)

In our view, this makes it clear that the appropriate basis for networks reporting the carbon impacts of losses is for them to be treated as consumption (ie adding the two figures together).

This clearly applies to technical losses and to network's own electricity use. However, as with gas shrinkage, there is a question as to the appropriate handing of losses linked to theft and whether reducing theft can be assumed to have a climate impact (ie will identifying theft result in lower consumption or just mean that the consumption is now paid for and included in someone else's carbon footprint?).

CBAs

It should also be noted that the HMT Green book background document on valuation of energy use and Greenhouse gas emissions for analysis (here) argues that while **average** emissions should be used for reporting (in line with the BEIS guidelines), **marginal** emissions should be used for analysis looking at energy efficiency opportunities for example. On this basis the conversion factors used in CBAs for evaluating opportunities to reduce losses should be the marginal rate and not the rate used for reporting. This needs to be made clear in the guidance.

Classification of losses

There is then an important question around whether losses should be counted as scope 1, 2 or 3 for network companies. This is a complex question which may depend on the particular features of the network concerned.

The fact that the BEIS guidelines talk about losses being classed as scope 3 is irrelevant as that is simply referring to how a company consuming electricity should report losses.

The GHG Protocol guidelines (here – p87) make clear that transmission and distribution networks should generally count losses as scope 2:

"*Consistent with the scope 2 definition, emissions from the generation of purchased electricity that is consumed during transmission and distribution are reported in scope 2 by the company that owns or controls the T&D operation. End consumers of the purchased electricity do not report indirect emissions associated with T&D losses in scope 2 because they do not own or control the T&D operation where the electricity is consumed (T&D loss)".*

The GHG Protocol Guidance on Scope 2 Emissions explores in more detail the impact of different levels of vertical integration on this principle.

SSEN Transmission have had their targets accredited by SBTi on the basis that losses are treated as scope 3. However, this reflects the fact that the ESO determines the flows over the system (unlike in distribution where DNOs have that level of control) and also that all fossil fuel generation that is transmitted on their networks is from their own generation (with no imports into the SSE region). At SSE Group level, including generation, losses are treated as scope 1 (given that they control the carbon footprint for all fossil fuel generation on the SSE network). SSEN Transmission also have specific reporting requirements around losses given their scale.

In our view therefore this does not create a precedent for how losses should be categorised on other networks which we maintain should be as scope 2.

Through the SBTi accreditation process networks will have to agree how they are categorising losses. The SBTi has significant expertise in this area and applies a rigorous process. However Ofgem should keep abreast of these discussions and ensure that for its own reporting requirements the figures produced are transparent and comparable.

We recognise the value in splitting out losses from other scope 2 emissions (which could otherwise be swamped by losses which will decarbonise over time anyway). However there also needs to be a clear line of sight from the AER reporting to any SBTi reporting given the role that will play as a reputational incentive.